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BEING THE SEMI-ANNUAL SUPPLEMENT TO THE REPORT OF
THE SUPERINTENDENT OF EDUCATION FOR

NOVA SCOTIA.

APRIL, 1907.



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HALIFAX, NOVA SCOTIA, APRIL, 1907.

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II.—The JOURNAL, which is the Semi-annual Supplement of the Education Report, will be furnished gratuitously, according to law, to each Inspector, Chairman of Commissioners, and Board of Trustees, and will be supplied to other parties wishing it at the rate of ten cents a copy.

III.—Each Secretary of Trustees is instructed and required to file and preserve the successive numbers of the JOURNAL for the benefit of his fellow Trustees and the Teacher or Teachers of his section, and their successors, and to inform his associates in office, and the Teacher or Teachers, of its receipt, so soon thereafter as may be convenient.

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PROVINCIAL AID

To Teachers employed in the Public Schools
for the half year ended Feb. 1, 1907.

The Asterisk (*) marks those employed
in Poor Sections.

	Number of Teaching Days employed.	Am't paid to Teach- ers from Provincial Treasury		
ANNAPOLIS.				
Bishop, Mabel E	100	\$64 87	Brown, Mary McL	105 40 87
Magee, Wm H	100	90 82	Buckler, Emily J	105 40 87
Ruggles, Lenfest	105	95 37	Chesley, Etta M	105 40 87
Armstrong, Mildred J	104	53 98	Daniels, Clara A	105 40 87
Baltzer, Ivy M	105	54 50	Denton, Curtis L	105 40 87
Banks, Beriah S	99	51 38	Dunn, Annie M	95 36 98
Bent, Reginald W	48½	25 17	Elliott, Sarah L	97 37 76
Bligh, H Alice	99	51 38	Ellis, Florence M	96 37 37
Brinton, Effie S	103	53 46	Gesner, Ann E	76 29 57
Bustin, Harry L	103	53 46	Harris Ethel M	105 40 87
Chisholm, Hattie E	105	54 50	Harris, Mary H	105 40 87
Chute, L Maude	105	54 50	Healey, Bertha A	105 40 87
Cossett, Otta VonB	104	53 98	Hiltz, Annie L	40 15 56
Crisp, Wm K	105	54 50	Hoyt, Winnifred	103 40 09
Dodge, Bessie M	105	54 50	Jackson, Annie L	105 40 87
Durling, Ina	105	54 50	Kempton, Susie W	105 40 87
Etter, Jamesina	105	54 50	Lambertson, Nora M	105 40 87
Etter, Margaret	105	54 50	Lockward, Grace E	105 40 87
FitzRandolph, Mary F	100	51 90	McCormick, Albert E	103 40 09
Foster, Mayhew C	105	54 50	McDonald, Blanche	68 26 47
Graves, Eva M	99	51 38	Mills, Hattie G	104 40 48
Hall, Henry E	97	50 34	Morse, Nellie C	105 40 87
Halliday, Frank N	105	54 50	Palfrey, Olive B	88 34 25
Harris, C Louise	100	51 90	Parker, Millie V	105 40 87
Harris, Margaret M	105	54 50	Phinney, Lillie L	104 40 48
Hockin, Elsie N	49½	25 69	Raymond, Vera M	105 40 87
Martel, Katherine H	105	54 50	Ritcey, Adelaide M	105 40 87
McMillan, Alice	100	51 90	Roy, Maude E	105 40 87
Moses, Winifred	99	51 38	Ruggles, Blanche A	105 40 87
Oxley, Gertrude O	105	54 50	Ruggles, Florence L	96 37 37
Smith, Vera M	103	53 46	Saunders, Julia R	53 20 63
Spinney, Theodore H	105	54 50	Starratt, Beatrice	104 40 48
VanBuskirk, John L	105	54 50	Sutherland, Lillian M	105 40 87
Whitman, Cassie S	105	54 50	Tanch, Hannah E	105 40 87
Whitman, Laura M	105	54 50	Tibert, Walton K	105 40 87
Young, Lottie M	105	54 50	Webster, Grace C	105 40 87
Annie, Bessie M	104	40 48	Young, A Maude	105 40 87
Bacon, Agnes S	105	40 87	Young, Isabella H	65 25 30
Baker, Ermina M	105	40 87	Anderson, Eunice M	105 27 25
Baker, Kate A	105	40 87	Annis, Vivian A	83 21 54
Banks, Almeda M	105	40 87	Baker, Hallie J	100 25 95
Bent, Lillian B	104	40 48	*Balcom, Roy I	85 22 49
Bent, Lillie M	20	7 78	*Berteaux, Amy E	86 29 76
Berteaux, A Josephine	103	40 09	*Berry, Ella M	105 36 33
Berteaux, Lizzie A	105	40 87	*Caldwell, Lola I	54 18 68
Bishop Annetta C	108	40 09	*Crisp, Mary L	105 36 33
			Croscup, Jennie A	105 27 25
			*Elliott, Ora B	86 29 76
			*Fairn, Bessie C	86 29 76
			Farnsworth, Percival W	105 27 25
			Foster, Laura W	86 22 32
			Gesner, Ann E	24 6 22
			Gesner, Annie I	20 5 18
			Gesner, Edwd D	104 26 99
			Hall, Elsie N	105 27 25
			Halliday, Isaiah	105 27 25
			*Harris, Lucy E	105 36 48
			Hoyt, Jennie L	41 10 64
			Lent, Georgie A	105 27 25
			Longley, Annie M	82 21 28
			Marshall, Ida M	88 22 84
			McGill, Flora M	57 14 78
			McLean, Minnie B	86 22 32
			McNeily, Wm H	105 27 25
			*Meisner, Hilda M	86 29 76
			Millner, G Evelyn	100 25 95
			*Millner, Gratia J	88 30 45
			Munro, Annie M	16 3 88

Ritecy, Mae T	105	27 25
*Roop, Bessie J	44	15 23
*Rosengren, Bertha E	101	34 94
*Schaffner, Etta L	83	28 72
Speakman, Flora G	86	22 32
Stark, Hattie L	105	27 25
*Stevenson, Margaret B	104	35 98
*Troop, Alice M	105	36 33
Troop, Bessie L	105	27 25
VanTassel, Bertha S	105	27 25
Wheelock, Mildred E	86	22 32
White, Alma A	42	10 90
*White, Susie	40	13 84
Wilkins, Hattie E	86	22 32
*Wilkins, Margaret	28	9 69
Wilson, Emma M	105	27 25
Winchester, Ruth H	104	26 99
Woodbury, Harold C	105	27 25
Woodward, Lola M	83	22 32

Assistant.

Crowe, A Boyd	31	8 04
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ANTIGONISH.

Gillis, Dougal C	85	\$66 18
McGillivray, Andrew	85	44 12
McPherson, Hugh	77	69 93
Sister St Thomas	103	66 82
Tompkins, James J	85	66 18
Boyd, Angus J	105	54 50
Gillis, D McK	100	51 90
McKenzie, Donald J	83	43 08
McLean, William	105	54 50
McLeod, Annie E	103	53 46
Newcomb, L A	103	53 46
Somers, Alex M	105	54 50
Sister St Leonard	103	53 46
Sister M Victoire	105	54 50
Cameron, William D	97	37 76
Cameron, Mary C	102	39 70
Courteen, Violet	105	40 87
Creelman, Minerva	103	40 09
Chisholm, Dan M	99	38 54
Chisholm, Mary A	105	40 87
Chisholm, Bessie	20	7 78
Chisholm, Cassie	105	40 87
Chisholm, Christine	103	40 09
Decoste, Joseph	105	40 87
Leydon, Catherine	105	40 87
McCarthy, Mary E	105	40 87
Macdonald, Theresa	105	40 87
Macdonald, Rachel	95	36 98
Macdonald, Margaret A	105	40 87
Macdonald, Allan	97	37 76
Macdonald, Mary C	105	40 87
McEachern, Ethel	105	40 87
McGillivray, Kate A	102	39 70
McIsaac, Agnes	103	40 09
McKenzie, Gertrude	102	39 70
McKeough, Anna	105	40 87
McLean, Daniel A	104	40 48
McMillan, Mary J	100	38 92
McNeil, Daniel	93	36 20

McNeil, Margaret	105	40 87
Rogers, William J	105	40 87
Sutton, Katherine E	105	40 87
Sister Mary	105	40 87
Sister M Veronica	105	40 87
Sister St Hugh.	103	40 09
Sister St Camillus	103	40 09
Walsh, Mary	105	40 87
Chisholm, Mary	105	27 25
Chisholm, Isabel A	105	27 25
Crispo, Evelyn	105	27 25
Fitzgerald, Annie	105	27 25
Fraser, William	105	27 25
Gillis, Sarah B	105	27 25
*Gillis, Augusta J	100	34 60
Hanifen, Margaret M	103	26 73
DeLavandier, Vincent	104	26 99
*Martin, Ellen	38	13 15
Macdonald, Marcella	103	26 73
Macdonald, Annie	101	26 21
Macdonald, Cassie	99	25 69
Macdougall, Annie	101	26 21
McEachern, Mary E	99	25 69
McGillivray, Bessie A	105	27 25
McGillivray, Margaret	105	27 25
McGillivray, Margaret	105	27 25
McGillivray, May	105	27 25
McGillivray, Mary A	105	27 25
*McInnis, Cassie M	105	36 33
McIntosh, Gertrude	84	21 80
McKinnon, Mary A	101	26 21
McKeough, Bella	105	27 25
McKeough, A A	105	27 25
*McLean, Mary B	89	30 80
McPhie, Mabel	66	17 12
Purcell, Margaret E	83	21 54
Smith, Christina	105	27 25
Stropel, Florence	105	27 25
Sister St Thomas	103	26 73
Sister St Helen	103	26 73

Assistants.

Boyd, D D	85	29 41
Connolly, Cornelius J	77	26 64
Beaton, Ronald	85	22 08

CAPE BRETON.

Armstrong, J Arthur	100	\$90 82
Brodie, William S	100	90 82
Davidson, Milton DeL	105	95 37
England, Harry B	100	90 82
McKenzie, George W	105	95 37
MacLeod, Jennette R	100	64 87
Matheson, Duncan M	86	78 12
Stewart, Frank I	105	81 75
Beaton, A Laura	80	41 52
Bishop, Emma E	100	51 90
Boss, Maud O	91	47 23
Brown, Eleanor F	105	54 50
Bruce, Harriet S	96	49 32
Cameron, Lorrie J	93	48 27
Campbell, Jean E	70	36 33
Campbell, Mildred A	105	54 50

Chisholm, Nellie	86	44 64	Fulton, Edith I	100	38 92
Edgecombe, Ethel	100	51 90	Gillis, Margaret E	100	38 92
Elliott, James H	81½	42 30	Grattan, A Myrtle	55	21 41
Gillis, Maude	100	51 90	Greig, Ida H	30	11 67
Gillis, Simon P	9	4 67	Hamilton, Agnes E	100	39 92
Grant, Ethel M	100	51 90	Hanrahan, Mary	100	38 92
Grant, Lina	95	49 30	Harrington, Annie E	100	38 92
Gunn, Annie	69	35 81	Harris, Gladys E	100	38 92
Hall, Carrie M	90	46 71	Hartigan, Katherine L	105	40 87
Haverstock, William E	105	54 50	Herman, Edith M	105	40 87
Herdman, William C	104	53 98	Holmes, Katie M	95	36 98
Lawley, James H	103	53 46	Howatson, Jessie	100	38 92
McDougall, John	96	49 82	Knowlton, Edith H	94	36 59
McGillivray, Angus	68½	35 55	Lawrence, Mary G	101	39 31
MacInnes, Duncan	100	51 90	Leonard, Isabel M	77	29 96
Macintosh, Anna B	20	10 38	Leslie, Alfreda M	103	40 09
MacKenzie, Anna B	105	54 50	Macaulay, Jessie	102	39 70
McKenzie, Kate A	100	51 90	MacCabe, Georgie	100	38 92
McKinnon, Joseph D	95	49 30	MacCabe, Grace M	68	26 47
McKinnon, Mary	105	54 50	MacDonald, Agnes C	98	38 15
McLean, Christina S	105	54 50	Macdonald, Catherine A	94	36 59
MacPhee, Loretta I	104	53 98	Macdonald, Ethel M	105	40 87
Miller, Bessie G	100	51 90	MacDonald, Jean F	100	38 92
Munn, Nina A	105	54 50	Macdonald, Nellie	100	38 92
Ross, K Ida	100	51 90	Macdonnell Theresa	86	33 47
Sister Francis Xavier	100	51 90	Macdougall, Daniel J	91	35 42
“ M Agnita	100	51 90	MacInnis, Dorothea J	105	40 87
“ “ Amabilis	100	51 90	McIntyre, Matilda	100	38 92
“ “ Annette	100	51 90	McIsaac, D Joseph	99	38 54
“ “ Aquinas	100	51 90	East Bay consolidation (2 D, }		
“ “ Clarissa	100	51 90	99 days)		51 38
“ “ Cleophas	100	51 90	McKenzie, Archibald J	100	38 92
“ “ Gerard	100	51 90	McKeough, William T	100	38 92
“ “ Josita	100	51 90	McKinnon, John J	105	40 87
“ “ Lawrence	100	51 90	MacKinnon, Katie	105	40 87
“ “ Vincentine	100	51 90	McLeod, Cecilia I	105	40 87
“ St John	100	51 90	MacNiel, Katie	99	38 54
“ “ Margaret	100	51 90	Macneil, Maria A	50	19 46
“ “ Mary	9	4 67	McNeil, Mary Jane	105	40 87
“ “ Mary (Asc)	91	47 23	MacPhee, Toresa R	104½	40 67
“ “ Teresa Joseph	101	51 90	McRury, Sadie M	104	40 48
Smith, Mamie K	86	44 64	Martell, Mattie O	100	38 92
Sutherland, Mary	100	51 90	Morgan, Edith	80	31 14
Thurber, Ronald E	103	53 46	Morrison, Adelaide S	100	38 92
Tompkins, Matthew F	95	49 30	Morrison, Margaret	105	40 87
Woodill, Arthur W	105	54 50	Mosher, Blanche	105	40 87
Arsenault, Mary T	105	40 87	Muggah, Margaret	100	38 92
Barclay, Winnifred	86	33 47	Ormiston, Eliza E	89	34 64
Barrington, Harriet H	100	38 92	Palmer, Gladys E	104	40 48
Boutilier, Theresa	105	40 87	Patterson, Edith C	95	36 98
Browne, Bernice I	100	38 92	Phelan, Rebecca S	105	40 87
Buckles, Sarah	104	40 48	Phillips, Katie E	101	39 31
Burke Helena B	79	30 76	Phoran, Alice	105	40 87
Cameron, Annie	100	38 92	Pierce, Celeste	105	40 87
Cameron, Laura	100	38 92	Reynolds, Edna G	105	40 87
Chisholm, Christina A	100	38 92	Robinson, Hattie L	105	40 87
Coady, Moses J	105	40 87	Ross, Maggie	71	27 63
Coady, Peter W	34	13 23	Schurman, Sadie	100	38 92
Cousins, Leah	105	40 87	Simpson, Margaret J	105	40 87
Cox, Josephine	100	38 92	Sister M Ambrose	100	38 92
Currie, Donald J	105	40 87	“ “ Andrea	100	38 92
Desmond, Mary	105	40 87	“ “ Angelorum	100	38 92
Dobson, William A	9½	3 69	“ “ Annina	100	38 92
Douglas, Fred A	100	38 92	“ “ Anthony	100	38 92
Doyle, Agnes C	105	40 87	“ “ Bernardine	100	38 92
Fife, Annie May	105	40 87	“ “ Ethelberga	100	38 92
Flynn, Sadie	105	40 87	“ “ Eulalia	100	38 92
Fraser, Lulu F	89	34 64	“ “ Josephine	100	38 92

Sister M Louise	100	38 92
" " Oswald	100	38 92
" " Wilfrid	100	38 92
" " St Aldric	100	38 92
" " Alexander	105	40 87
" " Casilda	100	38 92
" " Clarissa	100	38 92
" " John C	105	40 87
" " Marsella	78	30 37
" " M Dolores	21	8 17
" " Rosaline	100	38 92
Sutherland, Barbara I	95	36 98
Tobin, Gertrude	62	24 13
Tompkins, Miles N	100	38 92
Arsenault, Mary S	86	22 32
Bates, Blanche	86	22 32
Coady, Margaret Ann	73	18 94
Coady, Mary Ellen	60	15 56
Carmichael, Jessie	100	25 95
Clarke, Wilhelmina	105	27 25
*Cox, Mary A	47	16 26
Dillon, Agnes W	100	25 95
Downing, L Minnie	99	25 69
Fielding, Clara	100	25 95
Fife, Magdalen M	105	27 25
Fraser, Josephine	100	25 95
Gillis, M Margaret	100	25 95
Graham, Bessie F	86	22 32
*Hatfield, Claribel E	46	15 92
Kerr, Annie	86	22 32
Kerr, Annie, Florence	105	27 25
Ley, Susan L N	33	8 56
Livingstone, Katherine	62	16 08
MacAdam, Dan A	99	25 69
The Meadows Consolidation		25 69
(1 D, 99 days)		25 43
McArthur, Sadie C	98	25 95
Macaulay, Christie	100	25 95
McCormick, Annie	77	19 98
Macdonald, Elizabeth	105	27 25
McDonald, Ella M	100	25 95
McDonald, Joanna	100	25 95
Macdonald, Effie Jane	105	27 25
MacDonald, Margaret	81	21 02
MacDonald, Mary C	105	27 25
MacDonald, Mary Jane	87	22 58
McDonald, Mary Jessie	80	20 76
*MacDonald, Peter	86	29 76
*McDougall, Duncan	105	36 33
McGillivray, Angus J	55	14 26
McInnis, Mary M	100	25 95
MacIsaac, Mary J	100	25 95
MacIver, Lizzie	108	26 73
*MacKay, David	45	15 57
MacKenzie, Katherine	105	27 25
MacKenzie, Margaret	105	27 25
MacKinnon, Mary Ann	100	25 95
MacLean, Annie	87	22 58
McLellan, Mary Agnes	105	27 25
McLeod, Sadie	69	17 90
McLeod, Sarah	105	27 25
MacMillan, Katherine	105	27 25
MacMillan, Sadie N	77	19 98
*McNeil, James	102	85 29
McNeil, Katie J	100	25 95
Moynagh, Bernardine	79	20 50
Munro, Martha B	105	27 25
Nicholson, Mary V	82	21 28

Nickerson, Margaret	100	25 95
O'Handley, Joanne	100	25 95
Reynolds, Helen M	105	27 25
Richards, Clara	105	26 99
Rose, Lenora	104	27 25
Sister M Imelda	100	25 95
" M Lucilla	100	25 95
" St Ann	100	25 95
" St Henedine	105	27 25
" St Mary	100	25 95
Smith, John	90	23 35
Taylor, Emma	100	25 95
Wallace, Jean	99	25 69

COLCHESTER.

SOUTH COLCHESTER.

Campbell, W R	100	\$90 82
Dewolfe, L A	100	77 85
MacKimmie, A A	100	77 85
MacDougall, E Mary	100	77 85
Richardson, Lophemia	98	76 29
Archibald, C Mabel	105	54 60
Barteaux, J E	100	77 85
Coleman, Edna F	100	51 90
Creslman, Martha	100	51 90
Carter, Harriet	85	44 12
Dickson, Janet R	105	54 50
Dickson, Hattie	100	51 90
Davidson, Clara E	100	51 90
Dean, Bertha	105	54 50
Edwards, Elizabeth	100	51 90
Fulton, A Maude	18	9 34
Faulkner, Aveline	105	54 50
Fellows, Annie	105	54 50
Gay, Mabel L	43	24 91
Hunter, Jennie A	100	51 90
Kinney, Julia	100	51 90
Logan, Sadie B	104	53 98
Linton, Edith	100	51 90
MacKenzie, Maud	20	10 38
MacKenzie, Georgia	105	54 50
McCully, Mary	100	51 90
MacKenzie, Minnie	99	51 38
MacIntosh, Gertrude	100	51 90
MacInnis, Lenora	100	51 90
Macpherson, Margaret	100	51 90
McCurdy, M Ruth	105	54 50
MacInnes, Katherine	100	51 90
Nelson, Eda	105	54 50
Reid, Alice C	103	53 46
Young, Rena	43	22 32
Archibald, Janet	100	38 92
Archibald, Irene	105	40 87
Bradley, Annie E	100	38 92
Brenton, Mrs W M	105	40 87
Barnhill, Maggie G	105	40 87
Brenton, Ethel	105	40 87
Currie, Jennie	105	40 87
Colter, Susan A	105	40 87
Crowe, Susan A	105	40 87
Crocker, Nellie F	105	40 87
Creslman, Agnes	105	40 87
Dalrymple, Lucy	100	38 92
Davis, D G	100	38 92
Eaton, Lucie	36	14 00

Fisk, Mabel	105	40 87
Grant, Etta W	105	40 87
Gunn, Ida B	105	40 87
Gould, Libbie	50	19 46
Hutchinson, Grace	105	40 87
Hamilton, Janet	105	40 87
Johnson, Lizzie	75	29 18
Lightbody, Ina B	81	31 53
Loughead, May E	25	9 73
Lindsay, Olla M	98	38 15
Mellish, Mary	20	7 78
McKim, Tena M	85	33 08
McLeod, M Jean	100	38 92
McKin, Agnes	99	38 54
McCurdy, Annie	104	40 48
Patterson, Sara B	92	35 81
Rogers, Sadie	104	40 48
Reid, Emma C	87	33 86
Reid, Marian J	105	40 87
Taylor, Edith	40	15 56
Thompson, Mabel	100	38 92
Archibald, Leith P	95	24 65
Archibald, Alice	100	25 95
*Bales, Edwina	104	35 98
Crowe, Tressie M	105	27 25
Chisholm, Cynthia	105	27 25
Cottle, Hanna L	44	11 42
*Gourley, Lizzie	100	34 60
Graham, Ida M	105	27 25
*Graham, Saidie W	105	36 33
Huntley, Edna	70	18 16
Hopkins, Effie	105	27 25
Higgins, Myrtle	66	17 12
Kelly, Marion E	79	20 50
*Lynds, Bessie	103	35 64
Morgan, Lizzie	99	25 69
*McNutt, Bessie E	105	36 33
Murray, Martha B	105	27 25
McCurdy, Mary	81	21 02
*McCulloch, Janie	77	26 64
*Nelson, Annie M	71	24 57
Rutherford, Ada	39	10 11
Sibley, Florence	104	26 99
Tays, Gertrude H	50	12 97
*Wilson, Ada E	104	35 98

STIRLING.

Davidson, Lucretia F	82	\$42 56
Langille, Alberta	101	52 42
Mortimer, J Wallace	7	3 63
Menzie, Harry	8	4 19
Christie, Ida M	84	32 67
Clarke, Agnes A	105	40 85
Drysdale, Carrie M	105	40 87
Langille, Mabel A	105	40 87
Maloom, M Agnes	105	40 87
McKay, A Olivia	105	40 87
McLandress, Elizabeth	105	40 87
Reid, E Edna	105	40 87
Ross, Sara (last term)	52	20 24
Baillie, Christina	105	27 25
Dobson, Blanche M	101	26 21
Drysdale, Janet R	105	27 25
Ferguson, Maria J	105	27 25
*Langille, Geo D	62	21 45
Lynds, Bertha	105	27 25
Matheson, Annie M	100	25 95

Marshall, Mary J	103	26 73
Mattatal, Tottie	100	25 95
McEachren, Lydia	105	27 25
*McLeod, Jessie A	105	36 33
McLeod, Janie E	105	27 25
McLeod, Christina	105	27 25
*Nelson, Clara B	105	36 33
Slade, Fannie	94	24 39
Smith, Ina L	104	26 99
Sutherland, Tena	102	26 47
Weatherby, Stella	105	27 25
*Wright, Johanna J	99	34 25

WEST COLCHESTER.

Creelman, Minnie	105	54 50
Fulton, Marion	105	54 50
Lank, Annie C	105	54 50
Lewis, Agnes DeL	105	54 50
Lockhart, Lillian M	105	54 50
Shepherdson, George	105	54 50
Spencer, Agnes	105	54 50
Starritt, S Linda	104	53 98
Thompson, Alice L	105	54 50
Titus Chas G	95	49 30
Chisholm, Annie L	105	40 87
Fumore, Delta M	103	40 09
Fulton, Edna N	105	40 87
Fulton, Sarah J	104	40 48
Fulton, Susie E	104	40 48
Hutchinson, Esther M	104	40 48
Johnson, Alena	95	36 98
Lawrence, H E	103	40 09
Morrison, Ida M	105	40 87
Patterson, Collie	95	36 98
Smith, Ada E	95	36 98
Smith, Marion	95	36 98
Smith, Margaret	105	40 87
Totten, Bertha	105	40 87
*Beekwith, Florence	105	36 33
Berry, Ella M	102	26 47
Boyd, Grace	105	27 25
Craig, J Violet	105	27 25
Fulton, Bertha O	105	27 25
Fulton, Ethel	105	27 25
Graham, Jessie M	105	27 25
*Huntley, Edna	5	1 73
Johnson, Edna C	99	25 69
Patriquin, Bertha M	105	27 25
Schurman, Annie	103	26 73
Starritt, Lucy G	88	22 84
Urquhart, Jennie M	105	27 25
*Wilson, Cassie	88	30 45
Wilson, Zella P	104	26 99
Withrow, A G	105	27 25

CUMBERLAND.

Astbury, John S	105	54 50
Lay, E J	101	91 73
McTavish, N D	56	43 56
Robinson, Ernest	45	35 01
Spinney, F H	101	91 73
Stevens, Josephine H	104	80 97
Anderson, Pearl A	100	51 90
Atkinson, Blanche	105	54 50
Baird, Elizabeth	86	44 64

Bigney, Anna	101	52 42	Harrison, Kate B	90	35 03
Clarke, Harry G	101	52 42	Henley, Theresa	100	38 92
Charman, Mary E	103	53 46	Hunter, Gussie	101	39 31
Conway, Isabella	101	52 42	Hutchinson, M Grace	105	40 87
Cooper, Ina	100	51 90	Huston, Mary A	105	40 87
D'Entremont, L A	101	52 42	Johnson, Lucy	105	40 87
Elliott, Jane	101	52 42	Kennedy, Myrtle	105	40 87
Fitchett, Annie	105	54 50	Lindsay, Cora	101	39 31
Gordon Sadie J	101	52 42	Lindsay, Lizzie	101	39 31
Hockin, Lavinia	101	52 42	Logan, Lou E	100	38 92
Kent, Fannie	101	52 42	Mattinson, Flora	105	40 87
Lay, Jean	105	54 50	McDonald, Hilda	100 ²	39 11
Lent, F J	105	54 50	McIntosh, Elsie	60	23 35
Love, Rachel P	105	54 50	McIntosh, Jessie B	105	40 87
McDowell, Mabel L	101	52 42	McKenzie, Amelia H	105	40 87
McKim, Mina	101	52 42	McVicar, J E	101	39 31
McKenzie, Annie J	101	52 42	Mitchell, Annie	105	40 87
McLeod, Mary J	105	54 50	Mitchell, Jessie M	101	39 31
Morehouse, F G	101	52 42	Murdock, Jennie	103	40 09
Murray, Annie G	101	52 42	Nelson, Nancy	105	40 87
Paul, Carrie	20	10 38	O'Brien, Della	100	38 92
Peppard, Ruth R	105	54 50	O'Brien, Margaret E	105	40 87
Purdy, Bertha	81	42 04	Orr, Jane	101	59 31
Roney, Effie	101	52 42	Patton, Mary E	30	11 67
Ross, Isadore E	105	54 50	Peers, Sadie J	31	12 06
Shortcliffe, D L	105	54 50	Porteous, Annie J	105	40 87
Sietert, Maudena	100	51 90	Portier, M A	105	40 87
Spencer, Mary	57	29 58	Roach, Lena	103	40 09
Swift, Alice	101	52 42	Robertson, Annie M	105	40 87
Webb, Pattie	105	54 50	Ross, Bessie V	101	39 31
Archibald, Josephine	104	40 48	Ryan, Irene E	64	24 91
Atkinson, Helen	105	40 87	ShIPLEY, Mary	105	40 87
Atkinson, Janie	102	39 70	Simpson, Susie	105	40 87
Benjamin, May	105	40 87	Sproule, Lottie	49	19 06
Bent, Sadie	15	5 83	Sproule, Essie	105	40 87
Bigney, Bessie	105	40 87	Sproule, Mabel	105	40 87
Brownell, Mamie A	101	39 31	Stewart, Helena	101	39 31
Brownell, Irene	105	40 87	Stewart, Annie A	105	40 88
Brundage, Kate	101	39 31	Stiles, Edna	105	40 67
Burden, Isabella A	81	31 53	Thompson, Fannie I	99	38 47
Cameron, Blanche	105	40 87	Thompson, Ella M	105	40 87
Chapman, Myra	97 ³	37 95	Trenholm, Ruth R	101	39 31
Charman, Eliza G	105	40 87	Trerice, S B	100	38 92
Clarke, A M	105	40 87	Trerice, Ruth	105	40 87
Clay, Madeline	101	39 31	Tuttle, Florence L	100	38 92
Coates, Clara	101	39 31	Vance, S C	105	40 87
Collins, Susie R	105	40 87	Baillie, Mary J	105	27 25
Corbett, Lena	105	40 87	Baird, Alda C	104	26 09
Coulter, Christina S	103	40 09	Baker, Leila V	104 ³	27 12
Craig, Muriel E	101	39 31	Beebe, Gertrude B	102	26 47
Creelman, Jean	101	39 31	Bigney, Blanche	105	27 25
De Mings, Emma	103	40 09	Boomer, Ethel M	20	6 18
Dench, Caroline S	100	38 92	Boomer, E Grace	71	18 42
Dewar, Esbe	101	39 31	Brown, Laura A	102	26 47
Donkin, Gertrude	101	39 31	Burns, Lillian A	105	27 25
Douglas, H G	105	40 87	*Burden, Isabel	12	4 15
Elliott, Ida W	98	38 15	Callighan, Minnie	73	18 94
Embree, Sara	101	39 31	Cameron, Maude S	101	26 21
Fisher, Susie	105	40 87	Chapman, Margaret	101	26 21
Fraser, Margaret	101	39 31	*Craig, Jean E	105	36 33
Fullerton, Minnie A	105	40 87	Davis, Reta T	105	27 25
Gaetz, Wilhelmina	105	40 87	Dench, Susie	105	27 25
Graham, Addie R	80	31 14	Dickson, Winnifred	100	25 95
Grant, Lena	105	40 87	*Dixon, Elva M	105	36 33
Grant, Margaret A	100	38 92	Dobson, Lizzie	59	15 30
Gray, Alice E	103	40 09	Gamble, Ruth	99	25 69
Goodwin, O M	105	40 87	Gordon, Evelyn	105	27 25
Harrison, Edna N	105	40 87	Graham, Addie R	24	6 22

Grant, Anna	101	26 21
Harrison, Maud M	98	25 43
Henderson, Emma	104	26 99
*Henderson, Janetta	53	18 33
Higet, Grace	105	27 25
Hurd, Clara E	104½	27 12
King, Bertha E	105	27 25
*Johnson, M Laura	76	26 30
Johnson, Susanna W	105	27 25
Johnson, Edith	98	25 43
Jones, A W	105	27 25
Lindsay, Susie	101	26 21
Mattinson, Ivey	105	27 25
McDonald, Elah	104	26 99
McEachren, Janie	105	27 25
*McEachren, Margaret	104	35 98
McKay, Ida M	93	24 13
McLean, Parmela M	98	25 43
*McManaman, Flossie	70	24 22
*Mills, Ardessia	105	36 33
Mitchell, Jennie L	102	26 47
Moreash, Georgie	58	15 04
Nuttall, Mamie B	78	20 24
*O'Brien, B M.	105	36 33
Patton, Anna A	102	26 47
*Purdy, Pearl	105	36 33
Quinn, Dora Mae	104	26 99
Roach, Sophia	26	6 74
Roach, Bessie	105	27 25
*Robertson, Marguerite	105	36 33
Shipley, Lottie	105	27 25
Simpson, Margaret	104	26 99
*Slade, Almira	85	29 41
Sproule, Lottie	56	14 52
Stromberg, Annie	103	26 73
Sutherland, Katharine A	105	27 25
*Taylor, Elva M	14	4 85
Taylor, Florence	105	27 25
*Thompson, Jennie	105	36 33
Weir, Minnie	103	26 73
Wood, Mary	72	18 68
Woodland, Hattie E	105	27 25
Woodland, Minnie I	58	25 43

PARSBORO.

Lyons, Nellie B	103	66 82
McDonald, J Crerar	108	98 53
Dyas, Katharine	103	53 46
Farrell, Mary	100	51 90
Glennie, Emma	105	54 50
Lavers, Josephine	105	54 50
Litch, Holly	101	52 42
Mortimer, J Wallace	45	23 35
O'Mullon, Mary	102	52 94
Reid, Charles E	105	54 50
Walton, Lillian	103	53 46
Ballantyne, Susan M	105	40 87
Dickinson, Maude	103	40 09
Dorman, Alice	105	40 87
Fraser, Reta M	85	33 08
Johnson, L J.	105	40 87
Kent, Lillian	19	7 39
Kerr, Minnie	104	40 48
Knowlton, A Gertrude	105	40 87
Lawrence, Jennie	102	39 70
Lockhart, Annie J	105	40 87
McLean, Viola	104½	40 67

Munro, Albert M	101	39 31
Oxley, Annie	105	40 87
Reid, Antoinette W	105	40 87
Ward, Cora B	102	39 70
Beaton, Mary E	79½	20 63
Cameron, Mary	100	25 95
Davidson, Bertha	105	27 25
Farrell, Annie	102	26 47
Fullerton, Eva L	105	27 25
Gilbert, Pearl E	105	27 25
Howard, Elizabeth	103	26 73
Johnson, Lulu H	104	26 99
McMullan, Sadie	97	25 17
Roberts, Minnie C	69	17 90
Robertson, Alice A	100	25 95
*Salter, Vivien	82½	28 54
Slader, Sadie E	105	27 25
*Taylor, Eloa	12½	4 32

DIGBY.

Morton, Rupert F	105	\$95 87
Bancroft, George R	69	35 81
Banks, Wilford E	105	54 50
Belliveau, Catherine	105	54 50
Comeau, J Willie	105	54 50
D'Éon, Stillman L	105	54 50
Elliott, S E Primrose	101	52 42
Frost, Myrtle B	105	54 50
Hogg, Augusta A	105	54 50
Hogg, Nathaniel W	105	81 75
McGill, Dora P	105	54 50
McMurtery, Hai dee P	105	54 50
Messinger, Wm S	105	54 50
Morse, Egbert P	105	54 50
Pettit, Annie M	105	54 50
Pothier, Andre G	105	54 50
Rice, Ina M	105	54 50
Sister Baptista Maria	93	48 27
Sister M Alexius	105	54 50
Stevens, Iva M	105	54 50
Turnbull, Bessie B	105	54 50
Adams, Jennie M	24	9 34
Belliveau, Mathilda R	62	24 18
Coggins, Agnes M	105	40 87
Comeau, Charles B	98	38 15
Corkham, David A	55	21 41
Deveau, Beatrice M	105	40 87
Eaton, Lennie M	105	40 87
Gagnon, Alfred G	105	40 87
Goodwin, Emma M	94	36 98
Harris, Mabelle F	83	32 31
Hiltz, Annie L	13	5 06
Harris, Whyrna I	105	40 87
Hines, Effie G	105	40 87
Hunt, G Edgar	105	40 87
Letteney, Edith P	105	40 87
Lombard, Marie E	101	39 31
Longmire, Rosa T	105	40 87
Martel, Melinda	105	40 87
Matthews, Margaret S	101	39 31
Melancon, Rose A	105	40 87
Mussells, Maude A	105	40 87
Sabeau, Wm H	84	32 69
Sister M Eugenie	105	40 87
Sister M Modesta	105	40 87

GUYSBORO.

Sister M Lucine	105	40 87
Sister M Elise	100	38 92
Sister M Virginia	100	38 92
Snow, Etta M	105	40 87
Stevens, Eudora M	105	40 87
Teed, Genevra	104	40 48
Thibault, Alma	103	40 09
Thibodeau, Beatrice	105	40 87
Trevo, Archie H	67½	26 27
Trask, Leta H	103	40 09
Varner, Disa M	105	40 87
Walsh, Grace B	65	25 30
Whitman, Minnie C	100	38 92
Woodbury, Reginald C	105	40 87
Bailey, Edna E	105	27 25
*Baltzer, Lilla B	105	36 33
Baltzer, Nettie L	96½	25 04
Belliveau, Antoinette	59	15 30
Belliveau, Leonice	95	24 65
Bourneuf, Emma	50	12 97
*Brooks, Grace D	100	34 60
*Comeau, Marie Rose	105	36 33
Cossaboom, Annie F	48	12 45
*Cossaboom, Clarissa I	105	36 33
Denton, E May	105	27 25
D'Eon, Theresa A	89	23 10
Deveau, Ann Lea	55	14 26
Deveau, Louise	105	27 25
Doucet, Nellie	105	27 25
Doucet, Jos P	105	27 25
Doty, Lytha M	83	21 54
Dugas, Aggie	105	27 25
Dugas, Beatrice	82	21 28
Durland, Bessie R	105	27 25
Hainey, Mary C	105	27 25
*Hamilton, Louis G	70½	24 39
Hassett, Helena	100	25 95
Hayford, Albert C	86	22 32
Hersey, Laura B	67	17 38
Hiltz, Josie A	105	27 25
Johnson, Ethel B	105	27 25
Kinney, Rowena J	105	27 25
Lambarton, Myrtle E	105	27 25
LeBlanc, Anselm L	105	27 25
LeBlanc, Edna A	105	27 25
LeBlanc, Symphorien	105	27 25
*Lewis, Jessie M	105	36 83
McDormand, Ina	86	22 32
*McNeill, Arthur A	85	29 41
*Morgan, Marion A	74	25 61
Mussels, Dora R	105	27 25
*Oakes, Minnie V	105	36 33
Porter, Katie L	105	27 25
Pothier, Lizer A	105	27 25
Prime, Lenetta	105	27 25
Ridley, Grace L	85	22 06
Robicheau, Isabella	36	9 33
Robicheau, Loretta	105	27 25
Robicheau, Mary A	38	9 85
Simpson, Flora E	86	22 32
*Sprague, Jennie E	105	36 33
*Taylor, Addie D	86	29 76
*Taylor, Sophia M	103	35 64
Thurber, Bessie G	105	27 25
Wetmore, Flora E	104	28 99
Young, Eliza R	81	21 02

Assistant.

Herdman, Wm W	105	\$95 37
Barss, Clementine	105	54 50
Cox, Bertha C	105	54 50
Dillon, May E	103	53 46
Ellis, Russell	105	54 50
Ellis, Jeannie	105	54 50
Giffin, Annie H	105	54 50
Hill, Grace A	105	54 50
Kinley, Florence	105	54 50
Macdougall, Jean	105	54 50
Macdonald, Mary C	105	54 50
McGillivray, Amelia	99	51 30
Madden, Annie E	105	54 58
Robson, Norman	105	54 50
Atwater, Emma May	105	40 87
Davis, Hazel	94	86 59
Gerrard, Louise F	105	40 87
Hattie, Louisa A	105	40 87
Harrison, Alma	105	40 87
Kennedy, Mrs Daniel	95	36 98
Kennedy, Annie	103	40 09
McIntosh, Jessie M	103	40 09
McMillan, Grace D	105	40 87
McPherson, Alex M	79	30 76
McPherson, John A	5	1 94
Smith, Isabella	77	29 96
Shanahan, L J	105	40 87
Walsh, Helen	105	40 87
Aikins, Howard Wm	48	12 45
Berrigan, Lila	105	27 25
*Boyd, Elfreda	54	18 68
*Barss, Muriel J	68	23 53
Carrigan, Wilhelmina	105	27 25
Grant, Jennetta May	95	24 65
*Green, Elizabeth E	65	22 49
Hannifen, Maggie	83	21 54
Hurst, Essie A	105	27 25
Hines, Laura	59	15 30
*Horton, Minnie	94	32 52
Henry, Ethel M	105	27 25
Jameson, Ona M	89	23 10
Jameson, Roberta	105	27 25
*Jones, M Eleanor	69	23 88
Jewers, Beatrice	55	14 26
Kennedy, Lena C	105	27 25
Kennedy, Rose A	105	27 25
LeBlanc, Judith	94	24 39
Morgan, Emma	105	27 25
Martin, Mabel B	105	27 25
Mattatall, Florence	105	27 25
*Macdonald, Mary J	79	27 34
McGrath, James J	102	26 47
McKiel, Lauretta	47	12 19
*McLean, Katherine	105	36 33
*Purcell, Nicholas T	86	29 76
*Richards, Ida B	86	29 76
Ross, Marian	88	22 84
Sutherland, Gertrude J	104	26 99
Sutherland, May Ethel	91	23 61
Sullivan, Mrs Alfred	48	11 16
Simpson, Edna May	99	25 69
Simpson, Elora J	102	26 47
Spanks, Laura	87	22 58
Stewart, Mabel	105	27 25
Taylor, Mabel	105	27 25
Walsh, Rosalie M	105	27 25
Worth, Marion S	74	19 20

Worth, Josie L	79	20 50
White, Sarah C	105	27 25

ST. MARY'S.

Marshall, Lena H	105	\$54 50
Bent, Laura	105	40 87
Dickson, Margaret	105	40 87
Dechman, Clara E	105	40 87
Fraser, Edward J O	86	33 47
Hartling, Nettie J	105	40 87
Hartling, Mabel E	105	40 87
Hewitt, Martha	100	38 92
Hattie, John D	55	21 41
Johnson, Harriet J	98	38 15
Jenkins, Georgina	105	40 87
McKenzie, Annie	85	33 08
McLellan, Jennie	105	40 87
McNaughton, D P	105	40 87
Publicover, Jennie E	105	40 87
Suttis, E Laura	69	26 85
Scott, Katherine	105	40 87
Cameron, Jessie M	105	27 25
Cumming, Bessie M	100	25 95
*Cottle, Maud	62	21 45
*Gunn, John S	105	26 33
Hartling, Margaret B	105	27 25
Jackson, Annie F	103	26 73
McGregor, Minnie	105	27 25
McGillivray, Jessie	96	24 91
Pye, Hannah (last term)	10	3 93
Cumming, Melissa K (last term)	10	3 93

HALIFAX.

CITY.

McKay, A	105	\$95 37
Kennedy, W T	100	77 85
Morton, S A	100	77 85
Mackintosh, S K	100	77 85
Logan, J W	100	77 85
McCarthy, J B	100	51 90
Peters, F A	100	51 90
Bigney, E M	100	51 90
Hill, K F	40	
Macdonald, E M	100	38 92
Blois, H H	105	68 12
Butler, G K	105	81 75
Cummings, E	105	68 12
Doherty, D P	105	68 12
Evaristus, Sister	100	77 85
Manley, C J	105	68 12
Marshall, G R	105	68 12
O'Hearn, P	105	81 75
Rosaria, Sister	100	77 85
Rosaire, Sister	105	68 12
Trefry, J H	105	68 12
Agnes, Sister	105	54 50
Allen, M E	105	54 50
Alonzo, Sister	105	54 50
Ambrosia, Sister	105	54 50
Berchmans, Sister	105	54 50
Boak, L M	105	54 50
Boreham, E M	105	54 50
Bowden, I M	105	54 50

Bowden, L J	105	54 50
Brims, M C	105	54 50
Brunt, H D	105	54 50
Brodie, I	105	54 50
Brown, E R	105	54 50
Bruce, J	105	54 50
Cameron, E M	105	54 50
Cecilia, Sister	105	54 50
Chapman, E L	105	54 50
Chisholm, E A	105	54 50
Creighton, I M	35	18 17
Cunningham, A M	105	54 50
Delahanty, K	105	54 50
Dempsey, I B	105	54 50
Dickie, S E	29	15 05
Doloreta, Sister	105	54 50
Dolorosa, Sister	105	54 50
Dwyer, M E	105	54 50
Ernestine, Sister	105	54 50
Eucharia, Sister	105	54 50
Florence, Sister	105	54 50
Flowers, E M	105	54 50
Flowers, H L	105	54 50
Gaul, R E	105	54 50
Genevieve, Sister	100	51 90
Grant, M I	105	51 50
Hart, G M	105	54 50
Haverstock, A M	105	54 50
Hazle, E M	105	54 50
Huggins, G M	105	54 50
Kelly, J M	105	54 50
Knickle, C E	105	54 50
Laracy, L X	105	54 50
Leontine, Sister	105	54 50
Madeira, Sister	105	51 50
Margaret, Sister	105	54 50
Marshall, L E	105	54 50
Mason, N E M	105	54 50
McCurdy, E R	105	54 50
McGregor, H	68	35 29
Moseley, M I	105	54 50
Murray, Mme	105	54 50
Outhit, M C	105	54 50
Phelan, F	105	54 50
Phelan, M F	105	54 50
Pius, Sister	105	54 50
Rankine, A B	105	54 50
Richardson, R	105	54 50
Ross, E D	105	54 50
Ross, E J	105	54 50
Sanders, K O	105	54 50
Saunders, A C	105	54 50
Shields, E G	105	54 50
Shields, S W	63	32 70
Sims, S A	105	54 50
Spencer, E M	105	54 50
Sullivan, Mme	105	54 50
Theakston, H S F	105	54 50
Tynan, J C	105	54 50
Wakeley, A C	105	54 50
Walsh, J L	105	54 50
Whalen, A T	105	54 50
Wiswell, I M	105	54 50
Woolrich, M E	105	54 50
Ackhurst, M L	105	40 87
Ancient, F S	105	40 87
Baker, G H	105	40 87
Bayer, A L	105	40 87

Bayer, H M	74	28 80
Blois, E H	165	40 87
Broadhurst, M E	105	40 87
Rutler, E R	105	40 87
Catherine, Sister	105	40 87
Christina, Sister	105	40 87
Clarke, E M	105	40 87
Clement, Sister	105	40 87
Concepta, Sister	105	40 87
Cunningham, E S	105	40 87
Curren, E M	105	40 87
DePazzi, Sister	105	40 87
Delphine, Sister	105	40 87
Devine, M E	105	40 87
Felix, Sister	105	40 87
Grierson, F	105	40 87
Grierson, M H	105	40 87
Gualbert, Sister	105	40 87
Hamilton, H H	105	40 87
Hartigan, Sister	105	40 87
Healy K E	105	40 87
Henrion, C E	105	40 87
James, C A	105	40 87
Jamieson, H J	105	40 87
J Baptist, Sister	105	40 87
Johns, M A	105	40 87
Johnson, I J	105	40 87
Joseph, Sister	105	40 87
Keirstead, M	105	40 87
Kelly, Mme	105	40 87
Kennedy, M C	105	40 87
Leo, Sister	105	40 87
Leocadia, Sister	105	40 87
Logan, A	105	40 87
Lyll, B H	105	40 87
McArthur, J R	105	40 87
McGregor, A	105	40 87
Mary, Sister	105	40 87
Mitchell, L F J	105	40 87
Mooney, M E	105	40 87
O'Donoghue, M T T	105	40 87
Perpetua, Sister	105	40 87
Putnam, A F	105	40 87
Raphael, Sister	105	40 87
Remigius, Bro	105	40 87
Rita, Sister	105	40 87
Rockett, M M	105	40 87
Rodriguez, Sister	105	40 87
Ross, Carrie E	55	21 41
Strattan, E	105	40 87
Sullivan, M	105	40 87
Sullivan, M T	105	40 87
Sullivan, M T R	105	40 87
Theakston, S E	105	40 87
Travis, A A	105	40 87
Walsh, A M	105	40 87
Warner, M T	105	40 87
Wells, C	105	40 87
Wells, M H	105	40 87
Willis, E J	105	40 87
Dickson, M E	105	27 25
Garroway, C M	40	19 38
Gossip, C M	105	27 25
Jemmott, M F	105	27 25
McDonell, Mme	105	27 25
Patrick, Bro	105	

COUNTY.

MacLeod, Hugh R	10	7 77
Allen, Christina	105	54 50
Archibald, Jean B	70	36 33
Bell, Mary F	103	53 46
Brooks, Ethel G	101	52 42
Corkum, Ethel	105	54 50
Crowe, H Zilla	20	10 38
Cruikshank, Jean H	105	54 50
Demmons, Mona B	99	51 38
Eaton, Isabel J	103	53 46
Evans, Laura F	105	54 50
Forbes, Addie K	93	48 27
Frye, Beatrice	105	54 50
Gaetz, Ida M	103	53 46
Hiltz, Ethel M	105	54 50
Lynds, Lennie	70	36 33
Miller, Florence M	103	53 46
Mumford, Elizabeth	92½	48 01
MacCully, Eva	103	53 46
Prescott, Alice	105	54 50
Wisdom, Sadie	105	54 50
Ahern, Mary	94	36 59
Archibald, Jean B	35	13 62
Archibald, Jessie D	105	40 87
Auld, Maggie E	105	40 87
Baker, Carrie	95	36 98
Balcombe, Florence C	105	40 87
Barnstead, Winnifred G	96	37 87
Brown, Gertrude L	62	24 13
Brown, Emma M	105	40 87
Butler, Mamie E	65	25 30
Cameron, Sadie E	105	40 87
Chisholm, Isabel	103	40 09
Clark, Janet G	98	38 15
Clark, Ina Jane	100	38 92
Coleman, Hannah E	104½	40 67
Conrad, Ethel M	95	36 98
Cook, Georgie E	105	40 87
Cooke, Mary Logan	105	40 87
Cox, Nellie	105	40 87
Crockett, Eva F	105	40 87
Dechman, Elsie D	105	40 87
DeVan, Eileen M	105	40 87
Dickie, Gertrude	105	40 87
Dickie, Lillie A	105	40 87
Erskine, Jennie B	105	40 87
Fahie, Annie M	99	38 54
Findlay, Sadie	103	40 09
Flemming, Effie P	104	40 48
Fox, Jean C	105	40 87
Fraser, Annie Alice	102	39 70
Gallagher, Adelaide	105	40 87
Gallagher, Mildred	105	40 87
Gates, Lena M	105	40 87
Goodick, Edidah B	100	38 92
Graham, Myrtle	64	24 91
Guild, Jean	105	40 87
Hall, Sarah M	105	40 87
Hamilton, Mary A	103	40 09
Higgins, Emma A	105	40 87
Higgins, Margaret	105	40 87
Homans, Estella M	105	40 87
Hume, Bessie	103	40 09
Hume, Emma	103	40 09
Hume, Florence	105	40 87
Jenkins, Victor W	56	21 80

Laidlaw, Elizabeth	103	40 09
Lynds, Lennie	33	12 84
Moore, Jamesina	105	40 87
Mosher, Annie R	105	40 87
McCabe, Pearle	105	40 87
McDonald, D W	45½	17 69
McFetridge, Emma J	105	40 87
McHeffey, Mary E	20	7 78
MacKay, Isabel	106	40 87
McLean, Annie	97½	37 95
McLean, Ivy	105	40 87
McKenzie, Margaret A	103	40 09
MacMillan, Neil	105	40 87
Nauss, Ola G	105	40 87
O'Brien Margaret	104½	40 67
Ogilvie, Estey M	105	40 87
Osborne, Melissa	105	40 87
Pander, Anastatia M	103	40 09
Reid, Mary H	105	40 87
Schultz, Sadie E	104½	40 67
Shute, Jessie T	105	40 87
Smith, Anna M E	105	40 87
Smith, Etina O	105	40 87
Smith, Pearl M	103	40 09
Spencer, F L	96	37 37
Thomas, Bessie	105	40 87
Thompson, Roy M	100	38 92
Thornton, Mary	105	40 87
Turner, Rebecca E	105	40 87
Wolfe, Hattie F	105	40 87
Wallace, May D	103	40 09
Weir Amelia	89	34 64
Balcombe, Lucy M	54	14 01
Chisholm, Jessie L	105	27 25
Clarke, Catherine B	98	25 43
Collins, Pearl	105	27 25
Collins, Margaret	104	26 99
Cole, Alice J	105	27 25
Corner, Anna R	94	24 39
*Corner, Bessie B	105	36 33
*Courtney, Mary	42	14 53
*Courtney, Mary	67	23 18
Crook, Mabel S	105	27 25
Dauphinee, Elsie M	105	27 25
Dauphinee, Lena C	105	27 25
*Ellis, Nina M	78½	27 16
Ferguson, Cora M	98½	25 56
Fisher, Adela	98	25 43
Foley, Ethel	105	27 25
Fraser, Grace	105	27 25
Gates, Plessa M	105	27 25
Gibbons, John	105	27 25
Grant, Edna G	106	27 25
*Greenough, Charlotte V	64	22 14
*Guild, Ethel G	105	36 33
Hall, Mabel Edna	104	26 99
Hartling, Margaret D	101	26 21
Hawkins, Viola S	102	26 47
*Henderson, Anna M	57	19 72
*Henderson, Henrietta M	84	29 07
Henry, Leah M	95	24 65
Higgins, Elsie G	105	27 25
Higgins, Matilda J	105	27 25
Horne, May E	105	27 25
Irvine, John T	52	13 49
Johnson, Elizabeth	98	25 43
*Josey, Izetta B	99	34 25
Julien, Emma B	85	22 06

Manthorn, Jennie	105	27 25
*Mosher, Ellen S	88	30 45
Munro, Mary E	80	20 76
*Murphy, Daniel P	67½	23 35
Murphy, Mary	105	27 25
Murray, Myrtle Jean	98	25 48
Myra, Blanche	89	30 80
*McGill, Frances	86	29 76
MacGillivray, Flora	95	24 65
*McLeod, Gutha	98½	29 22
*McLeod, Jennie S	83	28 72
Nieforth, Mabel J	103	26 73
Perry, Eva May	86	22 32
*Prest, Amelia C	97	33 56
Reid, Mabel L	98	25 43
Richardson, Edith M	97	25 17
*Richardson, Marguerite	93	32 15
*Roberts, Olive M	38	13 15
*Skerry, Emma	84	29 07
*Sargeant, Leon F	89½	30 97
Sibley, Harriet M	100	25 95
Sibley, Mattie A	105	27 25
Spinney, Jennie M	104	26 9
Stoddard, Sabina B	101	26 21
Sullivan, Rose	100	25 95
Sutherland, Grace	103	26 73
Warner, Mary B	103	26 73
Wells, William A	57	14 78
Whitman, Grace	62	16 08
Yeadon, Ida M	105	27 25

HANTS.

WEST.

Forbes, Antoinette	100	\$77 85
Shields, W J	105	95 37
Smith, J A	98	39 00
Bowlby, Florence M	105	54 50
Brennan, Maude A	105	54 50
Corkun, Clara A	105	54 50
Crossley, Nellie B	104	53 98
Faulkner, Harriett C	105	54 50
Hennesey, Margaret	101	52 42
Lavers, Winifred	100	51 90
McWilliam, Jessie	105	54 50
Parker, Helen Gwendolyn	105	54 50
Pearsons, Katie E	100	51 90
Rines, Maggie L	105	54 50
Scott, Agnes B	104	53 98
White, Jennie M	100	51 90
Bennett, Hanna	100	38 92
Blois, Josephine C	105	40 87
Burgoyne, Naomi A	100	38 92
Dimock, Annie A	100	38 92
Foster, Arthur DeW	105	40 87
Goudy, Emily F	100	38 92
Graham, Julia M	105	40 87
Harvey, Alice A	78	30 37
Kelley, Minnie A	100	38 92
King, Alberta J	39	15 17
King, Mildred E	101	39 31
Lewis, Sadie R	84	32 69
Lynch, Jessie A	105	40 87
*Mariette, Emma M	105	40 87
Maedougall, Edith M	55	21 41

McCurdy, Helen	100	38 92
Miller, A Blanche	105	40 87
Millett, Georgetta	105	40 87
Nicholson, E Mary	86	33 47
Nicholson, Mary Vance	104	40 48
O'Brien, Ellen J	105	40 87
Partridge, Ethel	102	39 70
Reden, Alice B	105	40 87
Rines, Rossie A	105	40 87
Rutherford, Willa J	100	38 92
Salter, Hattie M	94	35 59
Scott, Annie	105	40 87
Sexton, Verna K	105	40 87
Shaw, Sarah E	105	40 87
Smith, Melicent R	83	32 81
Stevens, Martha R	105	40 87
Wier, Annie G	103 ³	40 28
Young, Etta L	105	40 87
Cochrane, Madge I	105	27 25
*De Wolfe, Flora M	65	22 49
Foley, Ethel M	105	27 25
Foley, M Evelyn	105	27 25
*Houghton, Mary C	65	22 49
*Johnstone, Annabell	103	35 64
Jones, Estella	105	27 25
*Lantz, Mabel E	105	36 33
Laws, Lillian F	99 ³	25 82
*Long, Gertrude	33	11 42
Lunn, Ethel M	103	26 73
McKenzie, Florence H	105	27 25
Morse, Evelyn	105	27 25
Simm, Ada A	105	27 25
*Underwood, Janie	32	11 08
Withrow, Ethel A	105	27 25
*Vaughan, Alice G	105	36 33

EAST HANTS.

Chute, Clyde C	105	54 50
Cottle, Pauline D	105	54 50
Crowe, Janetta	105	54 50
Henry, Ella K	88	45 68
Holesworth, Mabel C	90	46 71
MacLennan, Florence B	105	54 50
MacLennan, Janie	105	54 50
McNutt, Annie	57	29 58
Marchant, Laura L	20	10 38
O'Brien, Clara	105	54 50
O'Brien, Greta	105	54 50
O'Brien, Laura J	28	14 53
Parker, Ethel E	105	54 50
Adams, Floretta M	30	11 67
Blake, Elizabeth A	165	40 87
Bradshaw, H Madge	105	40 87
Campbell, Lena B	105	40 87
Cox, Jane R	105	40 87
Foley, Minnie G W	104	40 48
Hamilton, Mildred	105	40 87
Harvey, Arabella E	101	39 81
Lewis, Lena	104	40 48
Little, Ada C	102	39 70
Little, Flora	104	40 48
Loomer, Gertrude M	105	40 87
Macdonald, Laura A	101 ³	39 50
McDougall, Lorine J	105	40 87
McCulloch, H Gertrude	94 ³	36 78
McLearn, Gertrude	103	40 09
McLeod, Margaret	105	40 87

Moreash, Isabel	103	40 09
Morrison, Maggie M	98	38 15
Mosher, Idella P	104	40 48
Sanford, Alida R	102	39 70
Scott, Catherine M	105	40 87
Simm, Ethalyn L	105	40 87
Smith, Emmaroy M	105	40 87
Wallace, Ellen	105	40 87
Withrow, Mary	100	38 92
Beazley, Abigail	105	27 25
*Bond, Bessie F	44	15 23
*Bowes, Willetta J	105	36 33
Cameron, Alberta	103	26 73
Card, Mary E	105	27 25
Embree, Janie E	105	27 25
*Elder, A Gordon	77	26 64
Faulkner, Nina Ethel	105	27 25
Greenough, Jennie	105	27 25
Higgins, Josephine	105	27 25
Horne, Lillie A	105	27 25
Kavanagh, Cecilia A	89	23 10
Logan, Jessie M	97 ³	25 30
McCurdy, Lillie A	105	27 25
McMann, Carrie	97 ³	25 30
*Mason, Sarah J	94	32 52
*Matheson, Ivy I	86	29 76
Moore, Jennie	105	27 25
*O'Brien, Janie L	105	36 33
Parker, Laura B D	44	11 42
Pratt, Lena H	86	22 32
Schwartz, Frances I	96	
Shaw, Mildred	105	36 32
Smith, Ida L	105	36 33

Assistant.

Gray, Bessie C A	100	17 30
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INVERNESS.

SOUTH.

Smith, E B	105	\$95 37
Chisholm, Duncan	60	31 14
Creelman, Laura M	105	54 50
Fraser, Susie	105	54 50
McDougall, Jessie A	105	54 50
MacMaster, Annie J	105	54 50
Munro, Fthel M	105	54 50
Murray, Mildred	103	53 46
Sr St Mary of the Ascension	14	7 27
Calder, John A	37	14 39
Finn, Violet A C	93	36 20
Macdonald, Angus L	105	40 87
Macdonald, Mary A	105	40 87
McIsaac, Mary A	95	36 98
McKenzie, Christina	76	29 57
MacMillan, Gordon	104	40 48
MacQueen, Katherine	97	37 76
O'Brien, Rufus B	79	30 76
Quigley, Mary E	20	7 78
Rose, Lily	98	38 15
Ross, Maggie	36	14 00
Sister St Mary Dolores	76	29 57
" " Marcella	29	11 29
" " Dympna	105	40 87

Sister St Marie	105	40 87
Smyth, Margaret W	86	33 47
Chisholm, M Cassie	100	25 95
Davis, Mrs Mary	104	26 99
Doyle, Ellen J	29	7 52
Gillis, Mary B	79	20 50
Hureau, Helen	105	27 25
Langley, Susan P	65	16 86
Leonard, Eliza M	105	27 25
McDonald, Katie	100	25 95
MacDonald, Stanley P	89	23 10
McEachen, Mary A	105	27 25
McFarlane, Mary C	101	26 21
McInnis, Jessie M	105	27 25
Macintosh, Sophie M	20	5 18
McIntyre, Catherine I	105	27 25
McIver, Norena	98	25 43
McLean, Duncan	77	19 98
Maclean, Grace C	105	27 25
McLellan, Mary A	105	27 25
McLellan, Agnes A	55	14 26
MacLeod, Mary M	95	24 65
MacMaster, Mamie	105	27 25
McMaster, Margaret R	100	25 95
McNeil, Mary Ella	105	27 25
McPhail, Cassie M	105	27 25
MacRae, Jessie A	99	25 69
Martin, Jessie	105	27 25
Sister St. John	105	27 25
Skinner, Daniel J	40	10 38
Smith, Clara J	88	22 84
*Henderson, Mary B	105	36 33
*McDonald, Annie M	84	29 07
*McEachen, Mary M	89	30 80
*McLean, Charles A	45	15 57

NORTH.

Gillis, Malcolm H	105	54 50
McDonald, Duncan H	79	41 00
McLean, Hector K	37	19 20
Arsenault, Minnie	105	40 87
AuCoin, James H	105	40 87
AuCoin, Hubert	51	19 85
Austen, Kenneth	10	3 89
Boudreau, Placide C	105	40 87
Boudreau, Anselm	105	40 87
Boudreau, Joseph C	105	40 87
Sr St Bernard	105	40 87
Sr St John	105	40 87
Campbell, Katie J	105	40 87
Coady, Sarah Jane	105	40 87
Chiasson, Ephraim	105	40 87
Chisholm, Arch A	105	40 87
Elderkin, E J	85	33 08
Gillis, Michael	55	21 41
LeBlanc, John P	105	40 87
Matheson, C Edna	66	25 69
McDaniel, Annie E	105	40 87
McLellan, Marjorie	105	40 87
McKinnon, John	105	40 87
McDaniel, Ida	105	40 87
McDougall, Mary A	105	40 87
McDonald, Martha	105	40 87
McLellan, A N	105	40 87
McInnes, C	105	40 87
McMillan, Duncan A	105	40 87
Nicholson, Arch G	105	40 87

Arsenault, Nellie	105	27 25
Arsenault, Mary R	105	27 25
Coady, Annie J	105	27 25
Chiasson, Peter	105	27 25
DesVaux, Adele	105	27 25
Doyle, D H	105	27 25
*Gillis, James D	105	36 33
Gillis, James John	83	21 54
Hawley, Maude	88	22 84
Sister Margaret Mary	105	27 25
McDonald, Mary L	103	26 73
Murphy, Thomas H	105	27 25
*MacDaniel, Sadie B	89	30 80
McDaniel, Nellie J	105	27 25
McDonald, Florence M	79	20 50
*MacKinnon, Annie	100	34 60
*Murphy, Mary R	105	36 33
*MacKinnon, Catherine	103	35 64
MacKinnon, Roderick	105	27 25
*McLellan, Katie	88	30 45
McLellan, Mary C	105	27 25
McDonald, Mary A	50	12 97
McKay, D P	105	27 25
McMillan, John Angus	50	12 97
McDonald, Angus A	78	20 24
Phillips, Sadie	77	19 98
Smith, Lorena	105	27 25
*Stramberg, Johnina	38	11 42
Shaw, Stephen R,	81	21 02

ASSISTANT.

Cormier, Mary A	105	18 16
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KINGS.

Fairweather, Ernest E	105	\$95 37
Golfrey, John F	100	51 99
Kaulbach, Lenora	100	64 87
Oxner, Bertha G	105	81 75
Webster, Winifred	105	81 75
Andrews, Lillian M	105	54 50
Bentley, May B	105	54 50
Best, Elsie M	105	54 50
Bligh, Arabella	97	50 84
Burbidge, Josephine	93	48 27
Chesley, Carrie E	105	54 50
Chipman, May L	104	53 98
Cochrane, S Ethel	100	51 90
Crowe, Louise B	105	54 50
Eaton, Alice A	100	51 90
Foote, C Perry	105	54 50
Ford, Robie W	99	51 38
Fulton, Elora	105	54 50
Gesner, C Leonard	88	45 68
Gilliatt, Ruth B	105	54 50
Greenleafe, Alice M	105	54 50
Hamilton, Bessie	105	54 50
Hamilton, Gertrude	88	45 68
Healy, Lily A	105	54 50
Illsley, Nellie E	105	54 50
Loomer, Estella J	105	54 50
MacGregor, Ruperta	105	54 50
McMahon, Laura	105	54 50
McMahon, Nellie B	105	54 50
McNeill, Bessie J	105	54 50

McWhinnie, Lizzie	105	54	50
Morse, Elizabeth G	104	53	98
Newcomb, Mary A	105	54	50
Parker, Maie L	105	54	50
Robinson, L D	105	54	50
Rockwell, Gladys H	105	54	50
Spinney, Hattie S	105	54	50
Spurr, Alice M	100	51	90
Skinner, Louis R	105	54	50
Sutherland, Augustina	101	52	42
Thorpe, Rose B	105	51	50
Welton, Jennie	31	16	09
Welton, Mildred	74	38	41
Woodbury, Mabel M	105	54	50
Woodward, Grace L	105	54	50
Armstrong, Flora B	105	40	87
Bartheaux, Myrtilla E	105	40	87
Bishop, Hattie L	105	40	87
Boyle, Annie B	103	40	09
Brown, Bessie M	36	14	00
Cahill, Cassie L	105	40	87
Challen, Bessie	105	40	87
Chase, Millicent I	105	40	87
Chesley, Sadie B	105	40	87
Chute, Fannie L	105	40	87
Cox, Alice	105	40	87
Davison, Laura E	20	7	78
Eisenhour, Bessie B	94	36	59
Fielding, Clara B	98	38	15
Franey, Bertha M	105	40	87
Fraser, Daisy Reid	105	40	87
Freeman, Margaret	99	38	54
Gaul, Ethel	105	40	87
Hennigar, Nina E	105	40	87
Jenkins, Ciralda H	105	40	87
Jenner, A Blanche	91	35	42
Jones, Pearl A	52	20	24
Kinsman, Mary E	102	39	70
Lee, Ena B	105	40	87
McPhee, Lillian L	50	19	46
Margeson, Hannah L	105	40	87
Marshall, Gertrude L	105	40	87
Miner, Mildred E	105	40	87
Moore, Elizabeth	105	40	87
Morse, Edith M	101	39	31
Mosher, Margaret E	100	38	92
Neville, Violet	105	40	87
Nichols, Lola M	105	40	87
North, Zetta C	80	31	14
O'Brien, Maggie A	55	21	41
Parker, Iva E	105	40	87
Parker, Lucia M	83	32	31
Parker Prue E	98	38	15
Pentz, Edith M	105	40	87
Phinney, Jennie D	103	40	09
Porter, A Mandie	105	40	87
Power, Carrie E	105	40	87
Robinson, Clara	105	40	87
Rockwell, Lila I	105	40	87
Scott, Estella L	81	31	53
Spicer, Pearl A	105	40	87
Starrett, Hattie B	96	37	37
Strong, May S	103	40	09
Swindell, Charlotte E	97	37	76
Weaver, Beatrice	104	40	48
West, Mildred	15	5	83
Wood, Apha M	105	40	87
Wright, Ethel L	105	40	87

Best, Lucy C	67	22	77
Brown, Mariam C	104	26	99
Chute, Edith	90	30	67
Chute, Nellie V	103	26	73
*Coldwell, Lewis H	90	30	57
*Collins, Leila	89	30	24
*Costley, Estella M	93	31	59
Etter, Norma C	105	27	25
*Finley, Eva L	105	35	67
*Franey, Ethel M	105	35	67
*Hanna, Ellen B	105	35	67
*Hazell, Eliza J	69	23	44
*Kinsman, Alice R	101	34	31
*McKeen, Ethel G	95	32	27
MacRae, Luella M	105	27	25
Miner, Bertha	14	3	63
*Nieforth, Edith M	82	27	86
North, Millicent B	105	27	25
*Parker, Bertha M	105	35	67
Parrish, Cora B	102	26	47
*Pineo, Mildred	80	27	18
*Randall, Alice	101	34	31
*Rogers, Abbie M	84	28	54
Roscoe, Josephine O	105	27	25
*Saunders, Emilie A	78½	26	68
*Sim, Jennie P	88	12	91
*Smith, B Evelyn	105	35	67
Stronge, Eva M	50	12	97
*Webber, S Christine	82	27	86
*West, Margaret O	105	35	67
Whitman, Eva Pearl	55	14	26

Assistants.

Martin, Annie L	104	26	99
Sanford, S Beryl	102	26	47

LUNENBURG AND NEW DUBLIN.

Crombie, Isaac	100	\$90	82
Hewitt, Minnie C	104	80	97
McKittrick, B	104	94	44
Smeltzer, H R	105	95	37
Balcom, Lewis D	99	51	38
Fancy, Lydia	103½	53	72
Feindell, Gertrude	105	54	50
Getson, Grace A	105	54	50
Harlow, Lottie	105	54	50
Joudrey, Edith	105	54	50
Lantz, Teresa	22	11	41
Leary, Mary E	105	54	50
Mader, Annie O	105	54	50
Mullock, Florence	105	54	50
Mader, Flora	105	54	50
Maxner, Morris	105	54	50
McLaughlin, Lilla	99	51	38
McMillan, Maid	100	51	90
Parker, Lillie	99	51	38
Prince, Ina	105	54	50
Spurr, Blanche	28	14	53
Strumm, Gladys	105	54	50
Veinott, Alice	105	54	50
Young, Helen	99	51	38
Young, Mary	104	53	98
Wentzell, Hattie	100	51	90
Zinck, Etta M	105	54	50

Astbury, Lizzie	91	35 42	Chesley, Isabel	105	27 25
Bowers, Mary	103	40 09	Chesley, Jessie	105	27 25
Bell, Marie R	105	40 87	Cook, Nellie P	79	20 50
Bolivar, Alma	105	40 87	Corkum, Beatrice	103	26 73
Brooks, Blanche	105	40 87	Corkum, Cassie	105	27 25
Bruhm, Flora	102	39 70	*Corkum, Gladys	89	30 80
Bruhm, Muriel	105	40 87	*Corkum, Minnie	105	36 33
Cox, Sadie E	99½	38 73	Crane, Georgina	89	23 10
Crawford, Florence	100	38 92	Deal, Bernice	105	27 25
Dorrie, Gladys	105	40 87	*Durland, Nina	99½	34 42
Ernst, Phebe	101	39 31	Ernst, Florence C	105	27 25
Duncan Jessie	105	40 87	Fancy, Elizabeth	100	25 95
Falkenham, Emma	105	40 87	Feener, Nora	105	27 25
Fancy, Jennie	97	37 76	Feindell, Addie	105	27 25
Fralic, Elsie	105	40 87	Feindell, Flora	105	27 25
Fralic, Elva	102	39 70	Forbes, Annie J	105	27 25
Freeman, Hilda	79	30 76	Freeman, Nellie V	105	27 25
Hagan, Jedidah	105	40 87	Garber, Jennie	104	26 99
Hamm, Erema	99	38 54	Getson, Mary	104	26 99
Hawksworth, Eva	100	38 92	Glawson, Josie	105	27 25
Hebb, Elsie	105	40 87	Heisler, Arthur	105	40 87
Hebb, Florence	103	40 09	*Heisler, Nellie	105	36 33
Herman, Bertha	105	40 87	Hirtle, Amanda	89	23 10
Hirtle, Ethel	105	40 87	Hirtle, Etta M	105	27 25
Hirtle, Roy	98	38 15	Himmelman, Viola	105	27 25
Keddy, Beatrice	100	38 92	Hyson, Ada E	43	11 16
Keddy, Bessie	105	40 87	Inglis, Etta F	105	27 25
Langille, Edith	105	40 87	Inglis, Flora	105	27 25
Lantz, Hannah	105	40 87	*Joudrey, Lida B	105	36 33
Lohnes, Minnie	105	40 87	Kaulback, Laura	99	25 09
Mader, Bessie	105	40 87	Keddy, Sadie D	79	20 50
Manthorne, Maud	105	40 87	Keddy, Sophia	105	27 25
Mason, Jessie	86	33 47	Kennedy, Lois	105	27 25
Millett, Sadie	105	40 87	Langille, Rebecca	105	27 25
McCabe, John M	103	40 09	Lohnes, Annie	105	27 25
McLachlan, Ethel	99	38 54	Mack, Theresa	34	8 52
McLachlan, Lelia	104	40 48	Mossman, Ada L	105	27 25
McLannan, A Maretta	105	40 87	Mouzar, Laliah	104	26 99
Naugler, Agnes	105	40 87	Morash, Carrie	105	27 25
Newcombe, Mabel	49	19 06	Mullock, Adelaide	105	27 25
Nicol, Minnie J	105	40 87	Parnell, Alma	105	27 25
Masson, Leaman	105	29 56	*Publicover, Lida	103	35 04
Reinhardt, Grace	104	40 48	Rafuse, Jennie B	105	27 25
Richard, Edith	105	40 87	Rafuse, Maggie	100	25 05
Rudolf, Mary	100	38 92	Sarty, Eva	105	27 25
Silver, Susie	105	40 87	Silver, Clara	104½	27 12
Smeltzer, Lillie	105	40 87	Smeltzer, Jennie	105	27 25
Smith, Eva M	105	40 87	Smith, Ada A	105	27 25
Smith, Idella	105	40 87	*Spidell, Jennie M	55	19 03
Smith, Lola L	105	40 87	*Spurr, Alma E	86	29 76
Smith Mary	100	38 92	Strumm, Emma	99	25 09
Taylor, Edith	105	40 87	Thompson, Lillian	100	25 05
Thompson, Florian	100	38 92	Veinot, Lillian	89	23 10
Thompson, Mary E	100	38 92	Wagner, Ella A	87	22 56
Tobin, Ellen M	100	38 92	Wentzell, Jemima	74	19 20
Tobin, Mary E	100	38 92	Westhaver, Jennie	86	22 82
Trethewey, Jessie	103	40 09	*Wilson, Eva	105	36 33
Warner, Emma L	105	40 87	*Winters, Stella	55	19 03
Webber, Debbie	100	38 92			
Wentzell, Ida H	103½	40 28			
West, Ella L	105	40 87			
Wilson, Violet L	105	40 87			
Adams, Lillian	105	27 25	Osborne, N A	103	\$93 55
Bell, Emma L	105	27 25	Goudey, Alice	85	44 12
Bell, Gertrude	105	27 25	Hennigar, Mabel	56	28 54
Bell, Minnie M	105	27 25	Lent, Irene	105	54 50
Brooks, Lena C	105	27 25	Lohnes, Eva M	105	54 50
Charlton, Elvida	105	27 25	Settle, Gertrude	98	50 86
			Smith, Sophia	50	25 95

CHESTER.

Zinck, Minnie	105	54 50
Astbury, Minnie	52	20 24
Challen, Minnie	105	40 87
Chesley, Ethel M	105	40 87
Hiltz, Adelaide	105	40 87
Langille, Jessie	105	40 87
Lockhart, Annie	105	40 87
Long, Alma	105	40 87
Parker, Carrie	103	40 09
Patterson, Florence	32	12 45
Reeves, Ella M	104½	40 67
Seldon, Clementine	20	7 78
Knickle, Kathleen	105	40 87
*Corkum, Annie B	89½	30 97
Demone, Eva	55	14 26
*Francis, Hildred	98	33 90
Hawboldt, Ida	99	25 69
Hennigar, Grace	105	27 25
Lewis, Beatrice	105	27 25
Meisner, Gladys	105	27 25
Nauss, Eva	105	27 25
*Smith, Ida R	105	36 33
Spurr, Annie	105	27 25
*Wile, Dora A	77	26 64
Zinck, Austin A	105	27 25

PICTOU.

NORTH.

MacLellan, Robt	94	\$85 36
McLeod, Angus	94	73 17
Moore, C L	92	71 61
Munro, H F	92	71 61
Gray, Margaret	105	54 50
MacKay, Annie	100	51 90
McArthur, Olive E	100	51 90
MacRae, Muriel	100	51 90
Munro, Mossie M	105	54 50
Murdoch, Louisa M	102	52 94
Tanch, Jos H	100	51 90
Young, Nettie	105	54 50
Archibald, Ann	104	40 48
Archibald, Carrie F	104	40 48
Baillie, A G	99	38 54
Campbell, Margaret	103	40 09
Carruthers, C E	105	40 87
Cameron, Bessie N	77	29 96
Ferguson, Janie A	105	40 87
Fraser, Katherine	70	27 24
MacKay, Beatrice	100	38 92
MacKay, Marion A	104	40 48
McLeod, Bessie J	20	7 78
MacIntosh, D S	102	39 70
Maclanders, Jennie	96	37 37
MacKenzie, Martha	105	40 87
MacKinnon, Ada K	105	40 87
MacKenzie, Marjorie	86	33 47
Maxwell, Lola	105	40 87
McCunn, Isabel	100	38 92
McDonald, Mabel	105	40 87
Munro, Merdena A	105	40 87
Munro, Margaret A	105	40 87
Murray, Christina	105	40 87
Murray, Elizabeth	105	40 87
Parker, Essie	97	37 78

Payne, Sadie M	102	39 70
Perrin, Elva E	100	38 92
Rose, Jessie F	100	38 92
Ross, Bessie B	105	40 87
Schultz, Sadie J	102	39 70
Sutherland, Bessie	104	40 48
Sylvester, Mary	100	38 92
Tattie, Mabel C	105	40 87
Adamson, Mary E	105	27 25
Brown, Isabelle	84	21 80
Campbell, Jennie	90	23 35
Cameron, M Jean	60	15 56
Dwyer, Mary E	102	26 47
Gunn, Jessie	102	26 47
Fullerton, Mabel	105	27 25
Grant, Wm A	103	26 76
Harvey, Essie	103	26 76
*Irving, Alice	104	35 98
Johnson, Lillian	98	25 43
*Langille, Edith	105	36 33
MacDonald, Essie J	99	25 69
MacDonald, Cassie	92	23 87
MacKnight, Jessie	105	27 25
MacKay, Annie C	105	27 25
MacKay, Christina B	105	27 25
MacIntosh, Jennie S	104	26 99
Matheson, Myrtle	105	27 25
*MacKay, Norman C	105	36 33
McQuarrie, Jessie M	108	26 73
*Murray, Grace A	105	36 33
Rae, Cora S	90	23 35
Reid, M Olive	98	25 43
Urquhart, Martha A	102	26 47
Vair, J Douglas	76	19 72
*Williamson, Christina	85	29 41
Wright, Bertha	64	16 00

SOUTH.

McLeod, J T	100	90 82
McLeod, J D	105	95 37
Roy, Frances B	99	64 22
Stapleton, W C	100	77 85
Allan, Margaret	105	54 50
Brunt, B Gertrude	105	54 50
Fraser, Attie	80	41 52
Fraser, Marion L	105	54 50
Fraser, Winifred	105	54 50
Fraser, Mabel O	105	54 50
Grant, Clara A	105	54 50
Gould, Annie S	105	54 50
Harlow, A C	100	51 50
Hicks, Blanche	105	54 50
Johnston, Isabel	12	6 23
Laurie, Elizabeth	105	54 50
MacKenzie, A S	105	54 50
Macpherson, Eliza I	105	54 50
MacLean, Cassie	105	54 50
MacGlashan, Isabel	105	54 50
MacInnis, A D	105	54 50
Miller, Lola D	105	54 50
Murray, Sadie A	105	54 50
McLeod, J W	105	54 50
Ogilvie, Mabel	105	54 50
Reeves, Annie W	104	58 98
Thompson, Elizabeth	105	54 50
Weir, Elizabeth D	105	54 50
Bryden, Myra	105	40 87

Johnson, Annis	105	40 87
McGinty, Katherina	87	33 86
Ramey, Rebecca	104	40 48
Wentzell, Minnie	104	40 48
Crouse Cynthia	103	26 73
Devine, Harriet	104	26 99
Freeman, Grace	105	27 25
Freeman, Maud	105	27 25
*Freeman, Nettie	39½	13 67
*Holdright, Carl	85	29 41
*Rowter, Emily	55	19 03
*Seamond, Ethel	83	28 72
*McLeod, Annie	53	18 33
Tufts, Edna	93	24 13
*Wessell, Laura	88	30 45
Whitman, Lulu	105	27 25

RICHMOND.

Macdonald, W A	105	95 37
Barrett, Teresa F	105	54 50
Boyd, Christina	105	54 50
Campbell, D H	105	54 50
Chiasson, Moses	105	54 50
Doyle, Cecilia J M	105	54 50
Ferguson, Wm H	105	54 50
Boyd, Laura E	105	40 87
Burke, Eva M	105	40 87
Canovan, Annie E	105	40 87
Doucet, M C	105	40 87
Johnstone, Mary C	105	40 87
Kemp, Hector F	105	40 87
LeBlanc, Zabine Rose	105	40 87
Mury, Henrietta	105	40 87
McKay, Luella B	105	40 87
MacKay, John F	105	40 87
McKillop, Ewin D	105	40 87
MacKillop, A B B	103	40 09
MacLeod, Tena H	105	40 87
McLeod, Peter A	98	88 15
Macneil, Minnie A	105	40 87
Macneil, Minnie P	103	40 09
Macneil, Margaret	105	40 87
MacRae, Lulu J	105	40 87
Major, William	96	37 76
Matheson, Elsie	105	40 87
Morrison, Annie	105	40 87
Murchison, John K	105	40 87
Nelson, J Scott	102	39 70
Sampson, Mary E	103	40 09
Sutherland, Blanche	66	25 69
White, Minnie M	105	40 87
Beaton, Margaret	94	24 39
Boudrot, Anna L	69	17 90
Bryner, Lottie M	105	27 25
Crispo, Clotilda	83	21 54
Deagle, Joseph	105	27 25
Doucet, Alvena E	105	27 25
Finlayson, Tena J	103	26 73
Foret, Charles J	102	26 47
Jackson, Henrietta E	86	22 32
Jackson, Annie J	84	21 80
Langley, Harriet E	94	24 39
McDonald, Maggie A	61	5 82
McEachern, Lizzie A	85	22 06
McKillop, Kenneth A	50	12 97

McLanders, Mamie	55	14 26
Macleod, Marie S	105	27 25
McLeod, Dolena	78	20 24
Macneil, Mary E	83	21 54
Morrison, Michael	105	27 25
Murphy, Margaret A	105	27 25
Murphy, Minnie E	105	27 25
Nelson, Gustav A	100	25 95
O'Toole, Henrietta	105	27 25
Poirier, Jeffrey H	103	26 73
Sampson, John W	105	27 25
Sr Marie Ste Firmine	105	27 25
Sutherland, Daniel J	9	2 33
Walker, Wallace R	105	27 25
Wilson, Julia	70	18 16
*Bissett, Clarence W	88	30 45
*McIntyre, Margaret L	95	32 87
*MacKenzie, Teresa	105	36 33
*Martell, Mary C	94	32 52
*Mombourquette, Annie J	103	35 64
*Morrison, Jessie A	93	32 18
*Sutherland, Donald A	105	36 33
*Thibeau, Peter	74	25 61

SHELBURNE.

Bruce C S	98	\$ 89 00
Capstick, Frances	105	95 37
Allen, Janie	55	28 54
Capstick, Grace	45	23 35
Locke, Cyril D	105	54 50
MacGill, Lizzie P	100	51 90
Nickerson, M A	105	54 50
Allen, Mary V	90	35 03
Bangay, S L	105	40 87
Batton, Viola M	105	40 87
Doleman, T W	103	40 09
Etherington, Lily	10	3 89
Etherington, A A	100	38 92
Giffin, Grace M	105	40 87
Holden, Annie P	105	40 87
Hammond, H G	105	40 87
Hardy, Ruby A	104	40 48
Lyle, Emily R	100	38 92
MacAlpine, F D	105	40 87
MacKay, Maud A	105	40 87
MacKay, Max B	105	40 87
MacKay, Hattie	105	40 87
MacKenzie, E C	105	40 87
Martin, Kate L	105	40 87
Page, Sidney M	105	40 87
Rawlings, Adine	105	40 87
Thomas, Elvah B	105	40 87
Turner, Flora A	105	40 87
Barclay, J P	105	27 25
*Bethune, Annie B	55	19 03
Bower, Edna G	95	24 65
Doane, Estelle S	103	26 73
Downie, Enla M	102	26 47
Firth, Emily L	105	27 25
Giffin, Brenda	105	27 25
Giffin, Flora M	105	27 25
Harding, Laura M	86	22 82
Hardy, Bertha W	105	27 25
Harding, M I	105	27 25
Jones, Sadie B	99	25 69

Lock, Louise M	105	27 25
MacKay, G A	103	26 73
MacKay, Hattie	105	27 25
MacKenna, Lulu	105	27 25
Mills, Mary E	102	26 47
Purney, Helen J	105	27 25
*Ringer, Chas H	34	11 77
Spanks, Carrie Z	20	5 18
*Walsh, M M	104	35 98

BARRINGTON.

Allen, Georgie W	105	\$54 50
Doane, Edith	105	54 50
Dorman, Robert	105	54 50
Fox, Arthur D	104	53 98
MacKay, Nettie	105	54 50
MacKay, E W	105	54 50
Martin, O M	103½	53 72
Oulton, Millage	105	54 50
Thorburn, E M	104	53 98
Atwood, M L	103	40 09
Brannen, L M	105	40 87
Brown, Alice D	105	40 87
Christie, H E	105	40 87
Decker, Chas E	105	40 87
Hopkins, B L	105	40 87
Hopkins, A M	105	40 87
Knowles, Ina	103	40 09
Nickerson, L J	105	40 87
Nickerson, C N	105	40 87
Nickerson, N G	105	40 87
Nickerson, S B	104	40 48
Nickerson, C L	55	21 41
Sutherland B	100	38 92
Trefry, Katie C	105	40 87
Thomson, C H	98	38 15
Walker, B E	101	39 31
Atkinson, M E	105	27 25
*Black, Rosie C	64	22 14
Crowell, Hilda	105	27 25
*Giffin, Ida M	104	35 98
Hegg, A C	105	27 25
*Hopkins, E B	74	25 61
Leaman, D M	105	27 25
MacGray, F E	105	27 25
Nickerson, Eula	105	27 25
Ross, Beulah B	105	27 25
Swaine, A O	105	27 25
Swanburg, Maria	105	27 25
Swanburg, N B	103	26 73
Thomas, H L	100	25 95

VICTORIA.

Macdonell, Pauline	105	\$93 37
Campbell, Lizzie M	105	54 50
McPherson, Minnie	105	54 50
McLeod, Bessie McK	100	51 90
McDonald, M B	105	54 50
Cameron, Annie M	86	33 47
Hartigan, Elizabeth	105	40 87
Kennedy, Christie B	105	40 87
McLean, Tina O	105	40 87
McRae, Bessie F	105	40 87
McLeod, Belle M	105	40 87

McAulay, Christena J	105	40 87
McDonald, Louise	105	40 87
McLean, S Agnes	89	34 64
McKenzie, Annie S	93	36 20
McRae, Florence C	105	40 87
McLeod, Mary	105	40 87
McLeod, Alexandrina	105	40 87
Mattatal, Daisy	105	40 87
McLeod, John D	105	40 87
Murdock, George F	105	40 87
McInnis, Dan F	105	40 87
McLennan, Dan A	105	40 87
Nicholson, Daniel J	105	40 87
O'Brien, M Lawson	65	25 30
Smith, Margaret	65	25 30
Watson, Ellie May	104	40 48
Watson, Henry A	105	40 87
Boyle, Katie A	105	27 25
*Boyd, Cecilia M	69	23 88
Doyle, Mary J	105	27 25
Fox, Frank B	94	24 39
McIver, Tena	100	25 95
Morrison, Annie M	105	27 25
*McRae, Margaret	86	22 83
McIver, Mary Anne	85	22 06
*McKenzie, Eliza A	103	36 38
McLean, Myrtle D	103	26 73
McDonald, Florence	105	27 25
*Morrison, Johana B	100	34 60
McDonald, Angus D	105	27 25
*McLeod, M D	105	36 33
McKay, William	105	27 25
*McRitchie, Dan John	20	6 92
*McLeod, Dan A	105	36 33
Rice, Gertrude L	105	27 25
Smith, Mary A	105	27 25
Stewart, Robert A	104	26 99
*Scott, Mary Allice	87	30 10
Smith, Cecilia M	105	27 25
Sutherland, Annie M	11	2 85
*Thomas, Hilda C	95	32 87
Younge, Edgar	104	26 99

YARMOUTH.

Kempton, W F	100	90 82
Bingay, Jas H	102½	79 80
Blackadar, G D	104	80 97
Wyman, H J	103	80 19
Bingay, N B	105	68 12
Horner, A W	105	68 12
MacGray, M W	105	68 12
Trask, Jas L	104	67 47
Tooker, Beatrice	2	1 30
Allen, S B	105	54 50
Allen, E Chesley	105	54 50
Bond, Mary C	105	54 50
Churchill, H W	105	81 75
Churchill, Nelson	105	54 50
Densmore, Flo	100	51 90
Ellenwood, M H	105	54 50
Fleet, Sarah J	105	54 50
Frost, Isabel F	105	54 50
Goodwin, E B	103	53 46
Grierson, Jean	103	58 46
Hilton, M A	85	44 12

Hopkins, M J	103	53 46
Huestis, H A	105	54 50
Jenkins, E J	105	54 50
Kenney, Laura	100	51 90
MacGray, J D	56	29 06
MacLeod, A J	105	54 50
Moses, Etta F	105	54 50
Moses, Judson A	105	54 50
Patten, Mabel E	105	54 50
Phillips, E R	99	51 38
Raymond, L	105	54 50
Scott, Anna	105	54 50
Smith, L G	105	54 50
Thorburn, L M	105	54 50
Wyman, E B	105	54 50
Allen, Francis L	56	21 80
Brown, Maud S	100	38 92
Bryant, Arletta	104	40 48
Chipman, Agnes J	105	40 87
Crosby, Jessie H	20	7 78
Crosby, Mildred	105	40 87
Crosby Lenna M	105	40 87
Crosby, Mary E	104	40 48
Delamere, S P	105	40 87
Doane, Lora H	66	25 69
Durland, A W	98	38 15
Eaton, Bertha M	105	40 87
Frost, Georgie B	105	40 87
Goudey, L Ada	102	39 70
Hamilton, J W	105	40 87
Kean, Evelyn S	105	40 87
MacKay, Janet M	105	40 87
Moses, Della B	105	40 87
Newcombe, B E	102	39 70
Parker, Venie W	105	40 87
Patten Lou C	105	40 87
Pennington, J G	80	31 14
Perry, Lydia S	105	40 87
Platt, Ada M	103	40 09
Smith, Elcie B	105	40 87
Wilson, Myrtle C	100	38 92
Wyman, Clara W	105	40 87
Baker Jessie A	105	27 25
Doane, Lora H	39	10 11
*Doucet, Mary A	35	12 11
*Kempton, B H	95	32 87
*Lonergan, M L	105	36 33
Moses, Minnie J	105	27 25
Nickerson, Nettie M	88	22 84
*Perry, Ora E	57	19 72
Purney, Maria G	105	27 25
Reynolds, Avis E	105	27 25
Roach, F C	105	27 25
Rose, Ivan M	84	21 30
Swaine, M M	105	27 25

ARGYLE.

Baker, E M	105	\$54 50
Mack, R T	105	54 50
Amiro, Lena B	105	40 87
Amiro, Eva A	105	40 87
Amiro, Alfred A	105	40 87
Bourque, Eliz	105	40 87
Brannen, W E	105	40 87
Brannen, G	103 ¹	40 28
Churchill, Gordon	105	40 87
Corning, N R	105	40 87
Crosby, M P	74	28 80
D'Eon, Octave	89	34 64
D'Eon, L F	105	40 87
Doucet, Emily	105	40 87
D'Entremont, M A	10	3 89
Frost, C W	105	40 87
Goodwin, G E	105	40 87
Hopkins, K M	105	40 87
Knowles, Mary L	99	38 54
Melanson, B E	95	36 98
MacCarthy, E L	101	39 31
Moses, Agnes	87	33 86
Paten, Flo H	105	40 87
Pothier, A C	105	40 87
Pothier, T E	105	40 87
Robicheau, M T	105	40 87
Scott, Martha	86	33 47
Shand, C E	105	40 87
Sister Seraphin	105	40 87
" Dionysia	85	33 08
" Stanislaus	105	40 87
Titus, Lizzie T	105	40 87
Amiro, R J	104 ¹	27 12
Amiro, C B	105	27 25
Amiro, Estelle	105	27 25
Amiro, J L	100	25 95
Amiro, Teresa M	104	26 99
Babin, E L	105	27 25
*Belliveau, G A	105	36 33
*Bourque, Constance	105	36 33
*Bourque, M N	105	36 33
Bourque, Philo	105	27 25
Bourque, Rosie	105	27 25
D'Entremont, C M	100	25 95
Duncanson, L L	105	27 25
*Gavel, J J	96	33 21
*Hamilton, J E	32	11 08
Jeffrey, Mary B	105	27 25
LeBlanc, John B	105	27 25
MacGinness, M A	71	18 42
MacGray, Anna E	105	27 25
Manzar, G R	103	26 73
Pothier, Annie	105	27 25
Sister Alberta	10	2 59
" Gonzaga	105	27 25
Spinney, A L	69	17 90
Thorburn, M A	105	27 25

Regulations of C. P. I. as amended up to March, 1907.

PROVINCIAL EXAMINATION OF HIGH SCHOOL STUDENTS.

82 "High School Students" shall be held to mean all who passed the County Academy Entrance Examination and are studying the subjects of any high school grade, or who are certified by a licensed teacher as having fully completed the Common School course of Study, and are engaged in the study of subjects beyond Grade VIII.

83. A terminal examination by the Provincial Board of Examiners shall be held at the end of each school year on subjects of the first, second, third and fourth years of the High School Curriculum, to be known also as Grades IX, X, XI and XII respectively of the Public Schools.

84. The examination sessions shall commence each day at nine o'clock a. m., for Grade XII on first Monday after 1st July, at the following stations:—Sydney, Antigonish, Pictou, Amherst, Truro, Halifax, Kentville, Liverpool and Yarmouth; for Grades XI, X and IX on the following Wednesday, and for "Minimum Professional Qualification" and "Supplementary" of public school teachers on the Saturday following; and shall be conducted according to instructions, under a Deputy-Examiner appointed by the Superintendent of Education, at each of the following stations, viz.:—1, Advocate; 2, Amherst; 3, Annapolis; 4, Antigonish; 5, Arichat; 6, Baddeck; 7, Barrington; 8, Bear River; 9, Berwick; 10, Bridgetown; 11, Bridgewater; 12, Canso; 13, Chester; 14, Church Point; 15, Digby; 16, Glace Bay; 17, Great Village; 18, Guysboro; 19, Halifax; 20, Kentville; 21, Liverpool; 22, Lockeport; 23, Lunenburg; 24, Mabou; 25, Maitland; 26, Margaree Harbor; 27, Middle Musquodoboit; 28, Middleton; 29, New Glasgow; 30, North Sydney; 31, Oxford; 32, Parrsboro; 33, Pictou; 34, Port Hawkesbury; 35, Port Hood; 36, River John; 37, Sheet Harbor; 38, Shelburne; 39, Sherbrooke; 40, Springhill; 41, Stellarton; 42, St. Peter's; 43, Sydney; 44, Tatamagouche; 45, Truro; 46, Upper Stewiacke; 47, Westport; 48, Westville; 49, Windsor; 50, Wolfville; 51, Yarmouth.

85. (a) Application for admission to the Provincial High School examination must be made on the prescribed form to the inspector within whose division the examination station to be attended is situated, not later than the 24th day of May.

(b) Candidates applying for the Grade IX examination, or for the next grade above the one already successfully passed by them, shall be admitted free. But a candidate who has not passed Grade IX must have his application for X accompanied by a fee of one dollar; if he has passed neither IX nor X the application for XI must be accompanied by two dollars; and if he has passed neither IX, X nor XI the application for XII must be accompanied by three dollars. The candidates who are entitled to free examination are only those who pass the different grade examinations in consecutive order.

- (c) For the Teachers' Minimum Professional Qualification Examination a fee of two dollars is required ; but it should not be forwarded with the application for it has been found more convenient to be paid to the Deputy-Examiner on the Saturday when the candidate presents himself for examination, the Deputy-Examiner transmitting the same to the Superintendent with his report.
- (d) The prescribed form of application, which can be freely obtained from the Education Department through the inspectors, shall contain a certificate which must be signed by a licensed teacher having at least the grade of scholarship applied for by the candidate, whose legal name must be carefully and fully written out. If the application is defective on account of the omission of the proper fee, or on account of the omission or incorrect statement of any fact called for in the prescribed form, the application is null and void ; and even should the Deputy-Examiner admit the candidate provisionally to the examination, his papers may be intercepted at the Education Office.
- (e) When a candidate presents himself for examination, and his name is not found on the official list as having made regular application in due time, the Deputy-Examiner may admit him to the examination provisionally on his written statement that application was regularly made in due time and on the payment of one dollar, which are to be transmitted with the Deputy's report to the Superintendent ; and if such candidate's statement is correct, that error being due to causes beyond his control, the dollar shall be returned. Providing there is sufficient accommodation, the Deputy-Examiner may admit any candidate on the payment of one dollar for Grade IX, X, XI, or XII (partial) ; and of two dollars for full Grade XII, in addition to the fees required under Reg. 85 (b) which must be paid before the candidate can claim examination of the papers.
- (f) For the convenience of those who have not passed Grade IX or X, or who having taken or passed either of them may not have made 40% on the Science paper of IX or the Science and Drawing papers of X, supplementary question papers on these subjects will be given as per time table on Saturday afternoon of Examination week. Candidates intending to take any of these papers should indicate the intention in the column of "remarks" in their application. The fee of *one dollar* for each such "supplementary" paper shall be paid the Deputy-Examiner with each answer paper as it is handed in to him at the end of the hour, for transmission to the Education Office.
- (g) The prescribed form of application is given in schedule B.

86. Each inspector shall forward, *not later than June 1st*, to the Superintendent of Education, a list of the applications received for each grade of examination at each station within his division, on a form to be supplied from the Education office, transmitting therewith all moneys, having duly classified and checked the same in the form aforesaid.

87. The Deputy-Examiner, when authorized by the Superintendent of Education, shall have power to employ an assistant or assistants, who shall receive two dollars per day for the time so employed.

88. The Superintendent of Education shall have prepared and printed suitable examination questions for each Grade at each examination in accordance with the prescribed course of study, and shall also forward to each Deputy-Examiner a sufficient supply of the printed questions, together with copies of such rules and instructions as may be necessary for the due conduct of the examination.

89. The maximum value of each paper shall be 100 ; and the numbered questions composing it shall be constructed with the intention of making each equal in value though not necessarily of equal difficulty. Thus, when 5 questions constitute one paper the value of each when answered accurately with reasonable fulness and in good form will be 20, no matter whether it should be easier or more difficult than its fellow questions

90. Each examiner shall mark distinctly by coloured pencil or ink at the left hand margin of each question on the candidate's paper its value on the foregoing assumption ; and shall sum up the total, placing it on the back of the sheet ; and underneath, the number of misspelled or obscurely written words, which number is to be deducted from the total for a true value of the paper. Thus, should the sum of the marks of a paper be 54, and the misspelled or obscurely written words be 6, then the marks on the back would stand as follows : English Grammar [54—6]=48.

91. To make a " High School Pass " in Grades IX, X and XI, the candidate must make, at least the *minimum aggregate* (400) of the grade on not less than eight papers with no subject below 25.

To make a " Teacher' Pass " the candidate must, in addition, have made, at least, 40 on each " imperative " subject in the course, up to and including that of the grade next below.

Candidates who have made a " High School Pass " can rank as having a " Teachers' Pass " by passing the supplementary examinations necessary.

92. To make a " High School Pass " in Grade XII, the candidate must make, at least, the *minimum aggregate* (1000) on the twenty subjects prescribed, with no paper below 25.

Instead of passing the full Grade XII syllabus by one examination on twenty or more subjects, the candidate may pass it by " partial " examinations which require a pass of at least fifty on every subject or paper under the following conditions : (1) By first making an aggregate of at least 600 on any ten or fewer papers ; (2) by subsequently making an average of at least fifty per cent on each of the remaining papers on which a pass of fifty was not made at the first partial examination ; (3) after which, if there should still remain some papers on which the candidate has not made the pass of fifty, the candidate may thereafter present himself for examination from year to year until he has made the

pass of fifty on all. This third condition shall also be allowed to candidates who may have made an aggregate of 1000 on twenty or fewer papers, and to those who have already obtained Certificates of Grade XII (cl) or XII (sc), or a License of Class A. So long as the Council of Public Instruction deems the character of the examination on the subjects not materially changed, all the valuation marks 50 per cent. or above made on each subject at the said and following examinations, may be incorporated into a single Certificate, provided, at least 50 per cent. be made on each of the (twenty) subjects required for the Grades XII (cl) or XII (sc), or on each of the (thirty) subjects in the full course for XII (cl and sc).

93. Candidates failing to make a pass in the grade applied for may be ranked as making a pass in the next grade below, provided 75 per cent. of the *minima* be made; and as making a pass on the grade second below, provided 50 per cent. of the *minima* be made.

94. Each candidate, provided no irregularity has been reported, shall receive from the Superintendent of Education a certificate containing the examination record in each subject. If the candidate has made a "High School Pass," the certificate will bear the head title "HIGH SCHOOL CERTIFICATE," showing the grade obtained under the arms of the Education Department; but the other certificates with examination records, even should they refer to but one subject, shall be equally valid for such facts as they show.

95. Candidates who are passing the various grades in consecutive order shall be admitted free to the regular Provincial High School Examination, provided their application and procedure have been regular. In all other cases a scale of fees shall be fixed to cover the cost of examination and extra labor likely to be incurred.

96. The subjects, number and values of the papers for the different examinations, and the general scope of examination questions, are indicated generally by the texts named in the prescribed High School curriculum. Examination may demand description by drawing as well as by writing in all grades.

PROVINCIAL EXAMINATION RULES.

97. No envelopes shall be used to enclose papers. One hour is the maximum time allowed for writing each paper. One sheet of foolscap will therefore hold all that will be necessary to be written on any paper if it is properly put down. The following rules must be exactly observed:

(1) Candidates shall present themselves at the examination room punctually half an hour before the time set for the first paper of the grade for which they are to write, at which time the deputy examiner shall give each a seat, and a number shall represent the candidate's name, and must therefore be neither forgotten nor changed. The candidates who present themselves shall be numbered from 1 onwards in consecutive order (without a hiatus for absent applicants, who cannot be admitted after the numbering), beginning with the A's, then coming to the B's C's and D's in order. Candidates for "Supplementary" papers need not be present at the opening session if they have sent in their applications and the titles of the papers on which they intend to write.

(2) Candidates shall be seated before the instant at which the examination is fixed to begin. No candidate late by the fraction of a minute has the right to claim admission to the examination room, and any candidate leaving the room during the progress of any examination must first send his or her paper to the deputy examiner, and not return until the beginning of the next paper.

(3) Candidates shall provide themselves with (for their own exclusive use), pens, pencils, mathematical instruments, rulers, ink, blotting-paper, and a supply of good, heavy foolscap paper of the size thirteen inches by eight.

(4) Each candidate's paper must consist of one sheet of such foolscap, which may be written on both sides, and must contain no separate sheets or portions of sheets unless inseparably attached so as to form one paper. Neat writing and clear, concise answers are much more likely to secure high value from examiners than extent of space covered or a multiplicity of words.

(5) Each such paper must be *exactly* folded. 1st, by doubling, bottom to top of page, pressing the fold (paper now $6\frac{1}{2}$ by 8 inches); 2nd, by doubling again in the same direction, pressing the fold flat so as to give the size of $3\frac{1}{2}$ x 8 inches.

(6) Finally the paper must be exactly indorsed as follows: A neat line should be drawn across the end of the folded paper one-half an inch from its upper margin. Within this space, $3\frac{1}{2}$ inches by $\frac{1}{2}$ inch, there must be written in very distinct characters, 1st, the letter indicating the grade; 2nd, the candidate's number, and 3rd, a vacant parenthesis of at least one inch, within which the deputy examiner shall afterwards place the private symbol indicating the station. Immediately underneath this space and close to it should be neatly written the title or subject of the paper.

For example, candidate No. 18 writing for B (Grade XI.) on Algebra should endorse his paper as shown below:—

B 18 ()		Algebra,
----------	--	----------

(7.) The subject title, grade and candidate's No. may be written within, over the commencement of the paper also; but any sign or writing meant to indicate the candidate's name, station or personality may cause the rejection of the paper before it is even sent to the examiners.

(8.) Any attempt to give or receive information, even should it be unsuccessful, the presence of books or notes on the person of a candidate, or within his reach during examination, will constitute a violation of the examination rules, and will justify the deputy examiner in rejecting the candidate's papers, and dismissing him from further attendance. No dishonest person is entitled to a provincial certificate or teacher's license. And where dishonesty at examination is proven, provincial certificates already obtained and licenses based on them will be cancelled.

(9.) It is not necessary for candidates to copy papers on account of erasures or corrections made upon them. Neat corrections or cancelling of errors will allow a paper to stand as high in the estimation of the examiner as if half the time were lost in copying it. Answers or results without the written work necessary to find them will be assumed to be only guesses, and will be valued accordingly.

(10.) Candidates are forbidden to ask questions of the deputy examiner with respect to typographical or other errors which may sometimes occur in examination questions. The examiner of the paper alone will be the judge of the candidate's ability as indicated by his treatment of the error. No candidate will suffer for a blunder not his own.

(11.) Candidates desiring to speak with the deputy examiner will hold up the hand. Communication between candidates at examination, even to the extent of passing a ruler or making signs, is a violation of the rules. Any such necessary communication can be held through the deputy examiner only.

(12.) Candidates should remember that the deputy examiner cannot overlook a suspected violation of the rules of examination without violation of his oath of office. No consideration of personal friendship or pity can therefore be expected to shield the guilty or negligent.

(13.) Candidates intending to apply for license upon a record made at this examination, should fill in a form of application for such license as is expected. The deputy examiner is provided with blank forms for those who do not already have them. The applicant can have his certificate of age and character correctly made out and signed, and should note on the application, the number, station and year of any previous examination he has taken, whether he has been successful in obtaining a certificate thereon or not. He can also fill in his number, station, etc., and grade of certificate or rank of M. P. Q. expected. This latter should be placed in *brackets*, which will be understood to mean that it is not yet obtained but is *expected* to be obtained.

(14.) All candidates will be required to fill in and sign the following certificate at the conclusion of the examination, to be sent in with the *last* paper :

CERTIFICATE.

Examination Station:.....Date..... July, 190....
Candidate's No. ()

I truly and solemnly affirm that in the present examination I have not used or had in the Examination Room, any book, printed paper, portfolio, manuscript, or notes of any kind, bearing on any subject of examination; that I have neither given aid to, nor sought nor received aid from, any fellow-candidate; that I have not wilfully violated any of the rules, but have performed my work honestly and in good faith.

(Name in full)

}

(Without any contraction in any of its parts)
P. O. to which memo. or certificate is to be sent.

98. The time table of the examinations shall be as in the following form, the details being changed from year to year to suit the syllabus:

TIME TABLE.

PROVINCIAL EXAMINATIONS, BEGINNING 1ST JULY, 1907.

	TIME.	GRADE A.	COUNTY ACADEMY ENTRANCE. Beginning 27th June.			
MONDAY.	A. M. 9.00 to 10.00 10.10 " 11.10 11.15 " 12.15	Roman History. Chemistry. Xenophon.	THURSDAY, 28th June.	English.		
	P. M. 2.00 to 3.00 3.10 " 4.10 4.15 " 5.15	Greek History. Botany. Demosthenes.		Mathematics.		
TUESDAY.	A. M. 9.00 to 10.00 10.10 " 11.10 11.15 " 12.15	Tacitus. Zoology. Navigation.	FRIDAY, 29th June.	Drawing, &c. Geography and History.		
	P. M. 2.00 to 3.00 3.10 " 4.10 4.15 " 5.15	Æschylus. Sanitary Science. Astronomy.		General Knowledge		
	A. M. 8.30 to 9.00	Seating of Grades B, C and D.				
WEDNESDAY.	A. M. 9.00 to 10.00 10.10 " 11.10 11.15 " 12.15	Algebra. Latin Composition. French Authors.	Algebra. Latin Composition.	Algebra. Latin.	Algebra. Latin.	
	P. M. 2.00 to 3.00 3.10 " 4.10 4.15 " 5.15	English Language. French Composition. Geology.	English Language. French. Greek Authors.	English Language. French.	English Lang. French.	
THURSDAY.	A. M. 9.00 to 10.00 10.10 " 11.10 11.15 " 12.15	Geometry. Greek Composition. Cicero.	Geometry. Latin Authors.	Geometry. Greek.	Geometry.	
	P. M. 2.00 to 3.00 3.10 " 4.10 4.15 " 5.15	Physics. German Composition. Vergil.	Physics. German. Greek Composition.	Science. German.	Science.	
FRIDAY.	A. M. 9.00 to 10.00 10.10 " 11.10 11.15 " 12.15	Trigonometry. Psychology. Horace.	Prac. Math. Physiology.	Arithmetic. Drawing and B. K.	Arithmetic. Drawing & B. K.	
	P. M. 2.00 to 3.00 3.10 " 4.10 4.15 " 5.15	British History. English Literature. German Authors.	Geo. and History. English Grammar.	Geo. and History. English Grammar.	Geo. and Hist. Eng. Grammar.	
SATURDAY.	A. M. 9.00 to 10.00 10.10 " 11.10 11.15 " 12.15	M. P. Q. EXAMINATION.		SUPPLEMENTARY EXAM.		
		Hygiene and Temperance. School Law and Management. Theory and Practice of Teaching.		P. M. 2.00 to 3.00 3.10 " 4.10 4.15 " 5.15	"C" Drawing and B. K. "D" Science. "C" Science.	

OPTIONAL EXAMINATION IN MUSIC, ETC.

- (u) At the County Academy Entrance Examination and the Teachers' Minimum Professional Qualification Examination, candidates who have taken London Tonic Sol-Fa certificates can for the question in music *substitute* their certificates for which values will be given as follows: For "Junior" certificate, 10; for "Elementary" certificate, 15; and for "Intermediate" certificate, 20—the last two for M. P. Q. only.
- (b) The candidate will enter in a parenthesis as an answer to the No. of the question on music in his examination paper, the words "Junior certificate," or "Elementary certificate," or "Intermediate certificate," as a reference to the fact that such a certificate has been handed to the deputy examiner, bearing on its back the name, and address, and examination number, and station of the candidate plainly indorsed upon it.
- (c) The certificates will be received by the deputy examiner, compared with his list to verify the correctness of the indorsation by the candidates, then enclosed in one envelope addressed, in the case of the Academy Entrance, to the Principal, and in the case of the M. P. Q. to the Superintendent of Education, who, after perusal, shall return them to the respective candidates.
- (d) The Principal or the Superintendent, as the case may be, shall then indorse 10, 15 or 20 points (according to a) on the examiner's report and on the candidate's paper below the general valuation number, and add the two together for the total value of the paper.
- (e) To prevent the possibility of two values being given to the question by accident, the examiner of a paper in which a certificate is substituted for the question, shall mark the general value of the paper with an asterisk, both on the paper and on his report.
- (f) No certificate from any local examiner of the London Tonic Sol-Fa College shall be accepted, unless the examiner has previously given a satisfactory proof to the Principal or Superintendent that he or she has been duly appointed as local examiner for the grade of certificate in question by the authorities of the said College.
- (g) At the County Academy Entrance Examination the certificate of Attendance for a year at a Manual Training School, or a Domestic Science School, can be accepted for the answer to a question on the subject in like manner as the "Junior" Tonic Sol-Fa certificate—value 10.

LICENSING OF TEACHERS.

100 No person can, under any circumstances, be a teacher in a public school entitled to draw public money on his or her account without a License from the Council of Public Instruction. Before obtaining such a license a candidate must obtain, *first*, a certificate of the prescribed GRADE of Scholarship at the Provincial High School Examination, with a "Teacher's Pass" in each of the lower grades; *second*, the prescribed certificate of professional RANK as a teacher, either from the Provincial M. P. Q. Examination or the Provincial Normal School, and *third*, the prescribed certificate of age and character from a minister of religion or two Justices of the Peace. The value of a License is distinguished by the term CLASS; of scholarship by the term GRADE; of professional skill by the term RANK. The following collocation of the terms used will help to explain their significance and relation:

Generally,

	(1)	(2)	(3)
	"Teacher's Pass" Scholarship	Normal Diploma.	Age & Character.
Class A (cl & sc) requires	Grade XII (cl & sc)	Academic Rank	20 years, &c.
Class A (cl)	Grade XII (cl)	Academic Rank	20 years, &c.
Class A (sc)	Grade XII (sc)	Academic Rank	20 years, &c.
Class B	Grade XI	First Rank	19 years, &c.
Class C	Grade X	Second Rank	18 years, &c.
Class D	Grade IX	Third Rank	17 years, &c.
Class D (Prov.)	Grade IX	"	M. P. Q. 16 years, &c.

Exact requirements in the following regulations:—

101. As the ordinary or "high school pass" may be taken by a student with little or no knowledge of some of the subjects "imperative" for teachers (for the "high school pass"

is awarded on an average of 50% on any eight papers of a grade, provided none of the eight is below 25%), the following regulation is made to control graduation from the Normal School.

No diploma of the Provincial Normal School shall be awarded any candidate who is found defective (below 40%) in the scholarship of any imperative subject of the Provincial Course of Study up to and including the corresponding grade, until the Faculty is satisfied that creditable proficiency has been made in each such subject.

102. When a teacher obtains a teacher's license without graduation from the Provincial Normal School, it can be only of a class one degree lower than the "teacher's pass" grade of scholarship. The following statement explains the principle in detail:—

- (a) A Class D License cannot be awarded to any one who has not been estimated as high as 40 per cent. on each "imperative" subject of the grade D High School Course, by Provincial Examiners.
- (b) A Class C License in like manner requires 40 per cent. on each "imperative" subject of grades D and C.
- (c) A Class B License in like manner requires 40 per cent. on each "imperative" of grades D, C and B.
- (d) A Class A License in like manner requires 50 per cent. on each "imperative" in grades D, C, B, and A (classical and scientific).

103. When the "teacher's pass" has not been made by a candidate on the lower grades in order, the following equivalents are allowed:—

- (a) 40 per cent. on each of the "imperatives" of grade C shall be considered the equivalent of 40 per cent. on each of grade D, except the Science paper.
- (b) 40 per cent. on each of the "imperatives" of Grade B shall be considered the equivalent of 40 per cent. on each subject of the lower grades, except the Science of D, and the Science and Drawing papers of C. The same principle shall apply to grade A marks.
- (c) Opportunity is given on Saturday afternoon to take supplementary examinations on the Science of D, and the Science, Drawing and Book-keeping of C.

104. No certificate, combination of certificates nor any other qualification except the possession of a lawfully procured License gives a person authority to teach under the law in a public school. The regulations governing the issuance of licenses are as follows:—

105. The permanent Licenses of Public School teachers shall be under the SEAL of the Council of Public Instruction signed by the Secretary of the Council, shall be valid for the whole province during the good behaviour of the holder and shall be granted on the fulfilment of the three conditions more fully specified in the succeeding regulations, namely: the presentation of the prescribed proof of (1) age and character, (2) scholarship, and (3) professional skill

106. There shall be four classes of such licenses, which may be designated as follows:—

Class A (cl & sc.), A (cl.) or A (sc.)—Academic (classical and scientific), Academic (classical) or Academic (scientific).

Class B—First Class.

Class C—Second Class.

Class D—Third Class.

107. The certificate of professional qualification or skill shall be (a) the academic, first, second or third RANK classification by the Normal School, or (b) the minimum (which shall rank one degree lower than the normal), and shall be the first, second or third rank pass on the follow-

ing papers written on the Saturday of the Provincial Examination week: (1) School Law and Management, value 100; (2) Theory and Practice of Teaching, value 100; and (3) Hygiene and Temperance, value 100. First rank pass: an aggregate of 200 with no paper below 50. Second rank pass: 150 with no paper below 40. Third rank pass: 100 with no paper below 30.

108. The Provincial Normal School at Truro is recognized as the appropriate source of certificates of professional qualification for public school teachers; but the certificates of other Normal or teachers' training schools whose curricula may be satisfactorily shown to the Council to be at least the equivalent of those of the Provincial Normal School, may be accepted when qualified by the addition of the two following conditions: (a) a pass certificate of the Provincial 'minimum' professional qualification examination of the corresponding rank, and (b) a certificate of a Public School Inspector, before whom or under whose supervision the candidate has demonstrated by the test of actual teaching for a sufficient period his or her qualifications for the class of license sought.

In the case of candidates whose course of professional training had been completed before the grade of scholarship necessary for the class of license afterwards applied for was obtained, no license under any circumstances shall be issued until after the lapse of a full year from the date of the certificate of high school grade required for the said license.

109. The prescribed certificate of age and character is given in the following blank form of application for license, which will be supplied to candidates by the Education Department, through the inspectors or the Principal of the Normal School:

FORM OF APPLICATION FOR A TEACHER'S LICENSE.

To.....

Inspector of Schools, Division No..... Nova Scotia.

I hereby beg leave through you to make application to the Council of Public Instruction for a Teacher's License of Class and herewith I present evidence of compliance with the conditions prescribed, namely:

- I. The prescribed certificate of age and character hereto attached, which I affirm to be true.
- II. My High School certificate of Provincial Grade..... obtained at..... Examination Station as No..... in the year 190.... (Further information below.)
- III My certificate of professional qualification of..... Rank No..... obtained at..... in the month of....., 190

(Name in full.)

(Post Office address).....

Date.....

(County).....

CERTIFICATE OF AGE AND CHARACTER.

I, the undersigned, after due inquiry and a sufficient knowledge of the character of the above named candidate for a Teacher's License, do hereby certify:—

That I believe the said candidate (name in full), was born on the..... day of....., in the year..... and

That I believe the moral character of the said candidate is good, and such as to justify the Council of Public Instruction in assuming that the said candidate will be disposed as a

certificate of first rank professional qualification from a Normal School or a "Teacher's pass" certificate of Grade XII with the first rank minimum professional qualification.

112. For a Second class or C License the three conditions are:—

(1) A certificate of the full age of eighteen years and moral character as in the foregoing Regulation. (2) A pass certificate of Grade X. (3) A certificate of second rank professional qualification from a Normal School or a "Teacher's pass" certificate of Grade XI with the second rank minimum professional qualification.

113. For a Third Class or D License the three conditions are:—(1)

A certificate of the full age of seventeen years and moral character as in the foregoing Regulation. (2) A pass certificate of Grade IX. (3) A certificate of third rank professional qualification from a Normal School, or a "Teacher's pass" certificate of Grade X with the third rank minimum professional qualification.

TEMPORARY LICENSE.

114. A Third Class (provisional) or D (prov.) License, *valid only for one year* may be granted (but not previous to the 15th day of September in any school year) on regular application when the following *four* conditions are fulfilled:—(1) A certificate of the full age of sixteen years and moral character as in the foregoing Regulation. (2) A pass certificate of at least Grade IX as in the foregoing Regulation. (3) The third rank minimum professional qualification. (4) A recommendation of the candidate as a temporary teacher for a specified school by the inspector, who must previously be assured by the trustees of the said school that, although reasonable effort was made to employ a regular teacher of permanent class, one could not be obtained, and that the candidate would be acceptable to the school section as a teacher for the year. Such License can only be re-issued for another year when the candidate has demonstrated an advance of *grade or rank* in his qualifications at a *subsequent* Provincial Examination.

SPECIAL SCHOOL DAYS.

139. It has been found very inspiring to devote certain days entirely to some special object, the demonstrative effect of which can be made much more intensive than that of the same time broken up into a routine of short fragmentary lessons spread over a few weeks. Such occasions when managed properly, are of more value in teaching effect than the ordinary routine day. In fact, they can accomplish in some cases what could never be accomplished so effectively in any other way. They are by no means holidays. Far otherwise, for they involve extra labor on the part of the teacher, and generally also on the part of the pupil.

140. *Arbor Day.*—To call special attention to the importance of the proper management and cultivation of our forests, to the value of the afforestation of lands which cannot be so productive in any other manner, and to the bearing of forestry on the rainfall, drainage, climatic and industrial condition of the province, to encourage the proper adornment of the school grounds, to cultivate a taste for the beautiful in nature, and to give some practical and objective lessons in tree planting, and the study of tree growth,—for such objects the following directions are given:

- (a) On such day of May as according to season, weather or other circumstances may be deemed most suitable, trustees are authorized to have substituted for the regular school exercises of pupils, the planting by the latter of trees, shrubs and flowers, on the grounds surrounding the school house. The day devoted to this purpose shall be known and entered in the register as "Arbor Day," and when duly observed full credit will be given for it in the apportionment of public funds, on the basis of the actual attendance of pupils as ascertained by roll call at the beginning of the exercises or other convenient time during their progress. Additional value and interest should be imparted by mingling with the practical duties of the occasion short addresses from the teacher and other competent persons on the æsthetic and economic importance of arboriculture. During their summer visitation, inspectors shall take note of all schools in connection with which "Arbor Day" has been observed.
- (b) Teachers who have been able to observe this day in a useful manner are recommended to make a special report on the same within a week to the inspector, specifying the work done on the occasion, and its prospective influence on the section. From these statements inspectors can have all the details necessary for their annual reports to the Superintendent of Education.
- (c) There will be found subjoined some practical suggestions which will be serviceable to those who wish to make the occasion a really profitable one.

(1) In selecting trees, it is well to avoid those that bear flowers or edible fruits, as such in the flowering and fruiting seasons are apt to meet with injury from ignorant or mischievous passers-by, and to offer temptation to the pupils. Butternuts and horse chestnuts are not to be commended as shade trees. The balsam fir is objectionable from the liability of its balsam to stain the hands and clothing. Deciduous or broad leaved trees are easily grown, their fibrous roots rendering transplanting a comparatively simple operation. If care is taken, the young saplings of the elm, maple and ash, as found in the undergrowth of the forest, can be transplanted without difficulty.

(2) No school grounds should be without a suitable number and variety of the standard deciduous trees. However, during the winter season these are bare and unattractive, and afford little or no shelter. On the other hand, evergreens, such as spruces, pines, hemlocks and cedars, retain their foliage and provide a shelter as useful in winter as it is grateful in summer. Trees should always be planted according to a definite plan, being arranged either in curves or in straight lines, according to circumstances and with an obvious relation to the building and fences. They should not be placed so near the school house as to interfere with the free play of light and air.

(3) Our native trees grow so freely in the woods that we are apt to suppose they are merely to be taken up by the roots and transplanted, to start at once into a vigorous growth as before. This is a mistake. Great care should be taken in digging up the trees to preserve the fibrous roots; long runners should be cut across with a sharp knife, and not torn. All trees thrive best in well-drained soil, varying from sandy loam to clay. A clay loam suits all descriptions. The holes for the trees should always be made before the trees are brought to the ground, and should be too large rather than too small. In filling in, the better soil from near the surface should be returned first, so as to be nearer the roots, but where the soil is at all sterile, and generally, there should be put below and around the roots some well-rotted compost, mixed with sand, and sandy loam, in order to promote the growth of the rootlets. In setting the tree it should be placed a little deeper than it stood before, and the roots should be so spread out that none are doubled. When finally planted the tree should be tied to a stout stick in such a way as to prevent chafing the bark. Some mulch or stable litter should then be thrown around the stem to prevent the roots from drought. Stirring the ground is preferred by some cultivators to mulching. In transplanting evergreens, the roots should not be exposed to air or light—especially the heat of the sun—more than can be helped.

Several varieties of shrubs planted together in clumps produce a very pleasing effect, while the care of judiciously arranged flower beds will be to the children an important means of education.

141. *Empire Day.*

- (a) The establishment of this day followed a recommendation of the Dominion Educational Association at its third triennial convention which met in Halifax. The Council of Public Instruction of Nova Scotia adopted the recommendation immediately after, on the 18th of August, 1898, appointing as "Empire Day" the school day preceding the holiday commemorating the anniversary of the birthday of Queen Victoria, under whose reign the Empire so widely and harmoniously developed. This was the first institution of Empire Day by any Education Department.

HISTORICAL NOTE.—On the 2nd of December, 1897, Mrs. Clementina Fessenden, of Hamilton, Ontario, addressed a committee of the local school board on the subject of a patriotic day. Subsequently this and other school boards adopted her suggestion that the Education Department of Ontario be asked to set apart one day each year as a patriotic day. The Hon. G. W. Ross, then Minister of Education, arranged, after correspondence with the Superintendent in Nova Scotia, then President of the Dominion Educational Association, that it should be proposed to the D. E. A. to recommend that a day should be fixed for the day before Victoria Day, the 24th of May, which is a statutory holiday in all Canadian schools, and that it should be called "Empire Day." The President, in his opening address, on the 2nd of August, 1898, in the Academy of Music, Halifax, presented the proposal, and read the absent Hon. Minister's plea. The convention accordingly before its close, on the 5th August, recommended "Empire Day" to the several education departments of the Dominion. It was promptly adopted by that of Nova Scotia as indicated above, with the following instructions to the public schools.

- (b) The object of the day is the development of the Empire idea with power, by a more dramatic and impressive demonstration than would be possible in the routine method of teaching necessarily characteristic of the most of the work of the school. No set method is prescribed. Local orators may be utilized in short and appropriate addresses to the pupils and their parents. Teachers and pupils should take part in as effective and in as varied manners as possible from year to year. As a rule it is preferable to have it an exercise open to the public of the locality in the afternoon, the forenoon being devoted to phases best treated in the school room. It is one of the days when the school flag should be flying.
- (c) The exercises should not be directed to develop boastfulness in the greatness of the Empire. They should be a study of the causes why it became great, and how it may continue to be great; of the history of the rise, growth and alliance of its different peoples, of the evolution of the elastic system of self-government, and of the development of that spirit of Empire unity which is a new thing in history as the Empire's extent is in geography. And most important of all the exercises should be an inspiration to stimulate all to seek how they may further reinforce the good tendencies and bind the distant members of the Empire more closely together in the bonds of reciprocal helpfulness as well as of sentimental love.
- (d) As in the case of Arbor Day, all worthy teachers are expected to file a report on the exercises of the day, no matter how brief, with the inspector of his or her division.

PUBLIC SCHOOL COURSE OF STUDY.

152. The public school course of study may be considered under its sub-division of the common and high school course. They furnish a basis for the classification of pupils by the teachers and for the examination of schools by the inspectors while they also secure a definite co-ordination of all the work attempted in the public schools of all grades, thus fostering the harmonious interaction of all the educational forces of the province.

These courses are to be followed in all schools, particularly with reference to (1) the order of succession of the subjects and (2) the simultaneity of their study. The fulness of detail with which they can be carried out in each school must depend upon local conditions, such as the size of the school, the number of grades assigned to the teacher, etc. As suggestive to teachers with little experience, contracted forms of the detailed common school course for miscellaneous and partially graded schools are appended.

The public school course of study is the result of the observation and experience of representative leading teachers of the province, under the suggestion of the experiments of other countries, and the criticism of our teachers in provincial conventions assembled for many years in succession. A system developed in such a manner must necessarily in some points be a compromise, and presumably therefore at least a little behind what we might expect from the few most advanced teachers. But it is also very likely to be a better guide than the practice of a majority without any mutual consultation for improvement. The successive progression of studies is intended to be adapted to the order of development of the powers of the child's mind, while their simultaneous progression is designed to prevent monotony and one-sidedness, and to produce a harmonious and healthy development of the physical, mental and moral powers of the pupil. The apparent multiplicity of the subjects is due to their sub-division for the purpose of emphasizing leading features of the main subjects which might otherwise be overlooked by inexperienced teachers. The courses have been demonstrated to be adapted to the average pupil under a teacher of average skill. The teacher is, however, cautioned to take special care that pupils (more especially any prematurely promoted or in feeble health) should not run any risk of "over-pressure" in attempting to follow the average class-work.

Changes in these courses of study must always be expected from year to year, but to a very small extent, it is hoped, except in the prescription of certain texts in the high school course. These will be published from time to time in the bulletin of the Department, the JOURNAL OF EDUCATION, published in April and October of each year.

153**GENERAL PRESCRIPTIONS.**

These general regulations, on account of their paramount importance and their unchangeable character, are printed on page 10 of the School Register, so that they may be always before the eyes of the teacher. To save space they are not republished here; but attention is called to the fact that they are even of more importance than the special prescriptions which follow below as supplementary.

SPECIAL PRESCRIPTIONS FOR COMMON SCHOOLS.

GRADE I.

Reading—No. 1 with Wall Cards or Blackboard Work.

Language—Story telling by pupil. Writing easy vertical letters, words and sentences.

Writing and Drawing—Writing on slate, paper or blackboard. Drawing of easy, interesting figures as in *Manual Training*, to end of Section II (or as in alternative Drawing Course recommended).

Arithmetic—All fundamental arithmetical operations with numbers, the results of which do not exceed 20, to be done with concrete or abstract numbers, accurately and rapidly.

See general prescriptions.

Lessons on Nature—Power of accurate observation developed by exercising each of the senses on simple or appropriate objects. Estimation of direction, distance, magnitude, weight, etc., begun. Common colors, simple, regular solids, surface and lines. Simple observations on a few common minerals, stones, plants and animals.

Music, &c.—As under *general prescriptions.*

GRADE II.

Reading—Reader No. II.

Language—As in Grade I, but more advanced. *See general prescriptions.*

Writing and Drawing—As in Grade I, but more advanced. Angles, triangles, squares, rectangles, plans of platform and school room (or as in *Manual Training No. I* to end of Section IV); with *Public School Drawing Course No. I* (or as in alternative Drawing Course recommended).

Arithmetic—Numbers up to 100 on the same plan as in Grade I.

Lessons on Nature—As in Grade I, but more extended. *See general prescriptions.*

Music, &c.—As under *general prescriptions.*

GRADE III.

Reading.—Reader No. III. *See general prescriptions.*

Language.—As in II, but more advanced. Subject and predicate. Nouns and verbs.

Writing and Drawing.—Vertical letters on slate and in copy books. Freehand outlines on slate, blackboard, etc. Common geometrical lines and figures with their names. Map of school grounds and surroundings. As in *Manual Training, No. 1*, to end of Section VI.; with *Public School Drawing Course, No. 2* (or as in alternative Drawing Course recommended.)

Arithmetic.—As in Common School Arithmetic, Part I, first half. *General prescriptions.*

Lessons on Nature.—Geography of neighborhood, use of local or county maps. Estimation of distances, measures, weights, etc., continued. Color. Study extended to three or four each of common metals, stones, earths, flowers, shrubs, trees, insects, birds and mammals. *See general prescriptions.*

Music, &c.—As under *general prescriptions.*

GRADE IV.

Reading.—Reader No. IV. *See general prescriptions.*

Language.—Oral statements of matter of lessons, observations, etc. Written sentences with punctuation, etc. Modifiers of subject and predicate, of noun and verb.

Writing and Drawing.—Copy Book. Drawing as in *Manual Training, No. 1*, to end of Section VIII., with *Public School Drawing Course, No. 3* (or as in alternative Drawing Course recommended.)

Geography.—Oral lessons on Physiography as on pages 85 to 99, Introductory Geography, with the general geography of the Province begun on the school map. *See general prescriptions.*

Arithmetic.—As in Common School Arithmetic, Part I, completed. *See general prescriptions.*

Lessons on Nature.—As in Grade III, but extended so as to include four or five objects of each kind, as in *general prescriptions.*

Music, &c.—As under *general prescriptions.*

GRADE V.

Reading.—Reader No. V. *See general prescriptions.*

Language.—Oral as in IV., and *general prescriptions.* All parts of speech and sentences with inflections of noun, adjective and pronoun,—orally. Composition practice on "nature lessons," etc., increasing.

Writing and Drawing.—Copy Book. Drawing as in *Manual Training*, No. 1, with *Public School Drawing Course*, No. 4, etc., and drawing from objects (or as in alternative Drawing Course recommended.)

Geography and History.—Ideas of latitude and longitude, physiography, etc., developed. Oral geography of Nova Scotia on map in fuller detail. General geography of the Provinces of Canada and the Continent, as on the Hemisphere maps. Oral lessons on leading incidents of Nova Scotia history.

Arithmetic.—As in Common School Arithmetic, Part II., first half.

Lessons on Nature.—From mineral and rock to soil, as shown in neighborhood, and extended to five or six each of the common plants, trees, insects, other invertebrates, fish, reptiles, birds, mammals; and natural phenomena, such as ventilation, evaporation, freezing, closely examined. Health Reader No. 1 begun.

Music, &c.—As under *general prescriptions*.

GRADE VI.

Reading.—Reader No. VI. *See general prescriptions*.

Language.—Oral as in V. extended. Formal composition (simple essays) twice each month. Paradigm of regular verb. Simple parsing and analysis begun. More important rules of Syntax applied. Short descriptive sketches of observation, etc., etc., and letters, from oral instruction, as in "Lessons in English."

Writing and Drawing.—Copy Book. Drawing as in *Manual Training*, No. 2, to end of Section II, with *Public School Drawing Course*, No 5, &c. Increasing practice in representing common objects in outline (or as in alternative Drawing Course recommended.)

Geography.—Introductory Geography text to end of Canada. Thorough drill in outlines of Hemisphere, with map drawings.

History.—Leading features of History of Nova Scotia (oral).

Arithmetic.—As in Common School Arithmetic, Part II, completed.

Lessons on Nature.—As in Grade V., but extended to at least six or seven objects of each class specified. Distribution and values of all natural products of the Province. Health Reader No. 1 completed.

Music, &c.—As under *general prescriptions*.

GRADE VII.

Reading.—Prescribed Selections. Character of metre]and figures of speech to be observed. *See general prescriptions*.

Language.—Leading principles of Etymology with paradigms. Parsing and analysis of simple sentences and application of rules of syntax (oral). Written abstracts of oral or reading lessons. Simple description of "nature" observations, etc., narrative and business forms, punctuation and paragraphing. All from oral instruction as in "Lessons in English"

Writing and Drawing.—Copy Book. Drawing as in *Manual Training*, No. 2, to end of Section IV., with *Public School Drawing Course* No. 6, &c. Plotting of lines, triangle rectangles, &c., according to scale, as in *Morton's Mechanical Drawing*. Chap. I and II. Simple object drawing extended (or as in alternative Drawing Course recommended).

Geography.—Introductory Geography to end of Europe, with thorough map drill, and map drawing. *See general prescriptions*.

History.—Leading features of History of Canada (Map). *See general prescriptions*.

Arithmetic.—As in Common School Arithmetic, Part III., first half.

Lessons on Nature.—As in Grade VII., and with the study of specimens illustrating the stones, minerals, &c.; each class, sub-class, and division of plants; and each class of animals found in the locality. All common and easily observed physical phenomena. (Much of this course will be covered by a series of object lessons on the subject matter of any one of the easier chapters of *James' Agriculture*, and on the *Introductory Science*.)

Music, &c.—As under *general prescriptions*.

GRADE VIII.

Reading.—Prescribed selections. Elements of prosody and plain figures of speech, as illustrated in reading, to be observed and studied. *See general prescriptions*.

Spelling.—Prescribed Speller in addition to *general prescriptions*.

Language.—Parsing, including important rules of Syntax. Analysis of simple and easy complex sentences. Correction of false Syntax and composition exercises, etc., as in "Lessons in English" completed. Pupils at this stage should be able to express themselves fluently and with fair accuracy in writing, for all ordinary business purposes. *See general prescriptions*.

Writing and Drawing.—Copy Book. Model and object drawing. *Manual Training*, No. 2, to end of Section V., with review of *Public School Drawing Course*, Nos. 5 and 6, &c. Construction of angles, mathematical figures, maps, plans, etc., to scale and their measurement, neatly and accurately, as in *Morton's Mechanical Drawing*, Part I. See general prescriptions (and alternative Drawing Course recommended).

Geography.—Introductory Geography completed and reviewed, with latest corrections and map drill, and map drawing. See general prescriptions

History.—Outline history of British Empire (Robertson). See general prescriptions.

Arithmetic.—Common School Arithmetic completed. See general prescriptions.

Algebra.—Fundamental rules, with special drill on the evolution of algebraic expressions.

Bookkeeping.—A simple set, as in Kaulbach and Schurman or an equivalent.

Lessons on Nature.—As in Grade VII., extended to bear on Health, Agriculture, Horticulture, and any local industry of the School Section. Local "Nature Observations." (Much of this course will be covered by a series of oral lessons completing the subject matter of *James' Agriculture* and of the *Science Primer*.) *Health Reader*, No. 2, completed. See general prescriptions.

Music, &c.—As under general prescriptions.

157. CONDENSED COMMON SCHOOL COURSES.

(The following condensations of the Common School Course of Study are given merely as suggestions for the benefit of untrained teachers who may require such aid. In connection with the special prescriptions given hereunder, the teacher should study thoroughly the meaning of the general prescriptions given elsewhere, and in the School Register. These general combined with the following special prescriptions form the prescribed Courses of Study.)

158. FOR A COMMON SCHOOL WITH FOUR TEACHERS.

PRIMARY.

Reading.—Readers No. I and II, with wall cards or blackboard work.

Language.—Story-telling by pupil. Easy vertical letters, words and sentence.

Writing and Drawing.—Writing on slate, paper or blackboard. Drawing of easy interesting figures, plans of platform and school room, etc., or, as in *Manual Training* No I, to the end of Section IV., with Drawing Book No. 1 (or as in alternative Drawing Course recommended).

Arithmetic.—All fundamental arithmetical operations with numbers, the results of which do not exceed 100, to be done with concrete and abstract numbers, accurately and rapidly.

Lessons on Nature, &c.—Power of accurate observation developed by exercising each of the senses on simple and appropriate objects. Estimation of direction, distance, magnitude, weight, etc., begun. Common colors, simple, regular solids, surface and lines. Simple observations on a few common minerals, stones, plants and animals. Simple songs, Hygiene and Temperance.

ADVANCED PRIMARY.

Reading.—Readers Nos. III. and IV., with spelling.

Language.—Oral statements of matter of lessons, observations, etc. Written sentences with punctuation, etc. Subject, predicate, noun, verb, and their modifiers.

Writing and Drawing.—On slate and blackboard. Common geometrical lines and figures with their names, map of school grounds. Copy books. Drawing as in *Manual Training* No. I., to end of Section VIII., and Drawing Books Nos. 2 and 3, or representative selections from them, with outline drawing of common objects (or as in alternative Drawing Course recommended).

Arithmetic.—As in Common School Arithmetic, Part I.

Lessons on Nature, &c.—Geography of neighborhood and the use of map of province with easy geographical terms, explanation of the change of seasons, etc. Estimation of distance, measure, weight, etc., continued. Color. Study of four or five each of the common metals, stones, earths, flowers, shrubs, trees, insects, birds and mammals. Simple songs.

INTERMEDIATE.

Reading.—Reader Nos. V. and VI., *Health Reader* No. I.

Language.—Formal composition (simple essays twice a month), short, description of "Nature lesson" observations, etc., and letters as well as oral abstracts. Simple parsing

and analysis begun, with the application of the more important rules of syntax, exercises selected from reading lessons. (No text book in the hands of pupils).

Writing and Drawing.—Copy books. Drawing as in *Manual Training No 1*, complete, and Drawing Books Nos. 4 and 5 (or as in alternative Drawing Course recommended). Model and object drawing.

Arithmetic.—As in Common School Arithmetic, Part II.

Geography.—Introductory Geography to end of Canada. Thorough drill in outlines of Hemisphere maps.

History.—Leading features of history of Nova Scotia (oral).

Lessons on Nature.—From minerals and rock to soil, as shown in neighborhood and six or seven each of the common plants, trees, insects, other invertebrates, fish, reptiles, birds, mammals, and natural phenomena, such as ventilation, evaporation, freezing, closely examined. Distribution and values of the natural products of the province. Music, at least half a dozen songs (tonic sol-fa notation).

PREPARATORY.

Reading.—VII. and VIII. Health Reader No. 2. Elements of prosody and plain figures of speech as illustrated in readings to be observed and studied.

Spelling.—Readers and prescribed Spelling Book, etc.

Language.—Leading principles of Etymology and Syntax. Parsing. Analysis of simple and easy complex sentences. Correction of false syntax. Written abstracts of oral and reading lessons. Simple description of "Nature lesson" observations, etc., narrative and business forms. Punctuation and paragraphing. All oral, including matter of "Lessons in English."

Writing and Drawing.—Copy Books. Drawing as in *Manual Training No. 2* to end of Section V. with Drawing Book No. 6. Model and Object drawing with simple drawing from nature (or as in alternative Drawing Course recommended). Construction of angles and simple geometrical figures to scale and their measurement as in *Morton's Mechanical Drawing*, Part I.

Geography.—Introductory text book with latest corrections and thorough map drill.

History.—Outlines of British and Canadian History.

Arithmetic and Algebra.—Common School Arithmetic. Fundamental rules of Algebra, and evaluation of algebraic expressions.

Bookkeeping.—A simple set as in Kaulbach and Schurman or an equivalent.

Music.—At least eight songs and the tonic sol-fa notation.

Lessons on Nature.—The study by examination of the minerals, stones, earths, etc.; of specimens of each class, sub-class and division of plants; and of each class of animals, as found in the locality, with particular reference to the bearing of the knowledge of any useful industry, as agriculture, horticulture, etc. All common and easily observed physical phenomena. Oral lessons with experiments on subject matter of Introductory Science Primer and *James' Agriculture*.

159.

FOR A COMMON SCHOOL WITH THREE TEACHERS.

LOWER.

Reading.—Readers Nos. I, II and III, with spelling.

Language.—Story-telling by pupil. Printing or writing simple words and thoughts.

Writing and Drawing.—Vertical letters, etc., on slate, paper or blackboard and copy book. Drawing from objects and of easy interesting figures, plans of school grounds, or as in *Manual Training*, No. 1 to end of Section VI., with Drawing Books, Nos. 1 and 2 (or as in alternative Drawing Course recommended).

Arithmetic.—As in Common School Arithmetic, Part I., first half.

Lessons on Nature.—Power of accurate observation developed by exercising each of the senses on simple and appropriate objects, geography of neighborhood and local map. Estimation of direction magnitude, distance, weight, measure, etc., begun. Colors. Objective study of at least a few of each class of the natural history objects in the locality.

Music.—At least three simple songs (tonic sol-fa notation).

MIDDLE.

Reading.—Readers, Nos. IV, V and VI, with spelling. Health Reader, No. 1.

Language.—Oral statement of matter of reading lessons and oral lessons. Simple description of "Nature lesson" observations, etc., narrative and letter writing. Parts of speech and sentences with the easier inflections and rules of syntax. Parsing and analysis of simple passages in reading lessons begun.

Writing and Drawing.—Copy books. Drawing as in *Manual Training*, No. 1, complete with Drawing Books, Nos. 3, 4 and 5, or representative selections from them, and outline drawing from objects (or as in alternative Drawing Course recommended).

Arithmetic.—As in Common School Arithmetic, Parts I. and II.

Geography and History.—Drill in Hemisphere maps and Introductory text book to end of Canada. Oral lessons on the leading incidents of the history of Nova Scotia.

Music.—Five or six songs (tonic sol-fa notation).

Lessons on Nature.—Estimation of weights, measures, distances, etc., in connection with reduction exercises; six or seven each of every class of natural history objects (mineral, vegetable and animal), in the neighborhood, examined and classified. Common physical phenomena observed and studied.

HIGHER.

Reading.—VII. and VIII. and Health Reader, No. 2, with spelling and prescribed spelling book, elements of prosody and plain figures of speech in passages read, observed.

Language.—Leading principles of Etymology and Syntax. Parsing, analysis of simple and easy complex sentences, correction of false syntax, oral and written abstracts of interesting lessons. Essays, including narrative description of "nature lesson" observations, etc., and general letter writing with special attention to punctuation, paragraphing, and good form generally. All oral, including matter of "Lessons in English."

Writing and Drawing.—Copy Books. Drawing as in *Manual Training*, No. 2, to end of Section V., with Drawing Book, No. 6. Model and Object Drawing, with simple drawing from nature (or as in the Alternative Drawing Course recommended). The construction and measurements of Angles and mathematical figures as in Morton's *Mechanical Drawing*, Part I.

Geography.—Introductory Geography, complete with latest corrections, and general map drill on Hemisphere maps.

History.—Outlines of British and Canadian History.

Arithmetic and Algebra.—Common School Arithmetic, and evaluation of algebraic expressions and four fundamental rules.

Bookkeeping.—One simple set with commercial forms.

Music.—At least eight songs and the tonic sol-fa notation.

Lessons on Nature.—The study objectively of a number of the typical natural history objects of the locality, their distribution, value and bearing on native industries in the province. The observation and explanation of common physical phenomena. Oral lessons and experiments as in introductory Science Primer and *James' Agriculture*.

160

FOR A COMMON SCHOOL WITH TWO TEACHERS.

JUNIOR (at least two divisions).

Reading.—Primers and Readers, Nos. I, II, III and IV, with spelling, and oral abstracts of interesting lessons; nouns, verbs, subjects, predicates, etc., in lessons of higher classes; writing sentences, and descriptions of "nature" observations.

Writing and Drawing.—Letters, words, geometrical figures, etc., on slate, paper and blackboard. Copying from cards. Copy books and drawing as in *Manual Training* No. 1, to the end of Section VII, with Drawing Books Nos. 1, 2, 3 (or as in alternative Drawing Course recommended), and drawing from common objects.

Arithmetic.—As in Common School Arithmetic, Part I.

Music.—Four or five songs, with tonic sol-fa notation.

Lessons on Nature.—Practice in the estimation, by guessing and testing of weights, measures, distances, etc., referred to in reduction tables. Study of regular solids, surfaces, lines and colors. Observation of simple physical phenomena. Examination and classification of representative specimens of minerals, stones, etc, plants and animals, to be found in the locality. Training the eyes to see everything around and the mind to understand explanations and relations.

SENIOR (at least two divisions).

Reading.—Readers, Nos. V, VI, VII and VIII, Health Readers, Nos. 1 and 2, Spelling and definition. Oral abstracts of lessons. Elementary grammar and analysis drill on sentences in reading lessons. Observation of figures of speech and the character of metre, in poetical passages read in the advanced division.

Language.—Leading principles in Etymology, Syntax, etc. Written and oral abstracts, narratives and description of "nature lesson" observations, etc., with attention to punctuation, paragraphing and form. All as in "Lessons in English," taught orally.

Writing and Drawing.—Copy Books. Drawing in *Manual Training*, No. 1, complete, and No. 2 to end of Section V with Drawing Books, Nos. 5 and 6, Model and Object Drawing. (Or condensation of alternative Drawing Course recommended). Lessons in mathematical construction of figures in advanced division as in Morton's *Mechanical Drawing*, Part I. The use of the "Universal Scale"

Geography.—Text books (introductory) in advanced division. For all, thorough drill in the general geography of the Hemisphere maps.

History.—Outlines of British and Canadian History, in alternative divisions.

Arithmetic.—Common School Arithmetic, Parts II and III, with evaluation and fundamental rules of Algebra for advanced division.

Bookkeeping.—Simple set for advanced division.

Music.—At least eight songs and the tonic sol-fa notation.

Lessons on Nature.—One daily to all pupils on such subjects as : estimation of weights, measures, distances, etc. ; properties of bodies, common physical phenomena, local representative specimens or species of the mineral, vegetable and animal world in the locality, the natural resources of the province—and the bearing of these on our industrial development, etc., etc. Experiments, etc., as in the Introductory Science Primer and *James' Agriculture*.

161. FOR A COMMON SCHOOL WITH ONE TEACHER.

(UNGRADED, "MISCELLANEOUS," OR "RURAL" SCHOOL.)

[As a general rule there should be at least four classes or divisions in such a school ; (a) those in Reading VII and VIII, (b) Readers No. VI or V, (c) Readers No. IV or III, and (d) Readers No. II or I. The pupils in such a school must be drilled to move without the loss of an instant of time, if the teacher is to be successful. There cannot be here the leisure of a graded school].

Reading.—(d) Four lessons a day, very short, with spelling, grammar and composition questions on them ; (c) three short lessons in like manner ; (b) two short lessons, one from Health Reader No. 1, with the full range of questions to them ; (a) one lesson (Health Reader No. 2 on alternate days), with questions covering spelling, definitions, grammar, analysis, prosody and composition, more or less partially.

Writing and Drawing.—(d) On slate or paper from blackboard or cards during specified times of the day ; (c) same, more advanced ; (b) copy books and drawing books once each day ; (a) the same once each day. The use of the "Universal Scale," as in Morton.

Language.—Text book only in (a) and once a day or every other day, with written composition in (a) and (b) as indicated in the other courses. Class instruction or essay criticism once or twice a week. All as in "Lessons in English," taught orally.

Geography.—Oral lessons once or twice a week to (d) and (c) and (b). Text books twice a week (b) and (a).

History.—Oral lessons once or twice a week to (c) and (b). Text book twice a week for (a).

Arithmetic.—Each class to receive attention twice a day as a class from the teacher ; (d) a very few minutes at a time ; (a) more time, which might vary with the difficulty of points to be reasoned out. This will form the main subject for "seat work," while the teacher is engaged with other classes.

Music.—At least twice a day for a few minutes. Exercises short and often given are more useful for many purposes than exercises long and seldom.

Lessons on Nature.—Once every day so as to select during the year the most important points specified in the uncontracted course. Oral lessons on local objects of Nature Study as in *James' Agriculture*. A specimen time table is given below for such schools.

162. SUGGESTIVE TIME TABLE.

(DESIGNED TO AID INEXPERIENCED TEACHERS AND TRUSTEES).

This specimen is given here for a rural school in which it is assumed there is only common school work to be done—the work of the first eight "Provincial Grades."

Every teacher should have a *time table*, giving all these details, posted up in the school room, so that pupils could be guided by it to even their "desk" work. Inspectors are required to insist on this in every school.

TIME TABLE.

[For a "rural" or "miscellaneous" common school of eight grades grouped in four classes (a), (b), (c) and (d), as directed on the previous page, with about 44 pupils, 2 in 8th, 3 in 7th, 4 in 6th, 5 in 5th, 6 in 4th, 7 in 3rd, 8 in 2nd, 9 in 1st].

TIME WHEN BEGINS	Duration (Minutes.)	RECITATION TO TEACHER.		SILENT WORK OF THE FOUR CLASSES AT DESKS.			
		Monday, Wednesday, Friday,	Tuesday, Thursday.	(a)	(b)	(c)	(d) †
9:00	15	Opening song, and Roll-call.					
9:15	15	(d) Reading, Spelling, etc.		Arith.	Arith.	Spelling.	Spelling.
9:30	15	(c) " "		Arith.	Spelling.	Spelling.	Drawing.
9:45	15	(b) " "		Spelling.	Spelling.	Spelling.	Arith.
10:00	15	(a) " "					
10:15	5	Song and Callisthenics.					
10:20	30	(a), (b), (c) and (d), Arithmetic, etc.					
10:50	10	RECESS.					
11:00	15	(a) Gram. and Anal.	(a) Language.		Arith.	Arith.	Arith.
11:15	15	(d) Reading, Spelling, etc	Mental Arithmetic.	Arith.			
11:30	5	Writing.					
11:35	25	Drawing					
12:00	60	NOON INTERMISSION.					
1:00	5	Song and Roll-call.					
1:05	15	Geog., etc., (oral).	Hist., etc., (oral)	Map Draw	Arith.	Arith.	Arith.
1:20	15	(a+) Geog.	(a+) Hist.	Language	Language.	Language.	Language.
1:35	15	(c) Language.	(d) Language.	Arith.		Spelling.	Spelling.
1:50	15	(b) " "	(a) Tues. { Health (b) Thurs. } Reader.				
2:05	5	Song and Callisthenics.					
2:10	20	Arith., Alg., E. K., or Math., Drawing					
2:30	10	RECESS.					
2:40	15	"Nature" and Science lesson from objects.					
2:55	10	Writing or Drawing notes on lessons.					
3:05	15	(d) Reading, Spelling, etc.	(a), (b), (c) and (d) Recitations. (Elocutionary on Fridays.)	Math.	Math.	Arith.	
3:20	15	(c) " "		Math.	Spelling.	Spelling.	Spelling.
3:35	15	(b) " "		Math.		Spelling.	Arith.
3:50	10	Announcements, etc., and Song.					

NOTES ON THE TIME TABLE.

*Desk work, Mathematics, when teacher is not engaged with the class.

†Desk work, description in writing (and drawing when necessary) of natural objects or observations, when the teacher does not require the attention of the class to the "lesson" of the day. Some lessons may be adapted to all classes, others to the senior or junior. When an elementary lesson is given classes (c) and (d) the classes (a) and (b) should be working on a written description of a plant, an insect, or other phenomena observed, or experiments in physics, etc., with drawings. And *vice versa*.

‡Class (d) may be necessarily made up of two or three, if not more sub-classes, each of which must be rapidly taken in turn.—some in their letters, some in their primer, etc., but all must receive attention in these subjects three or four times a day, for they can do but very little at a time.

Reading.—Should include spelling, definition of words, grammatical notes, derivations, prosody, etc., as the matter suggests; and the literary and other ideas involved should be made clear to the pupils. There is a saving of time and effort in considering as many related things as possible together. See *general prescriptions*.

Language.—The "desk" work should require every day, if possible, the expression of the pupil's thoughts about something on which he can have clear ideas. To read a short story, or choice description once to the class, giving all, say, exactly five or ten minutes to

write rapidly their remembrance of it substantially, is a good exercise; especially if the errors are corrected before the class or otherwise shortly after; or to give them an object or a picture to "write up" in a limited time. This will develop facility in composition. Some grammar and analysis, of course, will be necessary in order to enable the pupils to understand the reasons why some methods of expression are better than others.

Mathematics—Several subjects need be taken up only for a month or two, such as the elementary rules of algebra, accounts, the use of the mathematical scales, as on the universal Scale (engraved on wood) and the compass in mathematical drawing. Some of these might be taken instead of arithmetic, say on the afternoon of alternate days.

High School Work—Where work of this kind has to be done, those studying the high school subjects might aid the teacher with some of the classes so as to obtain time for the high school studies which might otherwise cut down too much of the time given to the common school grades, which are of paramount importance in ungraded schools. When high school work is being done, the teacher's time, in case of a difference of view by those interested, might be fairly decided to be distributed to each grade in proportion to the number of grades and pupils in each.

Nature Lessons, &c.—See general prescriptions in the School Register.

ALTERNATIVE COMMON SCHOOL COURSE OF DRAWING.

163. The following is the alternative course of Drawing for the common school grades, which is referred to in the preceding prescriptions. For partially graded, and for ungraded schools, it can be condensed as illustrated in the preceding condensations of the regular course for fully graded schools. The sub-divisions (a), (b), (c) and (d), serve to call and keep attention to lines which should be followed through all the grades, even in the condensed courses which teachers are expected to form and adapt to the conditions existing in rural schools.

GRADE I.

(a) *Drawing as an aid to Language.*—Free illustrative sketching from copy, memory and imagination.

Show pupils good outline pictures of simple objects, of scenes and of scenery. Teach them to tell what such pictures express. Make on blackboard in presence of pupils, outline pictures of familiar objects, such as a kitten, a boy with a flag, a house on hill-top and a boy running after his hat. Let the pupils copy these pictures and combine them to form original ones.

Encourage all honest effort and criticize mildly even the poorest. When the drawing is not satisfactory ask the pupil to re-examine the object and try again, perhaps next day. This will be particularly valuable when he is drawing from memory.

Occasionally use coloured crayons and have the pupils use coloured pencils.

(b) *Drawing as an aid to Nature Lessons.*—Let every nature lesson end, when possible, with an illustrative drawing of the object studied.

This will lead the pupils to observe and examine with greater care, and render the impressions more lasting. Outline drawings of animals, trees, leaves and fruits, most interesting to children, are appropriate for this grade. Sometimes this work may be done in color with the brush, using diamond dyes.

(c) *Formal Drawing Lessons*—A half-hour lesson once or twice a week.

Make the pupils draw from objects such as apples, half apples, oranges, leaves, tubers, roots, etc.—from any single object not involving perspective. They should frequently make models of objects in clay or other material and then make drawings of them. Some attention should be given to the primary colors with their tints and shades.

For manual drill, let the pupils draw circles and curves on the blackboard.

They should occasionally, in symmetrical exercises, use both hands at the same time, and sometimes the left instead of the right hand.

All the drawings should be large. Much injury is done to children and time is wasted in striving for minuteness of detail and accuracy of finish, before the hand and eye are sufficiently developed.

In small country sections, or in schools where the teacher has but one grade and not too many pupils, stick and tablet laying, also paper cutting and folding should be practiced. A series of such exercises will develop the idea of symmetry and be the best preparation for original designing.

Good teachers will, at this stage, be sparing in the use of technical terms.

Young children should always draw from interesting objects. Type forms represent abstractions which should not be used until the pupil has reached them by his own generalization.

Colored crayons may be used to advantage in all the grades, when water colors cannot be obtained or effectively used.

GRADE II.

(a) *As an aid to Language.*—Encourage and help the pupils to illustrate simple scenes and events by pencil sketches.

Excellent selections in literature suited to this grade are now attainable, such as fairy tales, etc. Pupils generally take much pleasure in pictorial representations of them. Their attempts at first will be crude, but experience has shown that the great majority of pupils will improve rapidly, that their conceptions will be made more vivid, and consequently that the constructive imagination so useful in the study of history and geography will receive proper development.

(b) *As an aid to Nature Lessons.*—As in Grade I. More difficult objects and some detail; simple grasses and flowers, occasionally using water colors. The leaf in the various stages of its growth. The cow or horse and the dog from memory.

Let the pupil be asked to observe these animals carefully whenever he can and then make a memory drawing of them in school. Point out mistakes and let the pupil correct them by renewed observation until the work is fairly good.

Trees.—Characteristic foliage in mass of spruce, oak or beech, poplar or elm. Apple on branch with leaves.

(c) *As an aid to Mathematics.*—Teach the pupils to draw accurately from one point to another, using a ruler. Draw parallel lines.

Number work may be made more interesting by having the pupils make pictures of a given number of birds, apples, etc., by making them divide a line or any regular surface into equal parts to illustrate the nature of fractions, halves, fourths and eighths.

(d) *Formal Drawing Lessons.*—Two half hours a week. Continue same work as in Grade I., introducing the grouping of two or more simple objects. The manual drill on the blackboard should include ornamental curves.

Construct with coloured paper an historic border. Represent it by a drawing. Vary the pattern.

GRADE III.

(a) *As an aid to Language.*—As in Grade II (a). Excellent copies of masterpieces of art may now be obtained at so small a cost as to place them within reach of the poorest scholar.

Before studying and discussing the pictures appropriate for this (or any other) grade, the pupils should see and examine as many as possible of the objects mainly represented, clouds, forests, mountains, rivers, lakes, ravines, animals, churches, etc.

(b) *As an aid to Nature Lessons.*—As in Grade II (b), but somewhat more difficult. Cat, rabbit, hen, duck, herring, trout, the parts of a flower, turnip and potato, leaves, etc.

(c) *As an aid to Mathematics and Geography.*—Drawing squares and rectangles of given dimensions. Dividing them into square inches. Measuring distances in the classroom and representing them by lines one quarter of an inch to a foot.

Drawing correct plan of the schoolroom and of the play-ground.

Division of lines and surfaces into thirds, sixths and twelfths.

(d) *Formal Drawing Lessons.*—As in Grade II, but more advanced. Ornamental curves more complex, copied and original, on blackboard.

Borders formed by repetition of flower form.

GRADE IV.

(a) *As an aid to Language.*—Continued as Grade III (a).

(b) *As an aid to Nature Lessons.*—Common plants, shrubs, trees (of each three or four), so as to be readily recognized by their characteristic branching and foliage. Fruits. A few of the larger bones of the human body, The frog and the butterfly in the various stages of development. The sparrow and the robin.

Natural colors to be used when convenient. As it will generally be impossible to obtain human bones, corresponding ones from other large animals may be used instead.

(c) *As an aid to Mathematics and Geography.*—Fifths and tenths illustrated. The use of the compass in drawing circles. Right angles, triangles and squares geometrically constructed. Map drawing. Plans to scale. Working drawings of a few simple objects.

(d) *Formal Drawing Lessons.*—As in Grade III (d). Study of good pictures, Principles of repetition and alternation in exercise on borders and rosettes. Study of color in objects. Pleasing combinations of color in design.

GRADE V.

(a) *As an aid to Language.*—Continued as in Grades II and III.

The reading lessons will afford abundant material for pictorial drawings and illustrative sketches. Besides, there are incidents in child life, his games, etc.,—"playing ball," "fishing for trout," "snowballing," "what I saw on my way to school," "the hay makers." Drawings in mass of animals and children in interesting attitudes. Here appropriate colors will greatly improve the effect.

(b) *As an aid to Nature Lessons.*—Plants, thistle, horsetail, iris, woodsorrel. Animals—sheep and goat, turkey and goose, salamander, beetles, butterfly. Analysis of leaves and flowers of color schemes.

(c) *As an aid to Mathematics and Geography.*—Accurate drawings of polygons with compasses and ruler. Development of surface of pyramid in cardboard. Paper cutting to produce forms of regular solids. Plan of the school section. Map of province. Working drawings for a bracket.

(d) *Formal Drawing Lessons.*—Studies of good copies of famous paintings. Exercises in complete curves on blackboard—occasionally with both hands. The most elementary principles of freehand perspective as applied to simple objects,—the circle and the cube in different positions. The study and reproduction of historic ornament. Color lessons—tints and studies in objects, and pleasing combinations of color in design.

GRADE VI.

(a) *As an aid to Language.*—As in Grade V (a).

(b) *As an aid to Nature Lessons.*—Organs of the human body—hands, feet, ears. Plants—lady's slipper, red maple. Animals—bear and fox, hawk and owl, insects in various stages of development. Study of color in natural objects.

(c) *As an aid to Mathematics and Geography.*—The measurement of angles and lines. Plotting geometrical figures and simple geometrical problems. Map drawing—North America, showing Canada somewhat in detail. Working drawings of simple rectangular objects.

(d) *Formal Drawing Lessons.*—As in Grade V (d), but more advanced. The idea of type forms, cubes, pyramids, ovoids, etc., developed from the drawing of simple objects.

GRADE VII.

(a) *As an aid to Language.*—As in Grade V (a) Special attention to the drawing of the best buildings and landscapes of the section.

(b) *As an aid to Nature Lessons.*—Structure of bones, muscles and eyes. Plants. Animals—spider and web, kingfisher, squirrel. Analysis of beautifully colored natural objects.

(c) *As an aid to Mathematics and Geography.*—Plotting. More difficult geometrical problems. Map drawing—Europe. Working drawings.

(d) *Formal Drawing Lessons.*—Object drawing. Freehand perspective. Decorative design. Study of tints and shades. Pleasing arrangement of groups of fruit, vegetables, or other objects; vase forms, etc.; arrangements of objects to express some complex thought, as bottle of ink, a pen and a sheet of paper.

GRADE VIII.

(a) *As an aid to Language.*—Occasional practice in pictorial sketching.

(b) *As an aid to Nature Lessons.*—Plants and animals. Heart and lungs of a sheep or an ox. Apparatus used in science lessons, etc.

(c) *As an aid to Mathematics and Geography.*—Accurate plotting and measurement by mathematical instruments. Working drawings of common objects to scale. Geometrical problems. Map of the British Isles.

(d) *Formal Drawing Lessons.*—The study of good drawings from master artists. Drawing of groups of models, flowers, fruit, etc. Historic ornament. Adaptation of natural forms to purposes of decorative designs. Color harmony applied in design.

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GENERAL PRESCRIPTIONS.

The general regulations, on account of their paramount importance and their unchangeable character, are printed on page 10 of the School Register, so that they may be always before the eyes of the teacher. To save space they are not republished here; but attention is called to the fact that they are even of more importance than the special prescriptions which follow below as supplementary.

HINTS ON MAKING NATURE COLLECTIONS IN PUBLIC SCHOOLS.

In response to many inquiries made from time to time respecting Nature-Study collection, the following bulletin published under the auspices of the Macdonald Institute, Ontario Agricultural College, is reprinted here. It is deemed more appropriate to publish this Ontario bulletin, than to frame a Nova Scotian one at present, for the following reasons: 1.—It shows what is being done in another province. 2.—It gives the credit due to those who lead in presenting instructions in this effective manner. 3.—Thanks are due the Department of Agriculture of Ontario for permission to use the texts and illustrations, thus saving the expense necessary in compiling instructions with new figures. Our experience in testing the effectiveness of these hints will also be the best preparation for a future scheme specially adapted to the conditions of this province.

The Superintendent of Education will be pleased if this last point should be always kept in mind by principals and teachers who may sometime be in a position to make contributions to a Nova Scotia scheme of instruction.

HINTS ON MAKING NATURE COLLECTIONS IN PUBLIC AND HIGH SCHOOLS.

By W. H. MULDREW, B.A., D. Paed, Dean of the Macdonald Institute,
and S. B. MCCREADY, Professor of Botany and Nature Study.

INTRODUCTORY.

A short time ago the Macdonald Institute issued its first leaflet to teachers on the subject of Nature Study. The replies already received show that such assistance as was there proposed is a very real need of the schools, and will be appreciated by the teachers.

The present bulletin treats one aspect of the subject with some detail, and is intended to be kept in the schools for permanent reference. It may seem to emphasize the rural and agricultural sides of the question, but this is inevitable from the nature of the subject. The surrounding conditions of country life favor Nature Study for the same reasons that cause Manual Training and Domestic Science to be welcomed in the cities. This does not mean that Nature Study is to be ignored in the urban schools, but rather that its development there will follow somewhat different lines. Other phases will be dealt with in later numbers.

As a centre of interest for the Nature Studies of a school, there is nothing more helpful than a collection of suggestive things from the outdoor world. The value is, however, in the *making* and the *using* rather than in the *keeping*, and this bulletin is intended as a guide to teachers and pupils in beginning such work.

We need hardly say that collections, like books and other tools, are but the means, while the end is to be found in the interest that is aroused and the thought that is stimulated.

It is not to be expected that all of these suggestions will be practicable in our schools at once. Teachers have many duties to take up their time and attention, and Nature Study must be content with small beginnings, until it can show itself worthy of a place with the older subjects of the school room. The important thing is to make a beginning, however small, and then to grow with the work as results may warrant.

In recent years, local Fairs have given prizes to schools for nature collections, and in some places excellent sets have been shown. The weakest point with these has been want of method and uniformity in the preparation of exhibits, which should follow some general system. It is very probable that such competitions will be encouraged more and more in future years in connection with the larger Exhibitions as well as at the smaller Fairs, and it is therefore important that there should be some general standard for the guidance of teachers and scholars.

In the preparation of these instructions assistance has been received from the staff of the Agricultural College. Prof. Lochhead has contributed many practical suggestions, besides preparing the sections dealing with insects and aquaria. Most of the illustrations have been prepared for this bulletin by Mr. John Buchanan, B.S.A., of the Experimental Department. Thanks are also due to Mr. F. W. Hodson, formerly of the Dominion Department of Agriculture, for suggestions gained from his pioneer experiences in introducing school children's exhibits in Nature Study at local Fairs.

COLLECTING IDEAS FROM NATURE.



Outdoor nature is full of interesting things and events. Little eyes and ears are quick to see and hear, and little minds are quick to think. Suppose we help them to keep a record of the happenings of this outside world.

There are two kinds of observation books that might be kept; one of a general character, kept by the whole school and put into the school library from year to year as a record of the school-section's history; in this, different scholars or classes might, under the teacher's supervision, make the records from day to day or week to week. Such a book would become of more general interest and value the older it became.

The other kind is for the pupils themselves. A simple note-book and pencil supply the needed outfit; five minutes in morning or afternoon supplies the time; the children will gladly supply the ideas. A brief discussion, a few suggestive ques-

tions, and a permanent record will form a worthy lesson to begin the day's work,

and will not lose its effect. Is there a teacher who cannot do as much? Give date, place, and name of observer with all needed particulars. Let older people make their own entries, but give equal credit to the earliest efforts. Use only the right-hand pages, reserving the opposite for later notes and explanations.

What things may find a place in these Nature Notes? All things of interest to children or to the community, in the world of Nature. We suggest a few classes of items from the endless variety supplied by the changing seasons. The aim will be to form the habit of observation rather than to collect information, but the facts will have a value and interest of their own.



Figure 1. Taking Notes.

(a) First things of the season: the return of the common birds, as Robins, Crows, and Bobolinks; the northern or southern flight of Geese, Ducks, and Gulls; the appearance of hibernating animals, as the Woodchuck, Chipmunk, Snake, and Bat; the awakening of the Frogs; the leafing and flowering of the Trees, the opening of the wild Flowers; the re-appearance of Insects, as Butterflies, Mosquitoes,

Potato Bugs; the coloring and falling of leaves in Autumn.

(b) Events of interest; frost, snow, rain, hail, rainbows, new and full moon, eclipses; the beginning and end of sleighing; plowing, sowing, and planting, haying, harvesting, potato-digging; making maple sugar; going fishing or berry picking; the birds building nests or feeding their young; crows pulling corn or eating grasshoppers; the young of wild or domestic animals; the swarming of bees; use or harm of birds and insects; tracks of animals in winter.

(c) Histories of growth, with descriptions and drawings showing changes from day to day; notes on the condition of some chosen development, as for example:

- (1) A plant from a seed.
- (2) A tree, from bud to leaf and flower to fruit.
- (3) A bird's or wasps' nest.
- (4) A field of grain or roots.

Records of things like these would form a very interesting book. The inspector would be glad to see it. Next year it would be doubly valuable for comparison. A careful summary would be welcomed by any good local paper. It would add much to an exhibit at the autumn Fair, for it would show thinking as well as collecting, and the very best one in the Province would make an excellent bulletin for the schools.

The form of this note-book should be carefully considered. It would be well to select a book of standard size, with a good cover and good paper. If a cheap book is used there is likelihood of careless work being done in it and little regard for making it a permanent record. If a standard size is used, the pupil may have a neat set of yearly volumes at the close of his school days. A set of books, dissimilar in size, binding and quality of paper would not induce the same pride in his work.

Perhaps the best form would be a loose-leaf system. The pupils could make their own covers for it out of cardboard and cover it with linen as an exercise in constructive work. A school supply of paper, ready cut and punched,

could be kept at a very small cost ; for art work and plain mounting a good manila paper would answer very well, and for written work a ruled white paper would be required ; for paper-folding paper may be cut from waste wrapping paper. A paper punch would be of great service.

This scheme has many advantages over the bound book plan : it is economical ; it enables the teacher to examine the work with facility ; it allows an easy replacement of a poorly-executed exercise ; it permits the pupil to arrange the pages systematically under subjects ; it brings all the co-related topics in Geography, Art Work and Nature Study into a natural grouping ; it assists in an easy display of pupils work about the schoolroom ; and finally it gives each child a book full of pleasant recollections, to keep on his bookshelf in after life.

DEPARTMENTAL COURSES IN NATURE STUDY, GEOGRAPHY, ART, CONSTRUCTIVE WORK.

The courses of study laid down in the Ontario Departmental Regulations of 1904 are here inserted, so as to show the intimate co-relations existing between the above-named subjects. Of the many courses mapped out in Nature Study and allied branches, there is none more full of suggestion or offering more freedom to the individual teacher than our own.

Many of the topics will suggest the need for some form of collecting ; it should be remembered, again, that this is not an *end* in Nature Study, but only a *means*. When a collection is needed it should be made ; when the boy *needs* the discipline and interest of collecting to help in his proper education, he should be directed and encouraged. There is no task about it ; it is for educational recreation.

A Bulletin board made of soft wood, or a piece of the wall covered with cork linoleum or burlap, may be made of great service in pinning up exhibits. Specimens should not be allowed, however, to remain on exhibition so long that interest stales. Throw away *rubbish* when it has served its purpose.

Note, too, that a collection of drawings, in pencil, ink or color, is educationally as legitimate a *nature collection* as one of the real objects. Encourage the pupils to keep representations of grasses, fruits, vegetables, birds, insects, pet animals, wild animals : also maps of field excursions, maps of local farms, roads, rivers, etc. ; charts showing clouds, moon's phases, sun's positions, the constellations, etc. ; account of visits to factories, gardens, greenhouses, etc.

STATEMENT OF GENERAL PRINCIPLES.

NATURE STUDY.—From the character of the subject, the course must be more or less elastic, and the topics detailed in the programme are intended to be suggestive rather than prescriptive. It may be that, owing to local conditions, topics not named are amongst the best that can be used, but all substitutions and changes shall be made a subject of consultation with the inspector. The treatment of the subject must always be suited to the age and experience of the pupils, and to the seasons of the year, accessibility of materials, etc. Notes shall not be dictated by the teacher. Mere information, whether from book, written note, or even the teacher, is not Nature Study. The acquisition of knowledge must be made secondary to awakening and maintaining the pupil's interest in nature and to training him to habits of observation and investigation. Books for reference and supplementary reading should, however, be provided in the school library. Some valuable publications on the subject of Nature Study, for the teacher's use, may be obtained free on application to the Department of Agriculture, Toronto.

ART.—As a means of expression, the Art subjects should be connected closely with nature work, constructive work, history, and literature. Many pictures should be used in the lower classes, and each subject should be illustrated with the child's free expression. As in writing, special attention should be given to the attitude of the body and the position of the paper and the pencil, etc.

CONSTRUCTIVE WORK.—The object of constructive work is mental development and physical control. The making of things should be subsidiary to the thought processes involved, and the exercises should sustain the child's interest, and take advantage of his natural desire to construct. Constructive work should make the ability to do a part of the knowing, and should incorporate knowledge into habit and theory with practice. The amount of work accomplished is unimportant in comparison with the mastery of correct methods and the formation of good habits. Every opportunity should be given the pupils to modify given type models or to design new ones, and in the lower grades to rearrange given units or create new combinations. All of the work should have in it the elements of beauty in construction, in proportion, and in decoration. Though we may not be able to add to the quantity or the variety of the material, we can modify its form and we can arrange it in new combinations. The making of new forms and combinations, the giving of definite expression to ideas and mental images, the rendering of the inner outer, is the great Froebelian doctrine of creativeness.

FORM I.

NATURE STUDY.—*Animal Life:* General appearance and habits of pet animals, their care and food; domestic animals on the farm, their care, habits and uses; birds, their nesting, song, food, migrations in the autumn; metamorphosis of a few conspicuous butterflies or moths.

Plant Life: Work in school garden or in window-boxes; study of a plant, as a geranium or pansy, from slip or seed to flower; caring for plants in pots; buds, their preparation for winter, their development; autumn leaves, collections, forms, tints; economic fruits, collection, forms how stored for winter, fruit as seed holders, dissemination of seeds; roots and stems, uses, comparison of fleshy forms, how stored for winter.

Life on the Farm: Harvesting, primitive and modern methods compared; preparation for winter; the barn and its uses; activities of the farm during winter; winter sports and social life on the farm; the varied operations of spring time; spring time as awakening to new life; effects of sun and moisture on the soil.

GEOGRAPHY.—Observation of particular forms of land and water, as hills, valleys, ravines, streams, ponds, etc., in the neighborhood of the school; location of objects observed; general motion of position and direction; activities of home and vicinity, the farm, the shops, the factories, things brought to market, food, milk, water supply, shelter and clothing, rail and other roads, water-ways; systematic trips to places of geographical interest near the school; observation of the progress of the sun from sunrise to sunset; observation of position and appearance of the moon, the "Great Bear"; clouds, appearance, motions; rain, snow, hail, etc.; stories of child-life in other lands with illustrations.

Note.—In its early stages geography should be but a phase of the observational work in nature study.

ART.—Freehand expression with pen, pencil, crayon, and water-color.

Six standard colors. Blackboard and pencil drawing (free movement)—Simple natural objects and other objects in which children are interested, as toys, dolls, etc.

Water colors or colored crayons.—Simple grasses, leaves, sprays, flowers, fruits, birds, pet animals, etc., studied in nature work. Color, pencil, or ink illustrations of stories ; studies of pictures.

CONSTRUCTIVE WORK.—Paper cutting and folding in elementary geometric patterns, coloring and grouping of these as bases of design ; this work to be connected with drawing and modelling in clay.

Making of objects, as picture frame, window, envelope, etc. Basket and raffia work. Clay Modelling of natural objects, as orange, apple, onion, tomato, potato, egg, simple leaf.

FORM II.

NATURE STUDY.—*Animal Life* : Life history and habits of domestic animals and of familiar wild animals, as the squirrel, chipmunk, robin, crow ; earth-worm, habits, structure, uses ; toad, habits, structure, uses ; observation of live insects and their activities, comparison of young and adult stages.

Plant Life : Co-operative and individual work in school garden ; cultivation of plants in pots with observation of the development of leaves and flowers, parts of leaves and flowers ; change of flower to fruit and of fruit to seed ; functions of the parts of flowers ; the forms and uses of trees ; activities connected with forestry and lumbering, with study of pioneer life and present conditions on the prairie.

Observation of farm, garden and household operations.

GEOGRAPHY.—Continued observation of local land and water forms. Observation of highest points in the neighborhood, the chief slopes, hills, valleys, divides, etc. Special study of a brook, creek, or river, to see origin, direction, size, work of draining, eroding, carrying, plant and animal life along banks, etc. Representation by drawing and modelling of typical surface features actually observed by pupil. The earth as a whole : Form, size, rotation, cause of day and night ; sources of heat and light. Introduction to globe and map of the world. Surface : Continents, islands, oceans. Local commerce : Articles of exchange, collecting and distributing centres, water supply and sources of food in urban centres, means of transportation, routes. Observation of weather : Winds, direction, force ; clouds ; rainfall ; frost ; changes of season ; characteristic features of each season ; systematic weather records ; general notions of climate ; record of moon's phases, with drawings of their appearance. People of the locality, nationalities, appearance, original homes, etc. ; child life in other lands. Location of any places of historical interest in the neighborhood.

ART.—Study of color continued. Color and freehand expression.

Free drawing of plants and other common objects ; pencil sketches of common objects. Water colors : Fall flowers and leaves with brilliant autumn tints ; butterflies and other insects ; live or mounted birds ; fish, etc. Memory, imaginative, and illustrative drawing. Study of pictures.

CONSTRUCTIVE WORK.—Paper cutting for simple patterns and designs. Ruling in geometric forms and coloring these. Simple cardboard and paper construction, as wall-box, chair, tray, etc. Ornamentation of constructed objects by coloring and drawing. Modification of models ; original work. Basket and raffia work. Clay Modelling of natural forms, as apple, beet, banana, leaf, apple and twig, etc. Common objects : Cup with handle and saucer, flower pot, bat, piece of coal, etc.

Free modelling.

FORM III.

NATURE STUDY.—*Animal Life* : Adaptation of different kinds of animals to their respective habits and surroundings ; birds, life history of types, habits of wild fowl in different seasons ; fish, forms and uses of different parts of the body, food and how obtained ; life histories of moths, butterflies, beetles and grasshoppers ; useful insects, as ladybird and dragon fly ; harmful insects ; Nature's insecticides.

Plant Life : Germination of seeds under controllable conditions and in the school garden and window-boxes ; opening of buds ; study of the forms and functions of the parts of plants, and comparison of these forms and functions in different plants ; observation of the culture of farm and garden crops and of orchard and shade trees ; the observing and the distinguishing of the common forest trees.

Different kinds of soil, as sand, gravel, loam, leaf-mould and clay ; experiments to ascertain how soils are composed, whether of mineral or decayed organic material, and which best retains water. Additional phenomena of spring in the vicinity of the school, cause of snow melting, ice floating, etc. ; how nature prepares the soil for growth of plants. Distinction between hard and soft, pure and impure water ; tests and methods of purification of water.

Sources of Heat : Experiments to show the effects of heat in the expansion of solids, liquids, and gases ; practical applications. Temperature ; thermometer, construction and graduation. Methods of transmission of heat, conduction, convection and radiation ; causes of winds and ocean currents ; ventilation.

GEOGRAPHY.—*The Earth as a Whole*: The earth in space. Observation of phases of the moon ; relation of the earth and moon to each other ; rotation of the earth, direction, time and rate, effects ; revolution of the earth, path, direction, time and effects ; general observation of stars, difference between fixed stars and planets ; observation of position of north star. Necessity and use of imaginary lines : great and small circles, latitude and longitude, elementary notions only. Relief : world slopes. Drainage : world-water partings, world basins, world river system, heat belt, light belts. Continents : locations, relief, drainage and coast line of each continent. Local, physical, and political geography : relation of township, town or city to county, of county to province, of province to country, position of country in continent. Observation and description of the occupations of men and of local industries, emphasizing those that are typical. Collection of pictures, sketches, materials, and products. Dependence of local industries and commerce on soil, climate and other local physical conditions ; and consequent localization of settlement, routes of travel, mills, villages, towns, and cities.

ART.—Drawing of plants, insects, etc., in any appropriate medium. Arrangement in spaces, applications in borders, surface patterns and rosettes in color, applied as far as possible in connection with constructive work. Relative positions of views of geometrical figures in thin cardboard ; simple geometrical problems. Study and drawing of details of Greek ornament and vase. Water color. Simple landscapes from window or out-of-doors. Study of pictures.

CONSTRUCTIVE WORK.—Cardboard construction and ornamentation continued. Whittling in wood with a knife. Basket and raffia work.

FORM IV.

NATURE STUDY.—*Animal Life* : Relation of fish, birds, and wild animals to man ; life histories of conspicuous and economic insects ; organs and functions.

Plant Life : Study of organs of plants and their functions ; study of economic and wild plants from seed to fruit in the school garden, home garden, farm, and forest ; weeds injurious to crops and methods of destroying them ; buds and twigs ; wood, rings, grain and bark, uses, etc.

Observing local minerals and rocks, their properties and uses ; experiments to show composition of soils and their relation to drainage, temperature, etc. ; varieties of soils adapted to different crops ; fertilizers, etc. Implements and tools used on the farm and in the household, mechanical principles applied in their construction.

The atmosphere : its composition, combustion, simple experiments, study of candle flame products ; changes produced in the air by respiration ; reciprocal relation of plants and animals as regards the atmosphere ; impurities in air.

Gravity ; air and liquid pressure, the barometer. Cohesion and adhesion, the nature of these forces ; phenomenon of solution and diffusion ; amorphous and crystalline forms of matter. Practical use of heat, steam, and electricity in connection with the study of industries.

GEOGRAPHY.—Observation of some of the more prominent constellations, as the Dippers, Orion, Cassiopeia, and of planets visible in the early evening.

Climate : Distribution of light and heat ; observation of sun's apparent movements through the year ; light zones, how determined, names, boundaries, variations in length of day and night ; isothermal lines, heat belts, general location, cause of variation from light zones, boundaries, movements ; winds, cause, winds of torrid and temperate belts, land and sea breezes, peculiar winds, uses of winds ; observation of the progress of storms by means of daily weather records and government weather maps ; ocean currents, general character, names and location of those of chief importance ; rainfall, amount, how measured, regions of great rainfall ; deserts.

ART.—Adaptation of natural forms to purposes of decorative design. Free-hand perspective. Simple geometrical drawing, combination of units of design in geometric patterns, combination of scrolls and geometric units or industrial and ornamental work. Working drawings of type forms. Simple geometrical problems.

CONSTRUCTIVE WORK.—Manual Training (Optional).—Use of simpler wood-working tools, as saw, chisel, plane, rule, gauge. Exercises embodied in a complete useful model, and intended to give facility in the use of these tools, as laying out and truing up pieces to dimensions ; cutting grooves ; making of objects easily constructed and either useful or ornamental, as rulers, keyracks, boxes, brackets, brush-holders, pen-racks, inkstands, school apparatus, etc. Short talks on the construction of tools and on the material used.

PHENOLOGICAL OBSERVATIONS.

The scheme of observation work practised in the Nova Scotia schools is worthy of note. It has been the basis of their Nature Study work for several years. The Department of Education furnishes each school with two printed schedules to fit the school register ; these forms call for a recording from day to day of the observations of the children made going from and coming to school. The teacher, of course, is responsible for the accuracy of the observations, and the recording of them. At the end of the year one copy of the report is sent into the offices at Halifax for scientific compilation, and the other is filed in the school for future reference. Smaller schedules are sent out, too, for pupils' use.

The observations are on *the first appearance* of flowers, birds, etc., and are known as "phenochrons," or "phenological observations." A few examples are given here as suggestions. Teachers could rule similar sheets and insert them in the school register.

NAME AND ADDRESS OF THE TEACHER OR OTHER COMPILER OF THE OBSERVATIONS RESPONSIBLE FOR THEIR ACCURACY.	When First Seen.	When Becoming Common.
(WILD PLANTS, ETC.—NOMENCLATURE as in "Spotton" or "Gray's Manual").		
1. Alder (<i>Alnus incana</i>), catkins shedding pollen. 2. Aspen (<i>Populus tremuloides</i>), " 3. Blood root (<i>Sanguinaria Canadensis</i>), flowering 4. Hepatica (<i>H. triloba</i> , etc.), flowering 5. Strawberry (<i>Fragaria Virginiana</i>), flowering 6. Dandelion (<i>Taraxacum officinale</i>), flowering		
(CULTIVATED PLANTS, ETC).		
7. Cherry (<i>Prunus Cerasus</i>), flowering 8. " " fruit ripe 9. Apple (<i>Pyrus Malus</i>), flowering 10. Lilac (<i>Syringa vulgaris</i>), flowering 11. Red Clover (<i>Trifolium pratense</i>), flowering 12. Potato (<i>Solanum tuberosum</i>), flowering		
(FARMING OPERATIONS, ETC).		
13. Plowing begun 14. Sowing " 15. Planting of Potatoes begun 16. Shearing of Sheep 17. Hay Cutting 18. Grain Cutting 19. Potato Digging		
(METEOROLOGICAL PHENOMENA).		
20. Opening of (a) Rivers, (b) Lakes without currents 21. Last Spring Frost (a) "hard" (b) "hoar" 22. Water in Streams, Rivers, &c., (a) highest, (b) lowest 23. First Snow (a) to fly in air, (b) to whiten ground		
(MIGRATION OF BIRDS, ETC).	Going North or coming in Spring.	Going South or leaving in Fall.
24. Wild Geese migrating 25. Song Sparrow (<i>Melospiza fasciata</i>) 26. American Robin (<i>Turdus migratorius</i>) 27. Kingfisher (<i>Ceryle Alcyon</i>) 28. King Bird (<i>Tyrannus Carolinensis</i>) 29. Bobolink (<i>Dolichonyx oryzivorus</i>) 30. Piping of Frogs		
(OTHER OBSERVATIONS AND REMARKS).		

LIVING COLLECTIONS.

It is not necessary that specimens should be dead and dried, for living things are always of greater interest. Neither is it necessary to keep birds or animals or frogs or fishes in the school-room, though even this has been done with profit, and an aquarium for the development of tadpoles, small fishes, insects, etc., is quite practicable in some places. Potted plants are already common in the windows of well-kept school-rooms.

But trees and shrubs are easily planted and form a permanent living collection of constantly increasing value. They attract the birds and other forms of life and shelter the wild flowers. In this way they prepare for wider Nature:

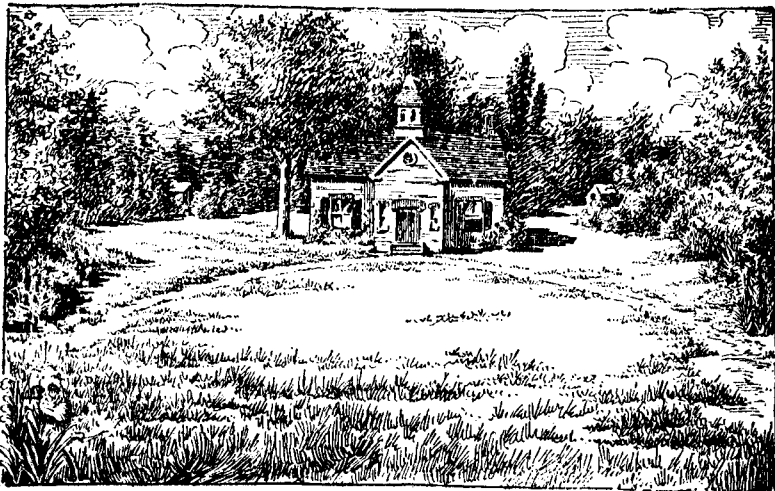


Fig. 2. From Bailey's "Hints on Rural School Grounds."

Study, and, therefore, deserve first attention. Arbor Day need not be limited to one day, but should rather keep pace with a growing interest in trees and plants. No school can afford to neglect the planting of trees and shrubs to beautify its grounds and interest its scholars.

In transplanting from the bush or from a nursery a few simple rules should be kept in mind. The tree joins itself to the soil by fine fibrous roots, and these should be disturbed as little as possible in the uprooting. The roots should also be protected from sun and wind and brought into close, firm contact with the earth in their new home. This is secured by trampling and pounding good soil (with water added if convenient) around and between the roots, in a hole (rather broader and deeper than seems necessary, so that no air spaces can exist. All this is best done in cloudy or rainy weather; but in any case many of the roots will be lost, and the top must be reduced in proportion. There is little danger of over-trimming, for a healthy stem will produce new branches if able to support them.

The Ontario Agricultural College has two forest nurseries in which it grows seedlings for distribution to the rural schools and farmers of the Province. The intention is to help the latter to re-cover waste land with trees or to improve a run-down woodlot. The trees for the schools are for windbreaks and decoration of the school grounds. For these seedlings application should be made in the winter to the Forestry Department, O. A. C., Guelph. The only charge to the school is that for express. School grounds may thus become object lessons in forestry for the farmers of the neighborhood.

School gardens are now attracting much attention as an aid to Nature Study, and they are encouraged by a special grant from the Department of Education.

Such means improve the children as well as the grounds, and have a permanent influence over the whole neighborhood.

At a recent meeting of the Canadian Forestry Association in Toronto a gentleman described such a garden made in the grounds of the school where he taught twenty-five years ago. It had trees and shrubs from the neighboring woods and flowers grown from seeds, all planted and cared for by the teacher and pupils. The trees are now a foot or more in diameter, and farmers' wives in that section still grow flowers descended from the little school garden. That teacher is now a member of Parliament for the same constituency, and deserves his promotion as well as the familiar bouquets still brought him by his old pupils. Was it worth while to take a little trouble with that little school in the days when Nature Study had not yet received a name?



Fig. 3. Insect life in winter.

Our illustration shows a collection of living things with no signs of life. These are cocoons of moths and butterflies gathered during the winter and waiting to be awakened from their sleep of transformation. In the autumn they were caterpillars; the warmth of spring, or of the school-room, will bring them out as beautiful winged creatures.

An aquarium may be arranged for the study of water insects and animals.

Failure to keep a healthy and sightly aquarium often attends the efforts of a beginner through neglect of proper care and management. The secret is to imitate Nature, *i. e.*, to make conditions similar to those of some pond where water life flourishes, and to get a good balance of water plants and water animals. When this balance is established the aquarium requires but little attention beyond the addition of water to replace that lost through evaporation. Large battery jars and preserve jars serve admirably for this purpose. Two or three inches of clean sand or fine gravel should be put in the bottom, and the water-cress or other plant planted in and given a few days to get a fair setting. The animals should be put in with caution; too few are better than too many; small specimens have better chances than larger ones. It must be remembered that if the green plants can not use up the carbon dioxide exhaled by the animals there may be such an excess of the gas in solution that the animals are smothered. The plants put back oxygen into the water from the assimilation of the carbon dioxide; this is why this kind of aquarium is known as *balanced*.

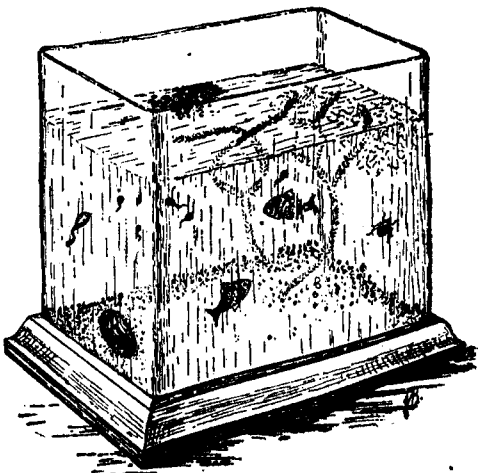


Fig. 4. A very small pond and its people.

The following common water plants and animals are suited for aquaria : Water-cress, duckweed, water-milfoil, stone-wort, waterweed, snails, water-scavengers, beetles, water-boatmen, back-swimmers, mosquito wrigglers, caddis-worms, clams, crayfish, small fish.

A few snails will keep the glass from becoming coated with algae and lime deposits. It may be well to change the animals from time to time. Have the class make observations on a clam for a while, then replace it with a crayfish, etc. The crayfish may be fed small bits of meat, the fish with fine bread crumbs. Care should be taken, however, not to pollute the water with an excess of food.

COLLECTIONS OF PRESSED PLANTS AND LEAVES.

A flower that has withered and dried in the usual way is useless ; it has lost even the likeness of its growing self, and has become brittle, faded and crumpled. But if dried instead between sheets of porous paper under heavy pressure it retains

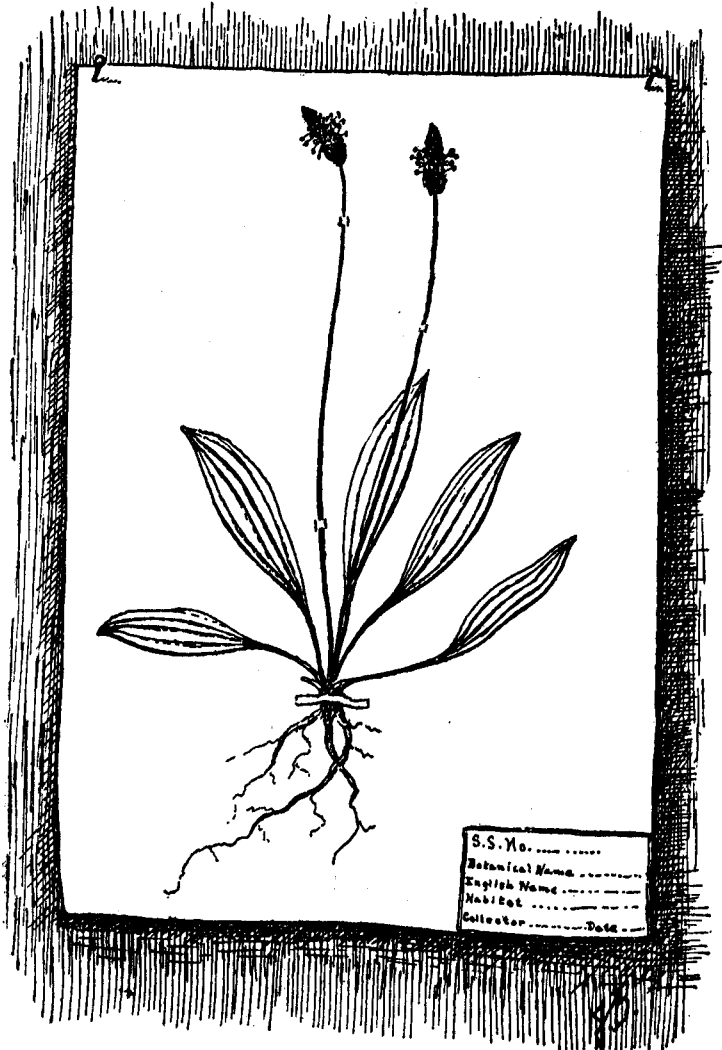


Fig. 5. A specimen properly mounted. What weed is this ?

much of its original color and strength in a form that is very convenient for examining as well as for preserving and exhibiting. When thus prepared and mounted on a suitable card with a proper label it forms a useful permanent specimen for study or comparison.

MATERIALS. To prepare plants properly in this way, the following will be needed: Drying paper (carpet felt or coarse porous paper), sheets of tea-paper (or smooth newspaper leaves), two pieces of smooth board 12 inches x 20 inches; a few weights (suitable stones of about 10 lbs. each will answer); mounting paper, in sheets $11\frac{1}{2}$ inches x $16\frac{1}{2}$ inches; liquid glue or strips of gummed paper; labels showing botanical and common name, date, place and collector; a collecting box or vasculum, and a note-book.

DRYING. The entire plant, as far as possible, should be in the collection. When this is impossible, as with trees and shrubs, branches with leaves, or leaves and flowers, should be collected and preserved. In drying plants, care should be taken to secure the specimen (free from outside moisture), without breaking any portion of it. It should be spread very carefully between two leaves of tea-paper with sheets of drying paper above and below. Many plants may be placed one above the other, separated by drying paper, and pressed at the same time by weights on the upper board. When a plant is placed thus to be dried, a note should be put with it stating its name, the date of collection, the locality where it was collected, and the collector; for one must not trust too much to memory in these matters. The collection will very likely grow rapidly and experience will soon show the need for keeping notes of every plant collected. Carpet-felt makes excellent drying paper, and can be obtained at most dry goods stores for about four cents a square yard. Instead of tea-paper, ordinary newspaper, cut up into convenient sizes, may be used. The secret of drying plants well is to change the dryers frequently. The more water the plant contains the more frequently should the dryers be changed, and in some cases this might be done daily.

MOUNTING. Each plant should have a separate sheet to itself and all the mounting paper should be of the same size, color and quality. The standard herbarium mount is a sheet of white ledger paper, $11\frac{1}{2}$ x $16\frac{1}{2}$ inches. For a school collection or Fall Fair exhibition this size should always be used; but for a child's collection a smaller sheet might well be substituted. While it may often prevent the showing of whole plants, it will allow the specimens to be kept more conveniently at home, and, therefore made of more use. Should a pupil expect to make an extensive collection, the standard sheet should be used.

Before fastening the dried plant to the paper, it should be placed in different positions in order to select the best artistic effect. The neatest fastening is made by putting neat straps of gummed paper over the stems through small holes in the paper, and fastening at the back. The leaves may be fastened by the application of a little mucilage here and there. It is best to have the gummed paper, used for strapping, of the same color as the mount; it may be made

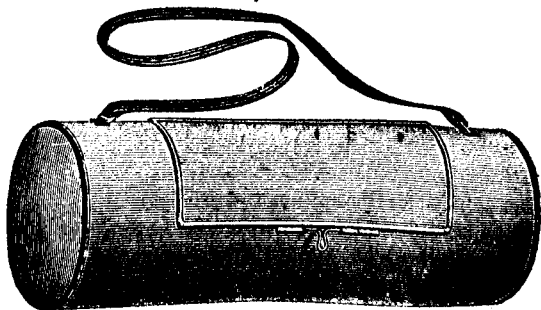


Fig. 6. A Collecting Box.

by coating some of the mount paper with mucilage

and letting dry; the semi-transparent gummed paper used for repairing music answers very well. The straps should be put on neatly and systematically; cut to the same widths and lengths as far as possible, and laid in the same directions.

A close tin box or vasculum about 18 inches long and of a shape suitable for carrying by a shoulder strap, is very useful for collecting fresh plants, and may be easily made by any tinsmith.

COLLECTIONS OF GRAINS AND GRASSES.

Specimens of mature grains, grasses or clovers may be easily prepared and form an interesting exhibit. These should show the complete plant, root, stem, leaves and heads (or merely the heads with a few inches of stem), with the name of kind and variety in every case. Such plants may be pressed and mounted on the usual card by carefully bending the stalk when too long, or they may be kept straight and tied in bunches, supported, if necessary, by a light rod or lath.

COLLECTIONS OF SEEDS.

It is worth while to learn to know the seeds of noxious weeds that are often mixed with the seed of grain, grass, or clover. These should be collected and kept in suitable small bottles with proper labels. The best vials for this purpose are of clear glass with wide necks and closed by a metal screw-cap. Those holding 1 drachm are of suitable size, being about 2 in. x $\frac{1}{2}$ in. and can be secured through local druggists at a cost of 15 to 20 cents per dozen. These vials are best shown on wood or cardboard mounts to which they are secured by brass clamps, loops of cord or elastic. Seeds must be quite ripe and dry to prevent moulding, and the pods or heads should be enclosed as well as the clean seed.

They may also be mounted on cardboard by glueing them on with a white or liquid glue like Le Page's; in such case they should be protected by a cardboard square or ring, a brass ring, or a ring cut from a piece of rubber tubing, being glued on so as to surround them. Mounts in plaster of Paris plaques are also good; the plaque is made by pouring the plaster into a button-box or the lid of a shoe-box; when it is set dry and hard, holes may be cut out for the seeds to lie in, it is covered with a neat glass top and *passé-partouted*. Instead of the plaster a sheet of cardboard with holes cut by a gun-wad cutter may be used.

The following letter from Mr. G. H. Clark, of the Dominion Seed Branch, Ottawa, is for teachers as well as Institute lecturers:—

"Farmers' Institute lecturers can do much to advance the interests on the part of the farmer boys attending the rural schools in the collecting of weeds and weed seeds and the building up of a large reference collection of properly named weeds and their seeds, in the schools. To such work all who are in a position to assist, should give their support. There is no way of inculcating in the boys habits of observation and a knowledge of weeds and plants so effectively as by interesting them in collecting and properly naming specimens for a collection. It was in part looking to the assistance that would be given to such that the Seed Branch of the Dominion Department of Agriculture, working in co-operation with Dr. Fletcher of the Experimental Farms' Branch, arranged for the issue of a special Weed Bulletin to contain fifty-one Canadian weeds and their seeds, illustrated in their natural colors. This bulletin will be distributed free of charge for use in libraries of farm homes and rural schools, from which personal applications for it are received."

Seeds for identification may be sent to Mr. Clark or Dr. Fletcher, Ottawa; or to the Botanical Department, O. A. C., Guelph.

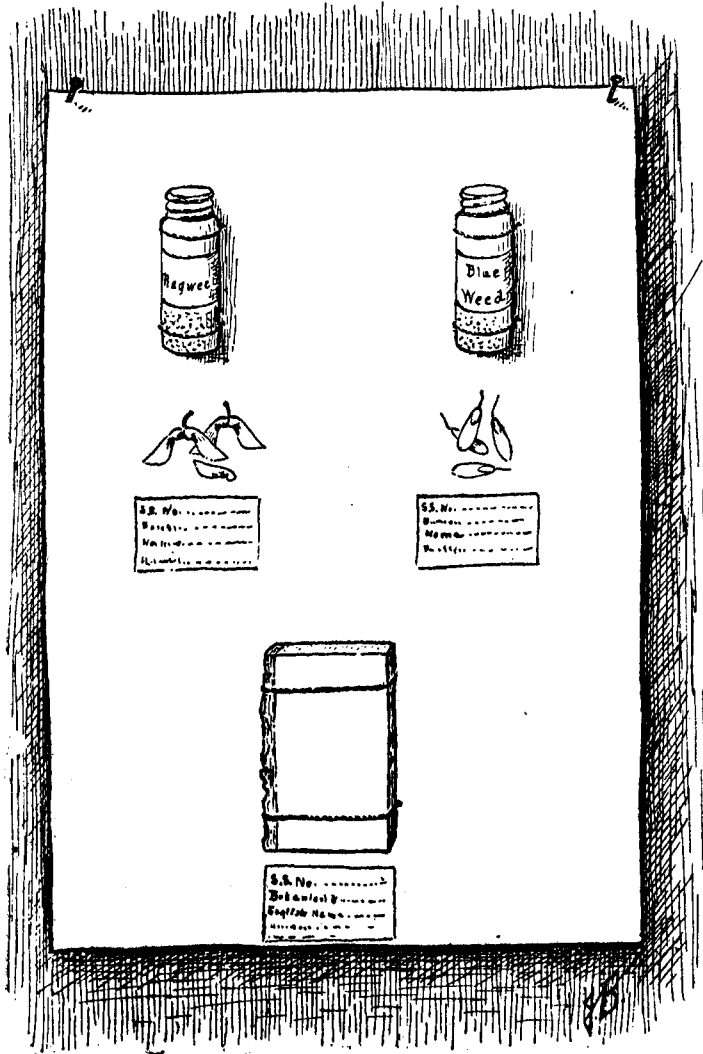


Fig. 7. What are the Tree Fruits?

COLLECTIONS OF FRUITS.

The dry fruits of trees and shrubs are equally interesting and may be fastened in the same way, or by means of glue or mucilage, on similar cards. The keys of the Maples, the acorns with their cups, the winged fruits of Elm, Ash, and Pine, all serve for important lessons on the reproduction of trees and the distribution of their seeds. Many Canadians have never seen the seed of the Pine; and many can see no connection between the cones at the summit and the seedlings at the foot of the giant of the forest. A collection of tree seeds carefully mounted and named is an excellent lesson on forestry.

COLLECTIONS OF WOOD.

Sections of wood from the various kinds of trees form an interesting and useful collection. These should be prepared in such a way as to show the bark, and two planed surfaces. The size should be 3 inches in length by 1 inch in width, by $\frac{1}{2}$ inch in thickness. Such pieces may be neatly fastened on cards like those used for pressed plants and should be labelled in the same way.

It is better to use sections from the body wood of the trees, but this is often inconvenient, and the size given above can be very easily secured from a branch without destroying the tree. Similar sections showing the work of insect borers or of woodpeckers may be mounted in the same way and will be very useful.

INSECT COLLECTIONS.

Insects may be collected at all seasons of the year, but the best time is undoubtedly the summer months. Many collectors find the moths and butterflies most interesting on account of the extreme beauty of their wings; others find greater interest in beetles; still others prefer the study of groups, which are not so beautiful to the ordinary observer. Insects of special harm or use, for any reason, are always interesting.



Fig. 8. The Boy and the Insect.

The great majority of the moths must be caught at night, for they rest during the daytime. Most of them are readily attracted to lights, and may be secured by devices such as trap lanterns. Many insects are also attracted readily by sweets, such as sugar or molasses, and if a sweet solution is brushed on the bark of trees, moths frequently gather at such trees after dark and are easily captured.

The following articles are needful for collecting: Cyanide bottles, one or more; insect pins; cigar boxes or insect cases; spreading boards, different sizes; date and locality labels; larvæ bottles.

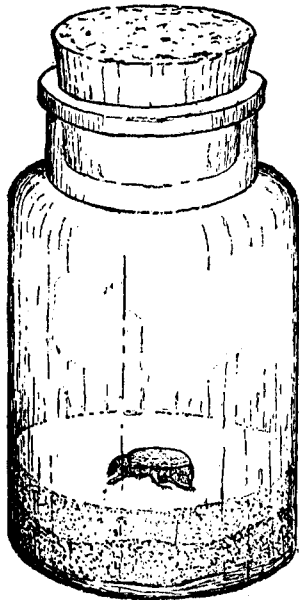


Fig. 9. The Poison Bottle.

The cyanide bottle is needed for killing insects before they can be pinned. (Fig. 9.) This bottle may be made as follows: Place two or three lumps of cyanide of potassium, of the size of beans, in a wide-mouthed bottle, pour in sufficient water to cover the lumps, and add enough plaster of paris to take up the water. If the bottle is left uncorked for a short time, the plaster will rapidly set and harden. Care should be taken not to inhale the poisonous fumes which come from this bottle, nor to leave the cork out for any length of time, for the cyanide would soon be lost through the escape of the fumes. It is often desirable to place a circle of thick blotting paper on the surface of the plaster to absorb any moisture which may form.

Insect pins do not readily rust when placed through the bodies of insects. Probably the best

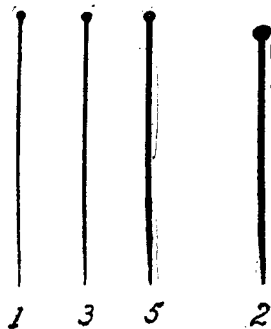


Fig. 10. 1, 3, 5, Insect Pins.
2. German Steel Pins.

are the black japanned kind. The most desirable pins for the ordinary work of the collector of insects are Nos. 1, 3, 5,—No. 1 being suitable for small insects, No. 3 for insects of medium size, and No. 5 for insects with larger bodies. German steel morning pins with glass heads are second best, and may be had at any dry goods store. Common pins should not be used. Care should be taken when pinning insects to thrust the pin through two-thirds the length, so that from one-third to one-quarter of the pin projects above the back of the insect. The beetles should be pinned through the right wing cover; other insects through the thorax, or that part of the body just back of the head. (See Fig. 11).

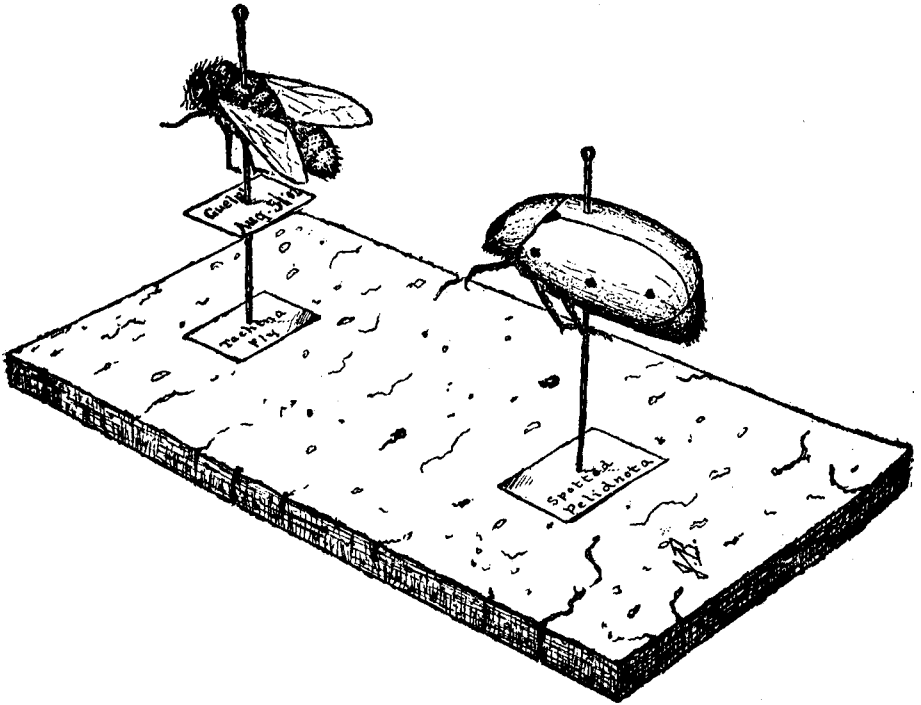


Fig. 11. Method of Pinning.

A handy boy can readily make an insect net for himself. All that he requires is a broom handle, three feet of stout wire, a little heavy sheeting, and one yard of cheese cloth. The wire can be bent into a circle of about ten inches in diameter and the ends fastened firmly into the end of the broom handle. The cheese cloth is made into a bag and attached to the band of sheeting which folds over the wire. (Fig. 12).

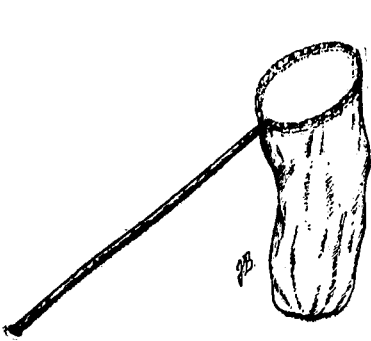


Fig. 12. The Insect Net.



Fig. 13. The Insect and the Boy.

The collector will be a little awkward at first in the use of the insect net, but with practice the wildest and most rapid of insects may be captured. Care is needed in transferring the insects from the net to the cyanide bottles lest the wings and legs should be injured.

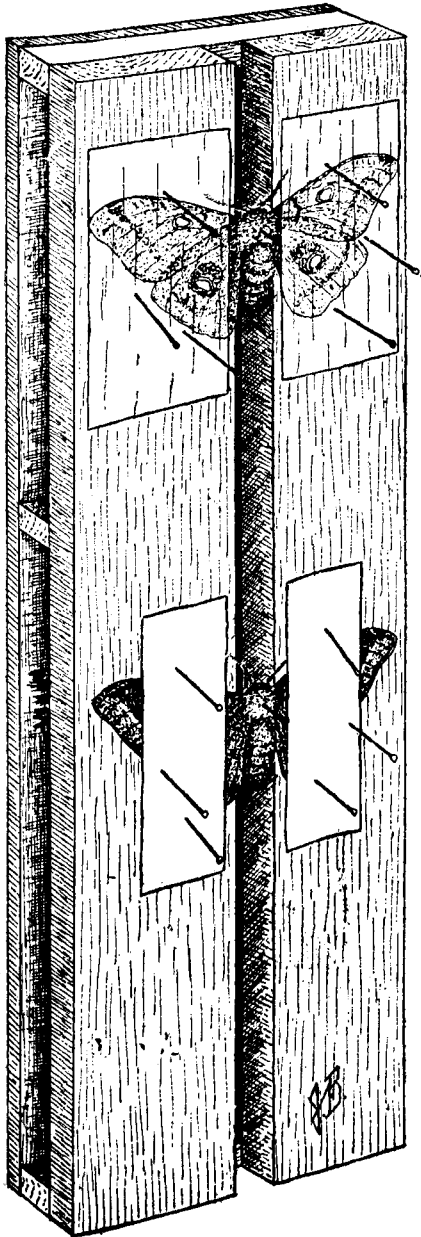


Fig. 14. The Spreading Board.

Moths and butterflies when captured seldom die with their wings outspread, so it is necessary to use spreading boards for those forms which we desire to preserve in this position. Fig. 14 shows the construction and use of a spreading board. Two pieces of pine, fastened together by cleats at the end, are left wide enough apart to admit the body of the insect. Narrow strips of cork are then tacked on the under side of the pine strips so as to form a bottom to the groove and to serve as a support for the pin upon which the insect is placed. Another broad strip is nailed to the cleats and forms the base of the spreading board. Of course the insects must be pinned to the spreading board before they have time to become brittle, and while they are in a relaxed condition. It will require some patience and skill to spread the wings of the smaller moths without injuring them, but practice will make perfect. Should the insects become dry, their muscles may be relaxed by putting them in a *moist chamber*: a gem jar with damp sand in the bottom will suffice. It will take a week or ten days for the drying. If they are removed before being completely dried the wings will sag. The dryness may be estimated by the rigidity of the body. Fine lines across the board enable one to spread neatly.

Cases are necessary for holding and displaying the insects captured. At first the collector may use cigar boxes very satisfactorily, but the time will come when he will not be satisfied with anything less than good insect cases, which will keep out dust and minute insect pests.

The bottoms should be lined with sheet cork, which can be purchased from dealers in insect supplies, or with bottle wrappers obtained from druggists. For exhibition purposes insect cases should have glass covers, if possible. Collectors who wish to make their collections look tidy, neat and artistic may line their cases with fine, glossy white paper. This improves very much the appearance of the collection as a whole.

Every specimen which has been placed in a collection should have a date and locality label and a name label attached. These labels may be written free hand or they may be printed with pen and ink. Printed labels, as a rule, look much better than written ones. The proper time to place date and locality label upon the insect is at the time of pinning, and it is usually placed below the insect about a third of the way up the pin. The name label is placed near the bottom of the pin.

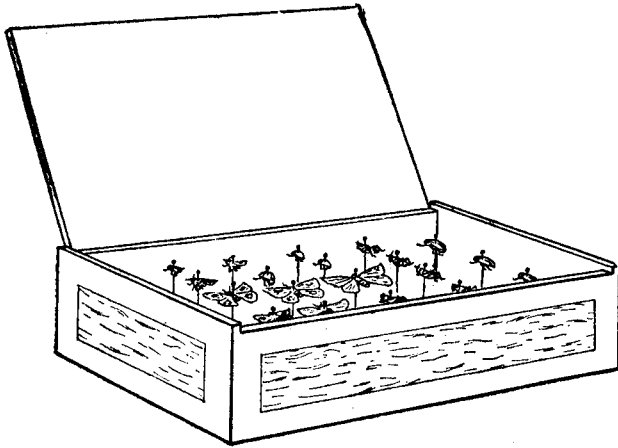


Fig. 15. A Simple Insect Case.

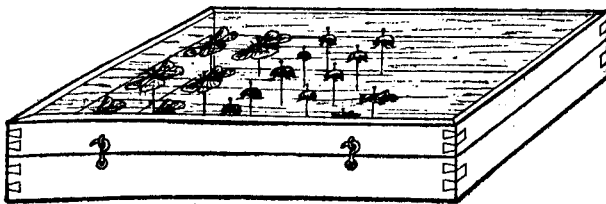


Fig. 16. A good case with glass cover. Specimens not labelled.

With regard to the preservation of the larvæ of insects, much may be said. It is important that collectors should preserve the larval forms as well as the other stages of the insect, for it should be borne in mind that those collections are of the highest value educationally which show the life history of the insect in all stages—the egg, the larva, the pupa and the adult. The larval stage of the insect, moreover, should be carefully preserved throughout all its molts, for the mature larva frequently differs considerably from the younger forms. Some collectors place the larvæ in

liquid in vials; others prefer to inflate them and have them placed on pins beside the adult forms. For school purposes, however, the vials are to be preferred.

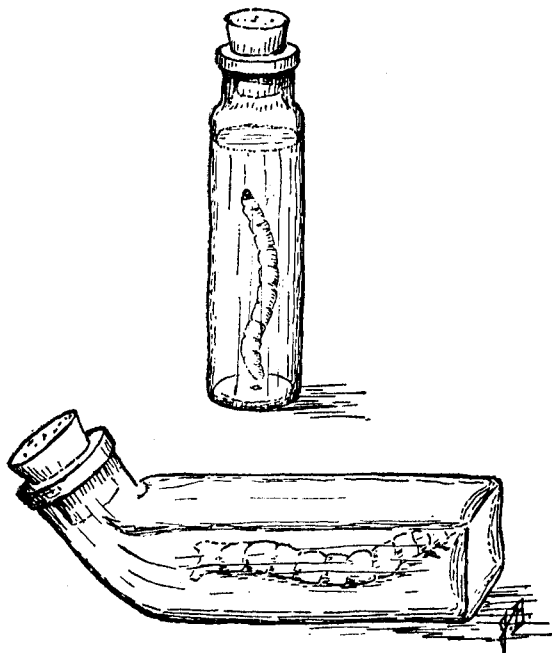


Fig. 17. Vials for preserving larvæ in liquid.

A good preserving liquid may be made as follows: 50 parts methylated alcohol, 50 parts water, 4 parts formalin. This mixture can be prepared by any druggist at a cost of about 25 cents per pint. It must be kept closely corked, as it evaporates very readily. Special bottles with bent necks are very suitable, but rather expensive, costing about five cents each. Two-drachm homœopathic vials with wide mouths may be obtained from druggists at much lower rates and will answer very well.

HISTORICAL COLLECTIONS.

Objects that link the past to the present are of great educational interest and value. Such things are found in every neighborhood, and the school is the proper place for their keeping and interpretation. The boy who has picked up an ancient arrowhead or pipe from the site of some long-forgotten village may well feel a personal interest in the early exploits of Huron and Iroquois. But we need not go back to Indian times for relics of the past. The early pioneers of our own race have disappeared, too, and their primitive weapons, tools and manufactures are hardly known to the children of to-day.

How much true history would be suggested by a few articles from a settler's outfit of one hundred years ago? The flint-lock musket, and the smooth hollowed stone used for grinding grain by hand, are almost as

far removed from the present as are the tomahawk and the bow-and-arrow. Those who possess such relics would often be glad to place them where they could be assured of permanent care and usefulness to successive generations of children.

Articles of this class should be carefully numbered and described in a notebook or by means of tickets securely fastened to them.

Small objects are best fastened on cards in the same way as specimens of wood described on page 63.

Such a collection needs little care or preparation, and if properly used will be both interesting and instructive.

Mr. David Boyle, of the Education Department, Toronto, is our best authority on all that pertains to these relics of our past history, and he is always ready to assist collectors in understanding their "finds." In case of doubt or difficulty he will be glad to hear from teachers and scholars, and will be able to explain most of the objects that come under this heading.

The Provincial Museum, of which Mr. Boyle has charge, is one of the best, in Archæology, on this continent, and specimens of more than local interest should be deposited there for public use and safe keeping.

Due credit will be given for all such donations, which will be exhibited over the name of the collector.

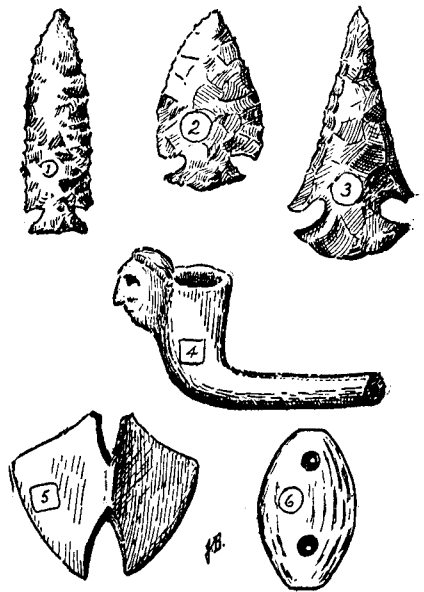


Fig. 18. What are these? Who made them?

MISCELLANEOUS NOTES.

There are many things not mentioned previously that might find a place in a good school collection of natural objects. Such are specimens of the work of animals: birds, insects, squirrels, etc. The wasps were the first pulp and paper makers, just as the beavers were carpenters and architects and the birds weavers and masons. This work is worthy of careful study and can be easily kept in a school-room.

Boys often collect birds' eggs, but this is a destructive practice and should be discouraged in every way in the making of children's collections. A careful description of a nest and its eggs, with dates of building, hatching and flying in the "Nature Notes" of the school-room, is far better than the ruined home with its empty shells. It should be known also that the destruction of harmless



Fig. 10. What birds are these? Where is their nest?

birds or their eggs is an offence punishable by fine or imprisonment. In this way the law recognizes the value of the birds in destroying insect enemies of farm and orchard, and in entertaining us by their songs.

There is one bird, however, that deserves no such protection. It builds no nest at all, but lays its eggs along with those of one of its neighbors, where it hatches out and bullies the honest nestlings, often causing their death. When such an egg is found in a nest it should be destroyed for the sake of the others. What bird is this?



Fig. 20. One of the earliest spring birds colored "like the sky above and like the earth below." Did you ever find the nest?

In many places very good local collections of rocks and minerals may be made. These should be ticketed or labelled so that their names and localities may be readily seen, and in the case of useful minerals the composition should also be stated in some simple way. For instance, magnetic iron ore might be shown as containing nearly three fourths of its weight of iron, or crystalline marble as merely a form of limestone.

Stones or pebbles which show the action of natural forces like frost, running water, etc., have an interest and a use without regard to the materials which they contain. Specimens of fossil animals or plants are of great value as

illustrating the simple world history, now taught in connection with physical geography.

Besides the actual objects as here described, representations such as pictures, drawings, water-color paintings and photographs

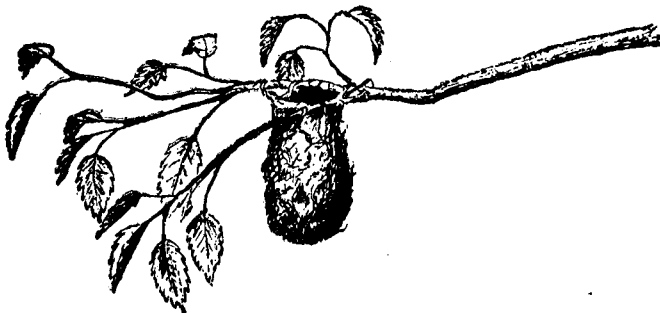


Fig. 21. A good drawing. Do you know this nest and its owner?

from nature are all valuable additions and can be used to beautify the school-room as well as to improve the minds of the pupils. Scholars should be encouraged to draw simple natural objects, and the best work should become a part of the school collection. This is one means of cultivating the natural fondness for expression by drawing and coloring which has been too little helped by our schools.

A SCHOOL MUSEUM CABINET.

In most schools it is not possible to have collections kept in glass museum cases, even if it were thought desirable. Neither is it wise nor practicable to keep exhibits about the walls. A well-made, dust-proof cabinet is desirable. It might be made on the "unit" system used in modern library building, to com-

mence with a unit of about six drawers, others added as required. One set of drawers could be used for pressed plants, another for rocks and minerals, others for insects, bird skins, Indian relics, seeds, grains, etc. Such a collection would often be of use in the school work. The drawers should be proportioned so as to use a size to fit the herbarium mounts ($11\frac{1}{2} \times 16\frac{1}{2}$ in.) as a unit.

LEAGUE OF THE EMPIRE.

The League of the Empire is an organization having for its general object the affiliation of the schools in different parts of the British Empire. It accomplishes this by arranging for friendly intercourse and the exchange of descriptive letter-writing between pupils; exchange of school essays, illustrated, if desired, by maps, brush work, snap-shots, or dried specimens; also of Nature Study work, drawings and other art work; of objects of interest for personal or school collections, and of articles for school magazines; for exchange of information between teachers, of time tables, and of statistics regarding methods of work and conditions of life in different parts of the world, so that knowledge of such parallel conditions (of agriculture, industries, various branches of education, etc.) as are individually needed may be brought within reach of all for their practical use.

It publishes "The League of the Empire Monthly Record," which treats in a general way of imperial matters of interest to the schools, and "Our Jabberwock," for the junior section of the League. The "Record" is free to all members and schools paying the annual fee of five shillings; the monthly "Jabberwock" is nine shillings per annum.

Applications for membership should be sent to Mrs. Ord Marshall, Hon. Sec., Caxton Hall, Westminster, London, England, enclosing 5s. for the school's membership fee and a letter to be sent to some school in that part of the Empire selected.

Apply on a form made out as follows:—

FORM OF APPLICATION.

Name of School

Postal address

Name of headmaster or mistress

Boys' or girls' school

Primary or secondary

Class from which pupils are mainly drawn

.....

Range of pupils's ages, between..... and..... years.

Part of the Empire with which it is wished to correspond

Signature of Applicant

Should personal membership be desired by pupils under sixteen years of age, the annual fee of sixpence should be added for each. This entitles them to be placed in correspondence with a pupil of a school in some distant part of the Empire. From many Canadian schools an interesting and instructive correspondence and Nature Study interchange is being carried on; try it for a year.

SCHOOL CHILDREN'S COMPETITIONS.

For the guidance of teachers and Fair officers, extracts from the prize lists of a few exhibitions are given. It is hardly necessary to call attention here to a danger of turning a proper educational factor into an improper and harmful scramble for prize money; teachers should guard themselves and their pupils against it. Nature collections that have been made solely for exhibition purposes should be condemned; if they have been made in the natural course of school work and from a natural, healthy impulse to acquaint oneself with nature's forms and to fix the knowledge in a display, well and good. Perhaps many small prizes would be better than a few large ones. Extensive and elaborate collections should not be given undue credit over the smaller and simpler. One of the chief aims of the judges and directors should be to give a general stimulus to this branch of school study, and the small child and the simple effort should not be lost sight of.

THE CENTRAL EXHIBITION, GUELPH.

The Central Exhibition, held at Guelph, always has good school exhibits in writing and drawing, domestic science, manual training and Nature Study.

NATURE STUDY.

GENERAL REGULATIONS.—1. These prizes are offered to encourage Nature Study in the public and separate schools. The teacher must certify that the collections have been made in connection with the school by the co-operation of the pupils, or by an individual pupil, and must have been done since last Exhibition.

2. Each exhibit must show plainly the name and place of the school, and the name of the teacher.

3. The preparation of exhibits should be as nearly as possible according to directions given in the "Hints on Nature Collections," a bulletin prepared by the Macdonald Institute.

PRIZE LIST.

1. Collection of wild plants and flowers, picked and pressed, while in bloom, showing root, and mounted, and correctly named.

2. Collection of noxious weeds, pressed and mounted.

3. Collection of seeds of noxious weeds, in glass vials, mounted on cards—vials not necessarily full.

4. Collection of grains in the head, 5 heads of each variety, stems about 12 inches in length, supported on cards.

5. Collection of grasses and clovers, 5 stems of each as in section 4.
6. Collection of leaves and twigs of cultivated or forest trees.
7. Collection of native woods, showing bark and surfaces. Each specimen not to be more than 5 inches in length.
8. Collection of insects, injurious or beneficial.
9. Collection of noxious weeds, newly pulled, each bearing a label or tag with name and locality. Specimens should show the complete plant, with flowers and fruit, if possible, but care must be taken not to scatter seeds by means of any of these exhibits.
10. Bouquet of cut flowers grown on school grounds or in school-house.
11. Drawing of a plant, bird and insect, grouped if possible, by a pupil of the school.
12. Photographs of natural scenery, by a pupil of the school.
13. Naming competitions, open to individual pupils of the public or separate schools. This will include the naming and discussion of several varieties of apples, grains, weeds, wild flowers, birds or other common outdoor objects.
14. A collection of nature notes kept in the school by the teacher and pupils, and showing interesting events from day to day in the outdoor world. Such may include the arrival, nesting, and food of birds, the opening of flowers, and appearance of insects, the leafing of trees, the sowing or planting of crops, the blossoming of fruit trees, the occurrence of storms or floods, and any similar items of interest. These should be written as far as possible, by the pupils themselves, under the teacher's guidance, and should give date, place and all necessary details over the signature of the observer. A neat scribbling-book, written in pencil, will be satisfactory for this purpose. It will be judged for neatness, completeness, and accuracy. This would require only a few minutes at a set time each day, say the first thing in the morning, and would be a splendid exercise in training the observation.
15. The best arranged exhibit of roots, vegetables and grain by the teacher and pupils of a public school section.

THE NORFOLK UNION FAIR, SIMCOE.

The regulations and prize lists for Nature Study at the Norfolk Union Fair, held at Simcoe, are also suggestive.

NATURE STUDY.

In order to encourage the observation of natural phenomena among the pupils of our schools, the directors of the Norfolk Union Agricultural Society have pleasure in offering the following prizes for competition. It is the intention of the directors to encourage this study of nature as one of the educational features of their exhibition and they ask for kindly co-operation of teachers, parents and scholars.

1. These prizes are for competition either by individual pupils or by any number of pupils co-operating, but any number of individual pupils or groups of pupils may compete for the same prize; they are open only to the schools of Norfolk County.

2. A card with the name of the exhibitor, the number of the school, and the name of the township or location must be securely fastened to each exhibit.

3. Each plant shown in sections 1 and 2 shall be separately tied to admit of individual inspection. The plant of each variety shall be neatly bound together and labelled.

4. All the work in connection with each of the exhibits must have been done by the pupils under the direction of the teacher and with his or her assistance or supervision.

5. All entries must be made by the teacher on behalf of the pupils, certifying to their correctness. No entry fee in this class. All exhibits must be on the grounds and in position by 12 o'clock on Tuesday, October 17th.

6. The prize money shall be paid to the teacher, who shall divide it among the children who have helped in making the exhibit, or use it for the establishment of a library or any beneficial purpose in connection with the school.

PRIZES FOR COLLECTION OF GRAIN, INSECTS, ETC.

1. For the best and best arranged exhibit of grain in the straw, the growth of the current year, showing stools, branches, and part of roots, consisting of six complete plants of each variety, with also a pint bottle of each sample of said variety of grain.

2. For the best and best arranged exhibit of clover and grasses, the growth of the current year, showing all branches and part of root of each plant. This exhibit to consist of at least six plants of each variety shown—at least six varieties must be shown in each exhibit in this section.

3. For the best and best arranged exhibit of roots, fruits and vegetables.

4. For the best and best arranged collection of beneficial and injurious insects, mounted and properly labelled, and arranged in groups.

5. Apple-naming competition. A number of varieties of apples will be mixed together. The contestants will then, in the presence of the judges, pick out the apples naming the variety of each, and the quality. Seventy per cent. for correct naming and thirty per cent. for quality. Open to boys or girls of Norfolk County from ten to sixteen years of age.

THE TORONTO EXHIBITION.

At the Canadian National Exhibition held in Toronto, most of the competitions are beyond the children of the public schools, but are nevertheless suggestive for teachers and the older pupils.

1. For best collection of Canadian medicinal plants, common and scientific names attached, not less than 100 specimens. Open to students and others interested in medical preparations.

2. For the best exhibit or collection of not less than 15 specimens, in cases of Canadian or foreign birds or animals, the work of the exhibitor, mounted with appropriate surroundings, and labelled with scientific and English names (amateurs only).
3. Best collection of bird skins, not less than 200 specimens, scientifically arranged and named.
4. Best and most neatly mounted collection of not less than 150 species of insects, representing the seven orders, properly labelled with scientific names ; must be personal collection of exhibitor not over 16 years of age.
5. Best collection of North American lepidoptera of not less than 400 species, properly labelled and arranged with scientific names.
6. Best collection of shells, not less than 100 specimens, scientifically arranged and named.
7. The best collection of 50 weeds injurious to farm and garden crops (Canadian flowering plants excluded), the work of the exhibitor, open to school children, resident in Canada, to be certified to by the teacher or some other prominent person. Each specimen to be mounted separately on paper of uniform size.
8. A collection of 50 of the best Canadian flowering plants, suitable for cultivation in gardens and school grounds ; the work of the exhibitor ; open to school children resident in Canada, to be certified to by the teacher or some other prominent person.
9. The best collection of Canadian insects, the work of the exhibitor (amateurs only).
10. The best collection of 200 insects injurious to Canadian agriculture or horticulture with specimens of injury done, not more than two of any one species to be included in exhibit, the work of the exhibitor (amateurs only).

THE WESTERN FAIR, LONDON.

In the lists of the Western Fair, London, other suggestive competitions may be found.

1. Collection of insects. If the exhibit shows the effect of injurious insects upon crops and fruit, due allowance for that feature will be made in judging it.
2. Collection of native reptiles, batrachians and fishes in spirits.
3. Collection of dried native plants, labelled with locality of collection. etc.
4. Archaeological specimens.
5. Stamps and coins.
6. Shells and curios.
7. Collection of at least twenty poisonous and edible fungi ; if necessary for identification, to be accompanied with colored drawings, life size. Each specimen to be marked "Poisonous" or "Edible" and labelled as in No. 3.

8. Collection of mineralogical specimens ; mineral ores, etc.
9. Collection of weeds and their seeds injurious to farmers, gardeners and horticulturists, with common treatment. Weeds to be shown in pots growing.
10. Exhibits of the life history of any injurious insect, showing the sexes, larva, chrysalis, etc., and ravages of insects, accompanied with a written sketch. (The names of the pupils who assisted in preparing the exhibit to be given in the written sketch). Suggestions may be got from the photograph of a previous year's exhibit, printed in the report of the Ontario Entomological Society for 1903. A diploma will be given in sections 9 and 10 for each meritorious exhibit.
11. Exhibits of at least thirty noxious weeds, mounted on standard paper $11\frac{1}{2} \times 16\frac{1}{2}$ inches. Labelled to show scientific and common names, place and date of collection and collector and a note on habit and noxiousness. The first page to be an index of names and plants, with the pupil who collected each. The papers must be fastened together in some way.
12. Collection of at least twenty-five insects properly mounted and named. Exhibits on life cycles and brief notes on habit will receive due consideration in the judging.
13. Collection of at least twenty-five native plants properly mounted, fastened together, etc., as directed in section 10 above.
14. Collection of at least twelve native woods, showing bark and grain polished and unpolished ; bulk of each specimen not to exceed twenty-four cubic inches.
15. Collection of flowers, in pots, that have been at least two months in a school-room, and cut flowers raised on the school grounds.

Entry forms must be accompanied by a certificate from the teacher stating the age and school of the pupil, and that from his (the teacher's) own knowledge, or after due enquiry, he believes that the exhibit (except the naming of the specimens) is the *bona fide* work of the pupil offering the same.

BOOKS ON NATURE SUBJECTS.

The Department of Education now grants liberal assistance to school boards in forming libraries for public schools, and many such have been established in recent years. Each of these should contain good books of reference in the various departments of Nature Study. Children should be encouraged to use these in supplementing their observations, but never as text-books or as substitutes for original work. The teacher, too, needs the help of suitable books of reference, and cannot do his best work without them. We give here a list of recent Canadian books ; similar lists of American publications may be had from booksellers or publishers :

THE COPP, CLARK CO., TORONTO :

How to Teach the Nature Study Course. Dearness	\$0.60
Public School Nature Study. Crawford, Scott, Dearness and Elliott..	.40
Guide to Nature Study. Crawford.....	.90

WM. BRIGGS, TORONTO :

Sylvan Ontario. A Guide to our Trees and Shrubs. Muldrew50
Birds of Ontario. McIlwraith.....	2.00
Studies of Plant Life in Canada. Traill.....	2.00
Mountain Wildflowers of Canada. Henshaw	2.00

MORANG & CO., TORONTO :

Agriculture. James30
Modern Nature Study. Silcox and Stevenson75
The Nature Study Course. Silcox and Stevenson50

GAGE & Co., TORONTO :

High School Botany. Part II. Spotton.....	.60
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THE CHAS. CHAPMAN CO., LONDON, ONT. :

The Collegiate Science Note Book. McCready	35
The Perpetual Exercise Book. McCready.....	25

THE DEPARTMENT OF AGRICULTURE, TORONTO :

Reports of Entomological Society.....	Free.
Birds of Ontario in Relation to Agriculture. Nash.....	Free.
Nature Study, or Stories in Agriculture. The Staff of the O. A. C.	Free.
The Weeds of Ontario. Harrison and Lochhead	Free.
Insects and Plant Diseases. Lochhead and Jarvis.....	Free.
The Teaching of Agriculture in our Public Schools. James	Free.
Gardening for Schools. McCready.....	Free.

THE DEPARTMENT OF EDUCATION, TORONTO :

Check List of Ontario Birds. Nash.....	Free.
Check List of Ontario Batrachians, Reptiles, Mammals. Nash	Free.

THE DEPARTMENT OF AGRICULTURE, OTTAWA :

Annual Reports of Botanist and Entomologist. Fletcher.....	Free
Weed Bulletin. Fletcher and Clark	Free.

THE GEOLOGICAL SURVEY DEPARTMENT, OTTAWA :

Catalogue of Canadian Plants. Macoun	Free.
Catalogue of Canadian Birds. Macoun.....	Free.

REPORTS ON PHENOLOGICAL OBSERVATIONS.

(Year Ended June 30th, 1906.)

NOVA SCOTIA.

The following extracts from the reports of the specialists to whom the observation schedules sent in were referred for minute examination, study, compilation, criticism and suggestion, will be of interest to all teachers who took part in this work, and to all who propose to continue in the future, as well as to others interested in the development of the practical study of the conditions and resources of our country. The study of these notes, it is hoped, may do much to prevent the introduction of errors into future work and to suggest improvement in both the schedules and the methods of observation.

The Province is divided into its main climatic slopes or regions not always coterminous with the boundaries of counties. Slopes, especially those to the coast, are sub-divided into belts, such as (a) the coast belt, (b) the low inland belt, and (c) the high inland belt, as below :

No.	REGIONS OR SLOPES.	BELTS.
I.	Yarmouth and Digby Counties.	(a) Coast, (b) Low Inlands, (c) High Inlands.
II.	Shelburne, Queens & Lunenburg Co's,	" " "
III.	Annapolis and Kings Counties,	(a) Coast, (b) North Mt., (c) Annapolis Valley (d) Cornwallis Valley, (e) South Mt.
IV.	Hants and Colchester Counties,	(a) Coast, (b) Low Inlands, (c) High Inlands.
V.	Halifax and Guysboro Counties,	" " "
VI. A,	Cobequid Slope (to the south)	" " "
VI. B,	Chignecto Slope (to the northwest),	" " "
VII.	Northumberland Sts Slopes (to the N th)	" " "
VIII.	Richmond and Cape Breton Counties,	" " "
IX.	Bras d'Or Slope (to the southeast),	" " "
X.	Inverness Slope (to Gulf, N. W.),	" " "

These observations are especially valuable as furnishing a stimulus for a portion of the Nature Study work in the public schools of the Province. It is, no doubt, starting very many young pupils on the beginning of an observant course which will make them specially useful citizens; while it substitutes an enjoyable occupation for otherwise monotonous hours spent on the road to and from school. The work has also some scientific value, so that the schedules are bound up in annual volumes to be preserved in the archives of the Province for future students of our climate.

CRITICAL NOTES BY THE STAFF OF PHENOLOGISTS.

REGION I—YARMOUTH AND DIGBY.

A. W. Horner, Principal, Seminary School, Yarmouth.

Thirty-six schedules were sent to the Inspectors for Yarmouth and Digby counties for the year 1906: fourteen from the coast, eleven from the Low Inland, and eleven from the High Inland.

In a number of this year's schedules the dates recorded show that the Star Flower (*Trientalis Americana*) is still taken for Gold Thread (*Coptis trifolia*), Lambkill (*Kalmia*

angustifolia) for Rhodora (*Rhododendron Rhodora*) and the Dandelion (*Taraxacum officinale*) for Coltsfoot (*Tussilago Farfara*).

The following dates are too early or they are sports.

(WHEN FIRST SEEN.)

- No. 4. 111, 113.
 No. 10. 110, 113-
 No. 12. 102, 105, 107, 109, 113.
 No. 19. 129.
 No. 23. 115, 125, 126, 132.
 No. 24. 124, 128.
 No. 25. 124, 129.
 No. 28. 135. One curious observation was recorded for this number:—"Have seen it all winter," and this from one of the most conscientious teachers in Yarmouth county.
 No. 29. 123, 127, 129, 132, 135, 140 (taken for Gold Thread, I presume).
 No. 30. 138.
 No. 32. 123.
 No. 34. 145.
 No. 36. 142, 144, 148 (evidently taken for Rhodora).
 No. 40. 144.
 No. 41. 144.
 No. 42. 137, 140.
 No. 44. 155, 161.
 No. 45. 145.
 No. 51. 152.
 No. 60. 137.
 No. 61. 140.
 No. 63. 123, 133.
 No. 66. Jan. 23 is very early for ploughing; but teams were ploughing on the marsh at Grand Pre, Jan. 2 and Jan. 5 of the present year. However, this is a common occurrence in Yarmouth county.
 No. 69. 90, 107.
 No. 70. 166.
 No. 74a. 68. This date was wrong for Yarmouth county.
 No. 84. 41, 66, 70. These dates are very early, but a few robins remain all winter in Yarmouth county.
 No. 88. 94, 98, 108.
 No. 90. 100, 104, 110, 126.
 No. 91. 88, 90, 104, 110, 117.
 No. 92. 93.
 No. 93. 90
 No. 98. 85, 91, 97.

The following dates are too late:—

- No. 1. 125, 130, 132.
 No. 4. 144.
 No. 16. 153.
 No. 27. 172 (when becoming common is too late).
 No. 33. 201 (207, when becoming common).
 No. 89. 170.
 No. 98. 167.

The dates given for the birds are improving each year. One schedule from Digby town, by John Russel, was extremely accurate.

There must be something radically wrong when teachers holding Science "A" licenses are not able to recognize our most common birds and flowers.

It does not speak well for the interest taken in the observations when only 36 schedules are sent in from nearly 250 teachers. In conversing with some of these teachers they say they have no interest in Nature Study. They cannot see that the pupils derive any benefit from it.

The Nature Study in the greater number of the schools of Region No. 1 is a mere memorization of facts.

I am sorry to note that Miss M. L. Weston, one of our most enthusiastic and reliable observers, has retired from the profession to take up the study of Art.

REGION II.—QUEENS COUNTY.

Miss Minnie C. Hewitt, Science Teacher, Academy, Lunenburg.

The observers of Queens county sent in the usual number of schedules. Most of them deserve great credit for the trouble they took to secure accurate dates. More than half the teachers of the county, however, do not realize that by the expenditure of very little time and trouble, they could interest their pupils in this work, and thus train them to go through the world with their eyes open, and to acquire habits of observation which would help to make their lives happier and more useful.

Many show the deep interest they take in this work by making a number of additional observations. May I suggest that, in reporting these, they use the scientific names of the plants, or the common ones recognized by botanists. Such names as "wild corn," "tame gooseberries," "garden lilies," "water-berries," "sleeping Johnnies," etc., while intelligible in their own district, are rather out of place in scientific records.

Hepatica triloba and *Claytonia Caroliniana* were reported by one observer, but as the same schedule, though in many respects a good one, reported strawberries as flowering on the 128th day and having ripe fruit on the 125th, and had dates evidently meant for "flowering," placed opposite "fruit ripe." I did not have enough confidence in the accuracy of these observations to use them in tabulating. It would be interesting to know if these two plants, and *Sanguinaria Canadensis* are found in Queens county.

Several of the dates given for the birds are so unusually early that I think it probable that more than the usual number wintered in Nova Scotia last year. No correct dates were given for the Bobolink, King Bird, Redstart, and Cedar Waxwing, and only two for the Junco.

The fact that very few report any birds except swallows in the additional observations, or if they do, make such mistakes as "nightingale, 134," shows that the common birds of our province are not well known. Those who do not wish to purchase expensive books on birds can obtain most of the information needed from "Bird Guide," Part II, (Price, 50 cents), published by Chas. K. Reed, Worcester, Mass., which gives descriptions and colored illustrations of all the land birds east of the Rockies.

Many irregularities occur in the dates given for the first and last frost and snow, the closing and opening of lakes and rivers, water in streams, highest or lowest, etc. Would it not be advisable for teachers who cannot conveniently report these from their own observation to ask some reliable pupil or parent who is in a better position to give accurate dates to furnish them with the required information?

REGION II.—LUNENBURG COUNTY.

Burgess McKittrick, B. A., Principal Academy, Lunenburg.

Forty-six observation schedules were received from the three belts of Lunenburg county: Coast (a), 16; Low Inlands (b), 2; High Inlands (c), 28.

The majority of these were carefully and neatly made. All the teachers used the year day except one. This simplified the duties of the compiler.

The following points should be noted:—

"*Alnus incana*, 140-150." This is too late. It evidently means *A. Viridis*. Both species of alder are abundant in this county. In the former the flowers precede the leaves about April 110; while in the latter the flowers appear with the leaves about May 140.

Hepatica triloba is not reported. It is found at Bridgewater and probably in other places. Look for it about the time of the first Mayflowers.

The Ox-eye Daisy (*C. Leucanthemum*) is often not reported in the body of the schedule, while Field Daisy is given among additional observations. The "Ox-eye Daisy" is another name for "Field Daisy."

☐ Adder's Tongue Lily or Dog's Tooth Violet (*E. Americanum*) was reported 152-180. This is too late. Look for it about May 125, though I am doubtful if it is found anywhere in this county. If any observer finds it, I shall be grateful if he (or she) will send me a specimen.

The following are very wide of the mark:

Grain-cutting, 128-138; potato-digging, 138-145. These dates may possibly do for "sowing" and "planting." Last snow to whiten ground, 151; first autumn frost, 128; frogs first seen, 160, and snakes, 173.

These mistakes need not occur, if care is taken to place the year day exactly opposite the name of the plant and afterwards to check the figures.

The observation sheets, upon the whole, were quite as satisfactory as in former years.

REGION II.—SHELburnE COUNTY.

C. Stanley Bruce, Principal, Shelburne Academy.

There were twenty schedules sent in—sixteen from Coast Sections, three from Low Inlands, and one from High Inlands.

Without exception, these schedules show many marks of careful observation. Some dates, however, had to be rejected from even the best of them, on account of errors in translating day of the month into day of the year, by which the dates of some very common phenomena were written either a month later or a month earlier than they should have been.

5, 8, 13, 31. *Sanguinaria, Hepatica, Erythronium* and *Calla* are still unreported.

15. *Claytonia* was reported by one teacher. The date was correct so I allowed it to stand, but I have my doubts about the identification.

23, 24. I felt obliged to reject all the dates for *R. repens*.

Some teachers wrote 'bulbosus' after the date, but I feel quite sure that all the others meant 'bulbosus' which is our commonest roadside buttercup.

35, 36. The *Kalmias* are still confused by a few teachers.

75. One teacher reports the last "hoar frost" on April 20th, and the last "hard frost" on May 30th. The same teacher tells us that Wild Ducks and Wild Geese remain with us all the time. It was a different teacher, however, who made the discovery that Frogs lay "spores."

The bird observations show no improvement on those of last year.

REGION III.—KINGS AND ANNAPOLIS.

Ernest Robinson, B. A., County Academy, Amherst.

On the whole the reports from Kings and Annapolis were better than those of previous years.

The best reports came from the South Mountain belt.

The North Mountain belt gave but three reports. It would be interesting to have a larger number from this belt for purpose of comparison.

There is a noticeable improvement in "bird" reports, although some of the dates given are wrong.

As a number of the observations can only be made during vacation, it is common to find these omitted. Among the reports was one that contained these, and only these. One could wish that so careful an observer had made use of the entire sheet.

SUGGESTIONS:—

In many cases the dates for "first seen" and "becoming common" are given alike. I suppose this means that when first seen they were common. In such a case, the latter column only should be filled in.

ERRORS:—

The usual number of errors were found, and in many cases the very ones to which the different compilers have called attention over and over again.

Plowing 249, planting 127, is given by one observer. This could not be "fall" plowing.

One observer gives 'Fall Dandelion' very late in the fall. Were they misled by the name?

REGION IV.—HANTS AND S. COLCHESTER.

W. J. Shields, Principal High School, Hantsport.

There were 43 schedules sent in from this region.

They are on the whole very creditable. Some have as many as 60 extra observations representing much care and labor and are deserving of praise.

Belt "b" send in schedules that were as a rule far ahead of those from "a" and "c" though two from the latter belts were excellent and all were I think an improvement on last year's records. I shall give more detailed criticisms in the local papers for the purpose of aiding those teachers of this region who are just beginning to take interest in this work.

REGION V.—HALIFAX COUNTY.

G. R. Marshall, B. A., Prin. Compton Avenue School, Halifax.

Taken as a whole the reports handed me this year were better than those I have received in former years. There were a few of the old mistakes so often reported, however, and one or two new ones. Two observers neglected to sign their reports and thus left them of doubtful value; and one observer by not venturing to record the date when the phenomena were becoming common, gave us but little information.

REGION V.—GUYSBORO COUNTY.

J. B. McCarthy, B. A., B. Sc., Science Master, Academy, Halifax.

Twenty-one reports were received, of which three were discarded. No one reports Hepatica or Marsh Calla, and from similar omissions in previous years, I conclude that these plants are not found in Guysboro County.

One observer reports—piping of frogs—"going south or leaving in the spring"—May 10th and on the same sheet—appearance of snakes—"going south or leaving in the spring" April 4th. These manifest absurdities must be accomplished by some young teacher filling in the blanks for the first time and in their zeal to have well filled columns lose sight of the essentials.

Fifteen send in supplementary lists—forty additional observations from Stillwater and eleven from Roachvale, the latter report refreshing in its neatness.

If the younger teachers could have put in their hands the remarks of the compilers, it would warn them of some of the more usual errors

REGION VI.—A AND B.

J. E. Bartheaux, Science Master, Academy, Truro.

Twenty-five schedules were received from these Regions, the quality of which is about the same as in former years. All but one recorded the observations by the annual date.

While in most of the schedules there is a paucity of observations to be deplored, one ran to the opposite extreme. This special schedule had every blank filled even to the going south of the snakes and the piping of the frogs, and besides thirty additional observations were recorded on the margins of the schedule.

The remarks made in former years about 26, 29, 35 and 36 apply with equal force to the present. Thirteen reported 35. All are in error, as the latest date given, places its flowering before the middle of June.

REGION VII.—CUMBERLAND AND COLCHESTER.

The following list shows the number of schedules received from each section of the district allotted to me:—

Region 7, Cumberland County, Belt (a).....	10
" 7, " " (b).....	21
" 7, " " (c).....	7
" 7, Colchester County, (a).....	5
" 7, " " (b).....	5
" 7, " " (c).....	5
Region 6 B, " " (a).....	4
" 6 B, " " (b).....	7

It is desirable that Colchester County and the Chignecto Peninsula should send in a larger number of reports. Joggins Mines, Two Rivers, Apple River schedules are needed to make any report from 6 B (a) complete. I have to notice an improvement in one respect, only six of the 64 reports received had the day of the month instead of the year day. Three of those six were copied, but under protest. More teachers are supplementing the observations asked for; and, although some are fanciful, yet all are interesting. One lady, for instance, reports the Summer Warbler in large flocks in March in "their winter plumage." They appeared dressed in their usual garb, despite this unusual experience, at the proper time. Miss Charman's supplementary observations are, as usual, numerous and reliable.

The bird notes, I should judge, are improving, although some curious facts (?) are stated. One observer saw the Wild Geese return southward three days after their usual northern migration. Another saw the Bobolink in March; another the Night Hawk as early.

Great confusion, too, about the Raspberries and the Kalmias. I wish our Inspectors would give a five-minute talk to each teacher on those common plants at their next visit. Our boys and girls doubtless hear the Rhodora called "Lamb-kill," and the name sticks. The dates for White and Blue Violet, too, nearly coincide. Some observers gave the date possibly, of a Dandelion out of season in October for the Fall Dandelion!

But the great and well-nigh universal fault is the date given for "when becoming common." Schedule after schedule had three or four or five added right through to "when first seen." Others gave both dates the same.

I still think that the earliest reliable date for the migration of birds should be taken instead of the averaging of any observer.

REGION VII.—PICTOU AND ANTIGONISH COUNTIES.

C. L. Moore, M. A., Science Master, The Pictou Academy.

Fifty-four schedules were received this year from Region VII, viz., 11 from belt (a), 16 from belt (b), 16 from belt (c), and 11 from Antigonish county. Of these, 46 were averaged, distributed as follows: 10 from belt (a), 10 from belt (b), 16 from belt (c), and 10 from Antigonish county.

The schedules on the whole were very complete, the blanks being largely in connection with phenomena to be observed during the period of summer vacation. The number received from Pictou county was not so large as last year, but they show a marked improvement both in neatness and in accuracy. Forty-three of the observers reported additional observations, many of these being with regard to the migrations of birds, evidencing an increasing interest in this branch of nature-study. The schedules received from Miss Isabella McCabe, Loch Broom, and Miss Ada S. Macdonald, Rogers Hill Centre, are deserving of special mention in this connection, as well as for their general excellence. The former reports migration dates for upwards of twenty species of birds in addition to those listed in the schedules and all of the dates shew careful and accurate observation.

A general comparison of the schedules with the dates of phenomena as observed in the vicinity of Pictou town, shews that the averages for the county are in most cases considerably later than the dates observed here, and, as the situation is not more favorable than that of many other sections, this would seem to indicate that there is still room for improvement on the part of the observers. An exception to this occurs in the case of No. 27, the florets not opening here until considerably later than the date reported by the great majority of the observers throughout the county. This may be due to the fact that the opening of the floral bracts, which occurs some days before the opening of the florets was reported—an error which should be guarded against.

The schedules from Antigonish county were not so full; and some not so accurate. Many dates had to be rejected as obviously erroneous.

* * * * *

REGIONS VIII, IX AND X.—CAPE BRETON ISLAND.

L. A. DeWolfe, M. Sc., The Academy, Truro.

Again the work of compiling is done, and I send you herewith the tabulated results. Forty-six schedules were sent in—thirty for Cape Breton, nine for Richmond, six for Inverness and one for Victoria. Cape Breton County sent twice as many as it did last year. Inverness also gained; while Richmond and Victoria fell behind.

I am pleased to report a decided improvement in the number and accuracy of observations. Among the best papers were those from Boisdale, Ashfield, Captain Allan's, Beaver Cove, Big Lorraine, East Bay and Portage. Several others, however, were nearly as good. Three gave the day of the month, instead of the year date.

Gradually the habit of observing is taking hold of the teachers. Never before have the birds been so accurately reported. Miss Elderkin of Big Lorraine, Miss McDonald, Boisdale, and Mr. McInnis of Ashdale gave full and accurate lists of bird migrations. A few years ago the Robin was the only bird generally known; but this is not so now.

There is still, however, room for improvement. Bobolinks are reported from districts where no rivers or marsh lands exist. I doubt if persons from such districts know the

Bobolink. The meadow lark is also reported. Since I have never seen this bird outside of cabinet collections, I am unable to confirm such report.

When a teacher observes the arrival of the Junco, December 20th, doubtless the name "Slate Colored Snow Bird" misled her. She evidently, saw the Snow Bunting (*Plectrophenax nivalis*) instead of the Junco. The migration of the Junco could not be very correctly observed this year, for large numbers remained all winter. In fact one Cape Breton teacher reports them as resident,—which was true. Two teachers report the Purple Finch arriving towards the last of May. They, too, remained last winter. The person who first saw the Summer-Yellow-Bird, June 20th will need to look out for him about six weeks earlier next year. I do not believe, however, that the other teacher, a few miles away saw him April 2nd. The Song Sparrow seen March 6th, had probably not been south. Like the Robin, he occasionally remains here over winter. Both March 22nd, and April 22nd are too early for the Redstart. May 18th is somewhat early for the Humming Bird; though I do not see how anyone should mistake another bird for it.

One village was fortunately immune from the English Sparrows, for they arrived there April 17th and left three days later. In other parts of the province, as is well known, they are superabundant throughout the year.

In one paper the Junco was reported in the proper place, and again as an extra observation under a different date.

The White Throated Sparrow does not arrive March 28th.

The snake seen February 13th was somewhat out of his element.

With the plants, too, several irregularities occur. That reported dates are incorrect is evident in papers giving the flowering of the strawberry 36 days later than the red maple; red currant 20 days later than plum; white violet 15 days later than blue violet, etc.

Among tardy observations were Fall Dandelion 254, Ground Ivy 178, Horsetail 155, Adder's Tongue Lily 176, Alder 145, Aspen 154. Among those too early were Timothy 178, Butter-and-Eggs 166, Dandelion 119, Heal All 163, Red Maple 115, Blackberry 159, Raspberry 146, Creeping Buttercup 134. The citizens of one favored community enjoyed the shade of green trees as early as April 9th.

Scarcely normal conditions prevailed when potato-planting preceded sowing by 50 days. I should also judge Nov. 20th rather late to begin potato-digging.

Two stations report Hepatica. Not being acquainted with the flower, I am unable to say whether the dates were correct or not.

It is unnecessary to report what hour of the day plants begin to flower—as must have been done by one teacher who gave the dates to one decimal.

A few observers confuse the English Hawthorn with the Scarlet Fruited Thorn. Two interchanged Gold Thread and Star Flower. To my own knowledge, Canada Cinquefoil has been reported as Creeping Buttercup.

To aid those who attempted the Kalmias, I may say that the correct reports for Sheep Laurel were from Ashfield, Captain Allan's, Lewis Cove Road, Beaver Cove, and Big Lorraine. In addition to these, Pale Laurel was correctly reported from Rocky Ridge, West Bay Road, Framboise Intervale, Grand River and Milton. A still larger number were correct for Rhodora.

Last season was a peculiar one in many respects. For example, the mild weather of January and February started the Alder (atkins; after which a cold period killed them. The result was that in April very few Alders were found in flower, and consequently irregularities are reported. The spring weather, too, was fatal to the oft-commented-upon three days between "first seen" and "becoming common." From May 25th to May 31st were very cold and wet. As a result flowers just appearing, say, May 24th, were set back about ten days, before they could recover sufficiently to "become common." Other periods at ten different dates had the same effect. Here in Truro, Rhodora, for example, was fully two weeks behind its normal date owing to cold, wet weather just at the time it was ready to flower.

WEEDS AND INFECTIOUS PLANT DISEASES.

(NOTES BY THE SUPERINTENDENT.)

In every rural school the teacher should make a point of seeing that the pupils can recognize the injurious weeds, and the more common infectious diseases of trees and plants, such as the Black Knot of the plum or cherry trees, club-root of cabbages and turnips, etc. The Nature Study lessons on such subjects will have a very special additional interest beyond those involving no economic questions. The Provincial Statutes directing the destruction of infected trees and weeds along fences can be got from the local magistrate, and should be made the subject of oral lessons to pupils, who would thus be making an acquaintance with some of the laws of the province, together with the reasons for their enforcement.

THE SENECIO CATTLE DISEASE.

This disease might be called the Ragwort Cattle Disease. It has hitherto been known as the "Pictou Cattle Disease," on account of its place of origin. It is now no longer the *Pictou* cattle disease, for it is spreading into the neighboring counties. Up to 1881 nearly 1400 cattle are estimated to have perished from this infection. And since then, it is estimated that about 200 a year, on an average, die from the same cause.

WHAT IS THE CAUSE?

For many years at very great expense, the Department of Agriculture at Ottawa has been endeavoring to exterminate the disease, and to discover its cause. The experiments at Cloverville, Antigonish, during the last few years, under the charge of Dr. W. H. Pethick, appear at last to definitely prove, that if the disease is not caused by the eating of the *St. James* ragwort, it is at least caused by something so intimately associated with the weed, that it may provisionally be considered to be the specific cause. The experiments are clearly described in a special report on "Pictou Cattle Disease", published by the Department of Agriculture at Ottawa in 1906, to which those seeking exact information are referred.

SENECIO JACOBÆA L.

is the botanical name of the plant, known in Scotland, from which it came to Pictou about sixty years ago, as the *Common Ragwort*; in Quebec as *Herbe de St. Jacques*; and generally in America and Europe, under such various names as *Tansy Ragwort*, *Staggerwort*, *St. James-name*, *Staverwort*, *Cankerweed*, *Kettle-dock*, *Felon-weed*, *Fairies Horse*, *Stinkin Willie*. It has already spread through Antigonish county, and is rapidly invading Colchester and Halifax counties and even Prince

Edward Island. It was not reported to be specially poisonous in Scotland perhaps because it was not allowed to grow so abundantly. There are a few other species of *Senecio* in Nova Scotia, which are not known to be specially dangerous, such as : *S. vulgaris* L., *S. viscosus* L., *S. sylvaticus* L., *S. Aureus* L., *S. Balsametea* (Hook) Britton, *S. obovatus* Muhl, and *S. Pseudo-Arnica*. Another species of *Senecio* is suspected of being the cause of the Winton Disease in New Zealand, which attacks horses as well as cattle and sheep. And a similar disease in South Africa has been traced to the agency of *Senecio Burcheli*. I therefore propose to call this disease by the generic name of the plant with which it appears to be associated in Nova Scotia, New Zealand and Cape Colony in South Africa.

SPECIAL WORK FOR SUMMER OF 1907.

In order to determine the exact extent to which the weed has spread, I am asking all schools and individuals sending in Phenological Observations, to note the *presence* or absence of *Senecio Jacobaea* in the blank for remarks at the end of the schedule. The abundance or variety of the weed should also be indicated, with an intimation of the action being taken in the community to have it exterminated.

DESCRIPTION OF THE WEED (FROM "SP. TION.")

Senecio Jacobaea L. Belonging to the Composite Family (*Order Composite*). Flowers golden yellow, the heads forming a spreading corymb. Stem erect, 2-3 feet high, branching, glabrous or somewhat cottony. Leaves numerous, lyrate, bipinnatifid, the lower with broad segments, the upper with linear divisions, all glabrous.

(NOTE ON THE FLOWERS FROM "BRITTON AND BROWN.")

The yellow-rayed heads are very numerous and from one-half to two-thirds of an inch broad. The involucre is narrowly bell shaped, nearly one-quarter of an inch high, its bracts linear-lanceolate, acute, green, or tipped with black; the rays from 12 to 15, the achenes of the disk flowers pubescent, those of the rays glabrous, and the pappus white.

From the schedules sent in next July, it is hoped we can plot exactly the portion of the province affected, and have an accurate idea of the magnitude of the problem. The longer the weed is allowed to spread without an attempt at extermination the more extensive and difficult the problem becomes. If it is not at least kept reduced, it is likely to make cattle raising in all the provinces into which it spreads an impossible industry.

(To be handed promptly on its receipt by the Secretary of every School Board to each Teacher employed within the School Section.)

LOCAL "NATURE" OBSERVATIONS.

This sheet is provided for the purpose of aiding teachers to interest their pupils in observing the times of the regular procession of natural phenomena each season. First, it may help the teacher in doing some of the "Nature" lesson work of the Course of Study; secondly, it may aid in procuring valuable information for the locality and province. Two copies are provided for each teacher who wishes to conduct such observations, one to be preserved as the property of the section for reference from year to year; the other to be sent in with the Return to the Inspector, who will transmit it to the Superintendent for examination, and compilation.

What is desired is to have recorded in these forms, the dates of the first leafing, flowering and fruiting of plants and trees; the first appearance in the locality of birds migrating north in spring or south in autumn, etc. While the objects specified here are given so as to enable comparison to be made between the different sections of the Province, it is very desirable that other local phenomena of a similar kind be recorded. Every locality has a flora, fauna, climate, etc., more or less distinctly its own; and the more common trees, shrubs, plants, crops, etc., are those which will be most valuable from a local point of view in comparing the characters of a series of seasons.

Teachers will find it one of the most convenient means for the stimulation of pupils in observing all natural phenomena when going to and from the school, and some pupils radiate as far as two miles from the school room. The "nature study" under these conditions would thus be mainly undertaken at the most convenient time without encroaching on school time; while on the other hand it will tend to break up the monotony of school travel, fill an idle and wearisome hour with interest, and be one of the most valuable forms of educational discipline. The eyes of a whole school daily passing over a whole school section will let very little escape notice, especially if the first observer of each annually recurring phenomenon receives credit as the first observer of it for the year. The observations will be accurate, as the facts must be demonstrated by the most undoubted evidence, such as the bringing of the specimens to the school when possible or necessary.

To all observers the following most important, most essential principles of recording are emphasized: Better *no date*, NO RECORD, than a WRONG ONE or a DOUBTFUL one. Sports out of season due to very local conditions not common to at least a small field, should not be recorded except parenthetically. The date to be recorded for the purposes of compilation with those of other localities should be the *first* of the *many* of its kind following immediately after, it. For instance, a butterfly emerging from its chrysalis in a sheltered cranny by a southern window in January would not be an indication of the general climate, but of the peculiarly heated nook in which the chrysalis was sheltered; nor would a flower in a semi-artificial, warm shelter, give the date required. When these sports out of season occur, they might also be recorded, but within a parenthesis to indicate the peculiarity of some of the conditions affecting their early appearance.

These schedules should be sent in to the Inspector with the annual school returns in July, containing the observations made during the whole school year and back as far as the preceding July (if possible) when the schedule of the previous school year was necessarily completed and sent in.

A duplicate copy of the schedule of observations should be securely attached to the school register for the year, so that the series of annual observations may be preserved in each locality. The new register has a page for such records.

Remember to fill in carefully and distinctly the date, locality, and other blanks at the head of the schedule on the next page; for if either the date or the locality or the name of the responsible compiler should be omitted the whole paper is worthless and cannot be bound up for preservation in the volume of The Phenological Observations.

By the aid of the table given at the top of pages 3 and 4, the date, such as the 24th of May for instance, can be readily and accurately converted into the *annual date*, "the 144th day of the year," by adding the day of the month given to the annual date of the last day of the preceding month (April in this case), thus: $24 + 120 = 144$. The annual date can be briefly recorded, and it is the only kind of dating which can be conveniently averaged for phenological studies. When the compiler is quite certain that he or she can make the conversion without error, the day of the year instead of the day of the month will be preferred in recording the dates.

PHENOLOGICAL OBSERVATIONS, CANADA

(1906 SCHEDULE.)

For the year ending July, 190 .

Province.....County.....District.....

Locality or School Section.....No.....

[The estimated length and breadth of the locality within which the following observations were made.....X.....miles. Estimated distance from the sea coast.....miles. Estimated altitude above the sea level.....feet.
 Slope or general exposure of the region.....
 General character of the soil and surface.....
 Proportion of forest and its character.....
 Does the region include lowlands or intervalles?.....and if so name the main river or stream.....Or is it all substantially highlands?.....
 Any other peculiarity tending to affect vegetation?.....
 The most central Post Office of the locality or region.....

NAME AND ADDRESS OF THE TEACHER OR OTHER COMPILER OF THE OBSERVATIONS RESPONSIBLE FOR THEIR ACCURACY.

When First Seen.*

When Becoming Common.*

(WILD PLANTS, ETC.—NOMENCLATURE as in "Spotton" or "Gray's Manual").

1. Alder (<i>Alnus incana</i>), catkins shedding pollen.....	114.1	120.9
2. Aspen (<i>Populus tremuloides</i>), ".....	118.7	123.8
3. Mayflower (<i>Epigæa repens</i>), flowering.....	110.8	120.3
4. Field Horsetail (<i>Equisetum arvense</i>), shedding spores.....	127.9	133.4
5. Blood-root (<i>Sanguinaria Canadensis</i>), flowering.....	130.3	134.
6. White Violet (<i>Viola blanda</i>), flowering.....	125.4	131.7
7. Blue Violet (<i>Viola palmata</i> , <i>cucullata</i>), flowering.....	128.6	135.
8. Hepatica (<i>H. triloba</i> , etc.), flowering.....	125.3	132.1
9. Red Maple (<i>Acer rubrum</i>), flower shedding pollen.....	130.3	135.7
10. Strawberry (<i>Fragaria Virginiana</i>), flowering.....	128.3	137.1
11. " " " fruit ripe.....	168.8	177.2
12. Dandelion (<i>Taraxacum officinale</i>), flowering.....	131.2	138.
13. Adder's Tongue Lily (<i>Erythronium Am.</i>), flowering.....	138.	144.5
14. Gold Thread (<i>Coptis trifolia</i>), flowering.....	184.2	140.
15. Spring Beauty (<i>Claytonia Caroliniana</i>), flowering.....	127.4	138.9
16. Ground Ivy (<i>Nepeta Glechoma</i>), flowering.....	139.5	145.8
17. Indian Pear (<i>Amelanchier Canadensis</i>), flowering.....	142.1	147.6
18. " " " fruit ripe.....	201.6	210.5
19. Wild Red Cherry (<i>Prunus Pennsylvanica</i>), flowering.....	146.5	152.8
20. " " " fruit ripe.....	220.3	230.7
21. Blueberry (<i>Vaccinium Can. and Penn.</i>), flowering.....	146.3	158.1
22. " " " fruit ripe.....	206.4	213.7
23. Tall Buttercup (<i>Ranunculus acris</i>), flowering.....	153.3	160.4
24. Creeping Buttercup (<i>R. repens</i>) flowering.....	158.4	164.5
25. Painted Trollium (<i>T. erythrocarpum</i>), flowering.....	145.6	151.7
26. Rhodora (<i>Rhododendron Rhodora</i>), flowering.....	149.8	155.9
27. Pigeon Berry (<i>Cornus Canadensis</i>) florets opening.....	151.1	157.6

PHENOLOGICAL OBSERVATIONS—(Continued).

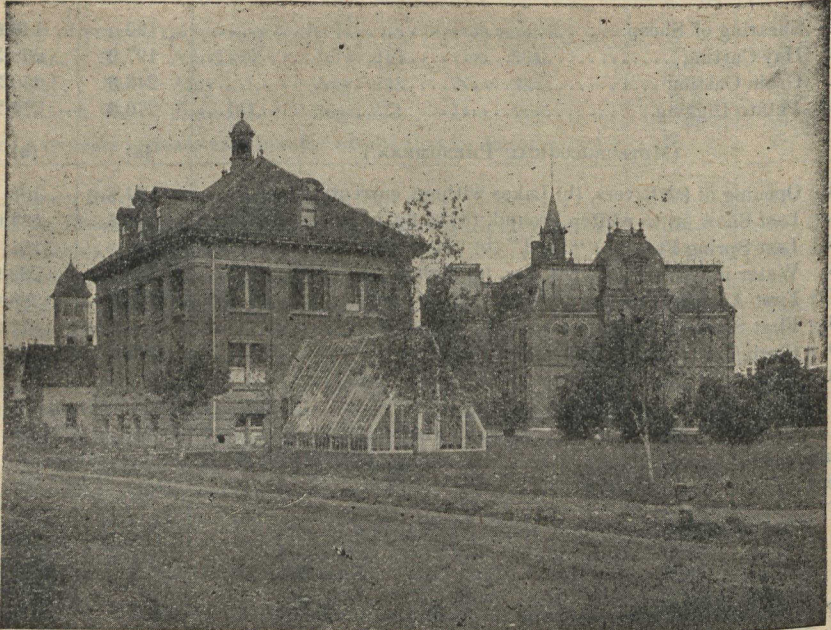
[Day of year corresponding to the last day of each month.]					When First Seen*	When becom- ing Common.*
Jan. 31.	April 120.	July 212.	Oct. 304.			
Feb. 59.	May 151.	Aug. 243.	Nov. 334.			
March 90.	June 181.	Sept. 273.	Dec. 365.			
[For LEAF years increase each number except that for January by 1.]						
28.	Pigeon Berry (<i>Cornus Canadensis</i>), fruit ripe			208.7	236.5	
29.	Star Flower (<i>Trientalis Americana</i>), flowering			151.2	157.9	
30.	Clintonia (<i>Clintonia borealis</i>), flowering			154.6	160.4	
31.	Marsh Calla (<i>Calla palustris</i>), flowering			160.2	167.	
32.	Lady's Slipper (<i>Cypripedium acaule</i>), flowering			162.6	166.7	
33.	Blue-eyed Grass (<i>Sisyrinchium ang.</i>), flowering			162.5	168.7	
34.	Twinflower (<i>Linnaea borealis</i>), "			168.9	173.8	
35.	Pale Laurel (<i>Kalmia glauca</i>), flowering			156.7	163.7	
36.	Lambkill (<i>Kalmia angustifolia</i>), "			170.6	175.4	
37.	English Hawthorn (<i>Crataegus oxyacantha</i>), flowering			164.5	170.0	
38.	Scarlet-fruited Thorn (<i>Crataegus coccinea</i>), "			163.9	169.4	
39.	Blue Flag (<i>Iris versicolor</i>), flowering			169.8	174.7	
40.	Ox-eye Daisy (<i>Chrysanthemum Leucanthemum</i>), flowering			167.5	173.5	
41.	Yellow Pond Lily (<i>Nuphar advena</i>), flowering			168.3	175.	
42.	Raspberry (<i>Rubus strigosus</i>), flowering			165.1	160.4	
43.	" " " fruit ripe			207.3	218.6	
44.	Yellow Rattle (<i>Rhinanthus Crista-galli</i>), flowering			175.3	180.9	
45.	High Blackberry (<i>Rubus villosus</i>), flowering			170.7	176.8	
46.	" " " fruit ripe			234.5	243.9	
47.	Pitcher Plant (<i>Sarracenia purpurea</i>), flowering			171.	177.2	
48.	Heal-All (<i>Brunella vulgaris</i>), "			177.9	182.5	
49.	Common Wild Rose (<i>Rosa lucida</i>), "			168.9	185.8	
50.	Fall Dandelion (<i>Leontodon autumnale</i>), "			170.	175.3	
51.	Butter-and-Eggs (<i>Linaria vulgaris</i>), "			169.9	180.9	
52.	Expanding leaves in spring made trees appear green— (a) first tree, (b) leafing trees generally.			138.7	148.2	
(CULTIVATED PLANTS, ETC.)						
53.	Red Currant (<i>Ribes rubrum</i>), flowering			145.5	151.4	
54.	" " " fruit ripe			191.8	202.5	
55.	Black Currant (<i>Ribes nigrum</i>), flowering			148.6	153.6	
56.	" " " fruit ripe			213.5	219.	
57.	Cherry (<i>Prunus Cerasus</i>), flowering			148.8	154.8	
58.	" " " fruit ripe			205.7	211.2	
59.	Plum (<i>Prunus domestica</i>) flowering			153.1	157.1	
60.	Apple (<i>Pyrus Malus</i>), flowering			154.8	161.5	
61.	Lilac (<i>Syringa vulgaris</i>), flowering			164.6	170.	
62.	White Clover (<i>Trifolium repens</i>), flowering			165.	171.9	
63.	Red Clover (<i>Trifolium pratense</i>), "			163.9	171.2	
64.	Timothy (<i>Phleum pratense</i>), "			178.1	181.1	
65.	Potato (<i>Solanum tuberosum</i>), "			176.9	200.5	
(FARMING OPERATIONS, ETC.)						
66.	Plowing begun			121.4	129.6	
67.	Sowing "			131.1	139.1	
68.	Planting of Potatoes begun			129.3	138.8	

PHENOLOGICAL OBSERVATIONS —(Continued).

69. Shearing of Sheep.....	130	140.6
70. Hay Cutting.....	197.9	208.3
71. Grain Cutting.....	243.6	250.3
72. Potato Digging.....	270.2	279.2
(METEOROLOGICAL PHENOMENA.)		
	(a)	(b)
73. Opening of (a) Rivers, (b) Lakes without currents.....	94.8	105
74. Last Snow (a) to whiten ground, (b) to fly in air.....	106.5	123.6
75. Last Spring Frost (a) "hard" (b) "hoar".....	137.6	161
76. Water in Streams, Rivers, &c., (a) highest, (b) lowest.....	106.3	232.9
77. First Autumn Frosts, (a) "hoar" (b) "hard".....	262.1	289.8
78. First Snow (a) to fly in air, (b) to whiten ground.....	306.9	317.3
79. Closing of (a) Lakes without currents, (b) Rivers.....	333.6	345
80. Number of Thunder Storms (with dates of each).....		
Jan....., Feb....., Mar....., Apr....., May.....		
..... June.....		
July....., Aug.....		
Sept....., Oct....., Nov....., Dec.....		
[Day of year corresponding to the last day of each month.]		
Jan. 31. April 120. July 212. Oct. 304.		
Feb. 59. May 151 Aug. 243. Nov. 334.		
March 90. June 181. Sept. 273. Dec. 365.		
(For LEAP years increase each number except that for January by 1.)		
	Going North or coming in Spring.*	Going South or leaving in Fall.*
(MIGRATION OF BIRDS, ETC.)		
81. Wild Duck migrating.....	97.6	311.3
82. Wild Geese migrating.....	91.4	313.2
83. Song Sparrow (<i>Melospiza fasciata</i>).....	93.6	
84. American Robin (<i>Turdus migratorius</i>).....	91.4	
85. Slate coloured Snow Bird (<i>Junco hiemalis</i>).....	93.9	
86. Spotted Sand Piper (<i>Actitis macularia</i>).....	129.7	
87. Meadow Lark (<i>Sturnella magna</i>).....	122.9	
88. Kingfisher (<i>Ceryle Alcyon</i>).....	124.9	
89. Yellow Crowned Warbler (<i>Dendroica coronata</i>).....	128.9	
90. Summer Yellow Bird (<i>Dendroica aestiva</i>).....	134.6	
91. White Throated Sparrow (<i>Zonotrichia alba</i>).....	121.9	
92. Humming Bird (<i>Trochilus Colubris</i>).....	147.2	
93. King Bird (<i>Tyrannus Carolinensis</i>).....	139.2	
94. Bobolink (<i>Dolychonyx oryzivorus</i>).....	135.9	
95. American Gold Finch (<i>Spinus tristis</i>).....	138.8	
96. American Redstart (<i>Setophaga ruticilla</i>).....	135.5	
97. Cedar Waxwing (<i>Ampelis cedrorum</i>).....	141.4	
98. Night Hawk (<i>Chordeiles Virginianus</i>).....	131.7	
99. Piping of Frogs.....	110.5	
100. Appearance of Snakes.....	115.3	

(OTHER OBSERVATIONS AND REMARKS.)

* These figures are the Provincial Phenochrons for 1906—the arithmetical means of the Phenochrons of each of the ten Regions of the Province of Nova Scotia. It will form an interesting standard of comparison for local observers. Yarmouth observations, for instance, will generally be much earlier, while Inverness observations will be later.



PROVINCIAL NORMAL SCHOOL BUILDINGS, TRURO, N. S.

**PROVINCIAL NORMAL SCHOOL,
TRURO, N. S.**

DAVID SOLOAN, B. A., LL. D., *Principal, Principles of Pedagogy, Language, History.*
 JOHN B. CALKIN, A. M., *Emeritus Professor of Psychology and Pedagogy.*
 JAMES B. HALL, PH. D., *Psychology, Civics, Method in Geography.*
 OTTIE A. SMITH, *Drawing, Calisthenics*
 J. ALPHONSE BENOIT, B. A., *Method in Mathematics and Physics, French.*
 EDWARD W. CONNOLLY, B. A., *Hygiene, Physiology, Math. Drawing, Commercial*
Branches.
 LESLIE C. HARLOW, B. Sc., B. S. A., *Method in Nature Study, Biology, Chemistry.*
 ESTELLE A. COOK, B. A., *Elocution, Literature, Music.*

AFFILIATED INSTITUTIONS.

THE COLLEGE OF AGRICULTURE: *M. Cumming, B. A., B. S. A., Principal.*
 THE TRURO SCHOOL OF MECHANIC SCIENCE: *F. G. Matthews, Principal.*
 THE TRURO SCHOOL OF DOMESTIC SCIENCE: *Elizabeth P. McCall, Principal.*
 THE TRURO KINDERGARTEN: *Mrs. S. B. Patterson, Principal.*

The Provincial Normal School provides, without charge for tuition, courses of training for teachers who signify their intention to practice their calling in the province of Nova Scotia.

Applicants for admission to the courses must present the High School pass certificate corresponding in grade to the diploma or license sought. License of class A, B, C, or D, is granted to holder of H. S. certificate of grade XII, XI, X, or IX who obtains the Normal School diploma of corresponding rank.

Travelling expenses are paid at the rate of five cents per mile, each way, to students who intend to teach in Nova Scotia.

Board and lodging in Truro cost from \$2.50 to \$8.00 a week

For information concerning the courses in Kindergarten and Domestic Science, apply to the Principals of those departments, and concerning the regular Normal School courses and Mechanic Science courses, apply to the Principal of the Provincial Normal School.

SUMMER COURSES.

During five weeks, commencing with Wednesday, July the tenth, 1907, courses will be conducted in the natural sciences and in language methods, as follows:—

I.—IN THE NATURAL SCIENCES.

Members of the faculties of the Provincial Normal School and the College of Agriculture will conduct classes in practical chemistry, biology, agriculture and associated studies, nature, and school-gardening. The summer term forms part of a fourteen months' course leading to the Rural Science Diploma (displacing the former Agricultural Diploma), attendance being resumed on the first Wednesday of March and continued until the close of the following summer term, in August. In lieu of attendance during the period from March to July, the candidate for Rural Science Diploma may substitute attendance during two subsequent summer terms of five weeks each, four summer terms thus counting as equivalent to a full fourteen months' course. Tuition is free.

Regulations governing the issue of the Rural Science Diploma and an outline of the course of study prescribed are to be found on a following page of the JOURNAL OF EDUCATION.

Teachers attending the summer course may obtain an extra week of vacation without prejudice to the Provincial grant or to the county fund of the school.—*See School Law, Regulation 138.*

II.—IN LANGUAGE METHODS FOR TEACHERS IN ACADIAN SCHOOLS.

Teachers appointed to Acadian schools must be fairly fluent in speaking English as well as French, and they are required to cultivate spoken English in the pupils of all grades of their school. A course of instruction in effective methods of teaching English to French children has hitherto been offered annually at the Provincial Normal School during the summer vacation. This year the course will be resumed during the five weeks period, commencing July the tenth. Model classes of French children will be brought to Truro, and a good attendance of Acadian teachers is expected.

Students of the language course are admitted free to any of the concurrent classes in science, and are strongly recommended to use their spare time in the pursuit of one or more of these.

Teachers looking forward to attending the language course should obtain the consent of their trustees to re-opening school a week late, as permitted by Regulation 138 of the School Law.

It is desirable that applicants for admission to either the science or the language course should apply as early as possible to the Principal of the Provincial Normal School, Truro, N. S.

FEDERAL CONFERENCE OF THE EMPIRE ON EDUCATION,

London, England, May 24th to June 1st, 1907.

SUGGESTED PROGRAM.

I.—BUSINESS SUBJECTS.

- A. Scheme proposed by the League of the Empire for Federation of the Empire in Education.
- B. Official recognition of a common Central Office Federal Education
- C. Future Federal Education Conferences.
 - (1) Suggested places of meeting of Heads of Departments and other Education-
alists.
 - (2) Dates.

II.—EDUCATIONAL SUBJECTS.

- A. *Teachers.*
- (1) Comparison of (a) the provisions for the supply and the training of Elementary Teachers, and of (b) the conditions of their work in the United Kingdom and other Countries of the Empire and Crown Colonies.
 - (2) Similar comparisons in the case of Secondary Teachers.
 - (3) Practicability of temporary interchange of Teachers and of Inspectors between the United Kingdom and other Countries of the Empire and Crown Colonies.
- B. *The Relations between Secondary and Primary Schools in the various Countries of the Empire.*
- C. *Means of establishing a System of Mutual Recognition of Equivalent Standards of Attainment in the several Countries of the Empire in connection with Primary, Secondary and University Education.*
- D. *Co-operation in Educational Publications.*
- (1) Scheme of the League of the Empire for Imperial Text Books in History.
 - (2) Means for ensuring correctness in Text Books dealing with Geography, or in which local knowledge is required.
- E. *Co-operation in School Work.*
- (1) The formation of a Central Exhibition of Industrial or other School work.
 - (2) The organisation of the exchange of School work and specimens between Departments, Museums, and between individual Schools on a permanent basis.
- F. *School Subjects.*
- (1) The English language : (a) Reading (literature) ; (b) Composition ; (c) Pronunciation.
 - (2) Geography in its relations to : (a) History ; (b) Discovery and commerce ; (c) The growth of the Empire, illustrated by lantern slides and other means.
 - (3) Encouragement of nature study.
- G. *Education of non-British Races.*
Comparison of ideals, methods and standards in various parts of the Empire.
- H. *Other subjects which may be discussed if time allows.*
- (A) Cadet corps and military training.
 - (B) Educational facilities in sparsely populated districts.
 - (C) Educational treatment of Poor Law and Reformatory children.
 - (D) Civic and moral Education.
 - (E) Metric System of Weights and Measures.
 - (F) School gardens.

DOMINION EDUCATIONAL ASSOCIATION.

Toronto, July 10—13, 1907.

PROVISIONAL PROGRAMME.

In order to reach the Easter meetings of the Provincial Associations, this provisional programme has been issued. The complete programme will follow shortly, and will contain all necessary information as to rates, side-trips, accommodation, registration, etc.

W. A. McINTYRE, Winnipeg, *President.*D. J. GOGGIN, Toronto, *Secretary.*

GENERAL MEETINGS.

Addresses of Welcome—Hon. R. A. Pyne, M. D., LL. D. ; President Hutton, M. A., LL. D.
 Replies—W. A. McIntyre, B. A., Winnipeg ; Supt. A. H. MacKay, M. A., LL. D., Halifax.
 The Nations Need—President W. A. McIntyre.
 The School and the Making of the Nation—Rev. J. A. MacDonald, Editor *Toronto Globe*.
 Modern Movements in Education—Supt. John Seath, M. A., LL. D., Toronto.
 The Old and the New Training—Chief Inspector J. L. Hughes, Toronto.
 Modern Trend of High School Education—Dean G. H. Locke, Ph. D., Macdonald College.
 The Place of the University in National Development—Prof. H. M. Tory, M. A., D. Sc.,
 McGill University.

- Scholarship and Service as University Ideals—Prof. F. Tracy, B. A., Ph. D., University of Toronto.
 The Making of the Nation—Rev. J. J. MacNeill, Toronto.
 The Educational Value, from a national point of view, of the Canadian Archives—Prof. Adam Shortt, M. A., Queen's University.
 Address—President Hutton, University of Toronto.
 Education for Rural Life in Canada—James W. Robertson, LL. D., C. G. M.
 Conversazione—University of Toronto.

HIGHER EDUCATION SECTION.

(President—Mr. R. A. Thompson, Hamilton.)

- The Ideal High School Teacher—Principal R. A. Thompson, B. A., Normal College, Hamilton.
 The Independence of the High School—Principal F. H. Schofield, B. A., Collegiate Institute, Winnipeg.
 The Relation of the High School to the College—Dean G. H. Locke, Ph. D., Montreal.
 What is the True Worth of the High School—A. W. Morris, M. A., Collegiate Institute, Hamilton.
 High School Training as a Preparation for Life—Principal D. Soloan, B. A., LL. D., Truro, Nova Scotia.
 English in the First Year of the High School—Prof. F. H. Sykes, Ph. D., Columbia University, N. Y.

INSPECTION AND TRAINING SECTION.

(President—Mr. S. E. Lang, Winnipeg.)

- President's Address—S. E. Lang, M. A., Normal School, Winnipeg.
 The Industries in Education—W. Pakenham, B. A., D. Paed., Dean of School of Education, University of Toronto.
 Relation of Normal Schools to Inspection and Training—T. E. Perrett, B. A., Principal Normal School, Regina.
 The Rural School Problem in Ontario—D. D. Moshier, B. A., B. Paed., Inspector Schools, Sarnia, Ontario.
 A Uniform System of Nomenclature for Classes in the Schools of the Different Provinces—A. Melville Scott, B. A., Ph. D., Supt. Schools, Calgary, Alta.
 The Teaching of Psychology to Teachers-in-training—A. H. Abbott, B. A., Ph. D., University of Toronto.

ELEMENTARY SECTION.

President—Mr. Montgomery Campbell, Montreal.

- Foundation work in Primary Education—J. P. Hoag, B. A., Inspector of Schools, Brantford.
 Home Economics—Mrs. Adelaide Hoodless, Hamilton, Ontario.
 Music in Public Schools—A. T. Cringan, Music Bac., Normal School, Toronto.
 Practical Manual Training—Chas. F. Errett, Brantford, Ontario.
 Art in Public Schools—Miss Jessie Semple, Supervisor Drawing, Toronto.
 Influences making for permanent Canadian Nationality—Wm. Houston, M. A., Toronto.
 First Essentials in Education—Supt. D. McIntyre, M. A., Winnipeg.

KINDERGARTEN SECTION.

President—Miss McIntyre, Toronto.

- New Developments in Kindergarten Work—Miss McIntyre, Director of Kindergarten Normal School, Toronto.
 Stories and Story-telling—Miss Mary Adair, Girls' Normal School, Philadelphia.
 Development of Artistic Expression—Miss Ada Baker, Normal School, Ottawa.
 Practical Problems Encountered in Establishing Kindergartens in New Districts—Round Table Conference.
 Supervision of Kindergartens and Criticism of Students' Work—Miss Geraldine O'Grady, Supervisor of Kindergartens, Brooklyn.
 Address—Miss L. Currie, Supervisor of Kindergartens, Toronto.
 (Owing to the kindness of the University of Toronto, all meetings will be held in the University buildings.)

NORMAL INSTITUTE FOR EASTERN COUNTIES.

At Antigonish, 21st to 26th Oct., 1907.

At a meeting of the Executive Committee of the Teachers' Normal Institute for the Island of Cape Breton and the counties of Antigonish and Guysboro, held at Mulgrave on April 5th, it was decided to hold the Institute, for this year, at Antigonish during the week beginning Monday, October 21st. On account of the facilities offered by the well-equipped laboratories of Antigonish Academy, it was considered advisable to conduct classes in Physics, in addition to the Normal teaching of the subjects of the common school course.

Copies of the general program and of the time-table can be obtained, on application, from the Chairman, A. G. Macdonald, Antigonish, or from the Secretary, E. B. Smith, Esq., Principal of Port Hood Academy.

THE MEDICAL EXAMINATION OF SCHOOL CHILDREN.

As the School Law has been amended by the Legislature this session, so as to allow school boards to make provision for the free examination of pupils wherever it may be desired, the following abstracts of papers or reports of speeches explaining the movement are published here for the information of teachers and trustees of schools.

The specific statements of the Supervisor of the Halifax schools respecting conditions found in two schools there, which were published in the Halifax daily papers, may be assumed to have been already seen by the school authorities in the more progressive sections.

ON THE IMPORTANCE OF THE PERIODICAL EXAMINATION OF THE TEETH OF CHILDREN ATTENDING THE PUBLIC SCHOOLS.

By Dr. Hibbert Woodbury, Halifax.

The face is more than any or all others the part upon which the soul throws its lights and shadows, through which it speaks. And the mouth is the facial point. The importance of facial expression upon the character and happiness of the individual is very marked. For illustration let us consider two of the common causes of facial distortion. One the receding lower jaw and teeth accompanied by protruding upper teeth and maxilla, so often caused by finger sucking in early childhood. This condition gives to the face a weak expression, and is generally attended by the injurious habit of mouth breathing. The second illustration is just the reverse. Protruding lower maxilla and defective development of the superior arch. The latter condition is generally caused by malocclusion of the permanent teeth and appears between the ages of six and fourteen. This gives the prominent chin and bull-dog expression. Such ones could have had the pleasure of graceful expression and symmetrical profile if proper treatment had been resorted to.

As man is an omnivorous animal, with the incisors of the rodent, the canines and bicusps of the carnivora, also the molars of the herbivora he is calculated to live upon a varied bill of fare. We meet this complete dental equipment at the very portal of the alimentary canal. The proper incorporation of the saliva with the food is accompanied by thorough mastication. If any teeth posterior to the canines are missing or disappeared from decay just that much masticating surface is lost. Again we see the evil effects of decayed teeth, and the accompanying unsanitary condition of the oral cavity upon the throat and lungs. More and more is the watchword "pure air." We all know that a large percentage of the air inhaled is taken directly through the open mouth. Let us think of cavities of decay a cesspool more or less septic. One with a mouth in that condition might be in the purest mountain air and yet every inhalation must of necessity be tainted. If this be so I leave it with the medical gentlemen present to draw their own conclusions as to the effect upon the throat and lungs.

Decay of the teeth may be caused by overcrowding. Imperfect tooth structure, abnormal condition of the fluids of the mouth, sluggish circulation of the saliva, due to its viscid character holding particles of food in contact with the teeth long enough for fermentation to take place, that mouth is a kind of still water where drift stuff gathers.

The care and preservation of children's teeth may be brought about by enlightening those whose duty it is to look after the welfare of the young. Much can be accomplished by instructing and interesting our school teachers.

If cleanliness be next to godliness that surely should apply to the mouth.

Without giving here any specific rules for the care of children's teeth, we may indicate some of the ground to be covered. The proper use of the tooth brush and suitable dentifrices. When to be used. Teaching the children to frequently examine their teeth with a mirror and in this way learning to prize the natural teeth. The importance of treatment in the early stages of decay. In fact the prophylactic treatment rather than remedial of the mouth and teeth.

Some countries in Europe are giving this matter careful attention. The cities of Strassburg and Darmstadt have most complete rooms and equipments for this purpose of examining children's teeth and go so far as the treatment. The matter is receiving attention in many States in the Union.

At the Nova Scotia Dental Association held in 1906 a Committee was appointed with this matter in charge. The subject was presented to the Provincial Teachers' Association held in this City in 1906 and was favorably received. It is also hoped that legislation will be secured leading to the dental inspection of school children's teeth. This convention is evidence of the growing and deepening interest taken by men of different callings in the health of our people. Recognizing that the young life of our country is the most valuable asset we have, we are confident that healthy environment will go far in producing clean living.

"THE RELATION OF CERTAIN EYE CONDITIONS TO SCHOOL CHILDREN."

By Dr. R. Kratt Mathers, Halifax.

When Dr. Reid asked me to read a short paper of ten minutes' duration on "The relation of certain eye conditions to school children," I felt I could hardly do justice to such a subject in so short a time; but perhaps a hasty skimming over the various diseases and refractive errors may, I trust, prove of some value.

The idea of this paper will be merely to mention the diseases and briefly to touch on the signs and symptoms which children manifest, so that we may not pass over the things which seem trifling, but which may eventually lead to some serious condition.

It seems pitiable the way children's eyes are neglected and how they are allowed to suffer and often lose useful sight for want of a little care and thought.

Squint.—How often is this unsightly deformity neglected by the parents, simply because they have a dread of an operation, when very often such is quite unnecessary, as a careful fitting of glasses under a mydriatic would correct this deformity, and, if not taken too late, save useful vision in the squinting eye which otherwise would become about useless from non-use. If an operation is found to be necessary, not only the cosmetic effects, but also the vision will be found to be greatly improved in time. Besides glasses, the stereoscope may be utilized to strengthen the muscles of the eye.

Hyperopia and Astigmatism, separately or in combination, are frequently found. The teacher may consider these children stupid, simply because they will not study. The reason in the vast majority of cases being that near work is rendered fatiguing and causes severe headache. These children are often peevish and irritable. A proper correction of these refractive errors under a mydriatic (it is useless otherwise) will relieve the pain and make them different children. They often suffer from blepharitis, hordeolum and blepharospasm.

Myopia—This most serious eye disease should be carefully watched. It is due to the elongation of the globe, and may sometimes be detected by prominence of the eye. If a person complains of specks in front of the eyes, screws up the eyelids and is troubled with conjunctivitis, which resists treatment, myopia should be suspected.

Children who suffer with this affliction should have their eyes examined and refracted at least once a year. They should be given their full glass correction where possible, and made wear their glasses continuously, so as to do away with all eye-strain, and thus help prevent the myopia increasing. They should be given front desks in school with the best light, their studying, of which myopes are usually very fond, should be restricted, and they should be made to take regular out-door exercise, the general health looked after and all extra reading prohibited. Reading in bed is a very bad habit that some of these children have.

Blepharitis.—Hyperopia or astigmatism should be suspected in this disease. It is often met with in delicate children or may follow an attack of measles or scarlet fever; also it may be seen with an eczematous eruption on the face. Corneal ulcers and phlyctenular conjunctivitis are not infrequent complications.

Phlyctenular Conjunctivitis.—This condition is usually accompanied by pain and photophobia. The children suffering from this disease are usually in poor health and have some nasal or postnasal trouble which should not be forgotten in the treatment, as it will in the majority of cases hasten the cure. One must not be content with an examination on the child, but must enquire very carefully into the conditions in which the child is living, as the poor ventilation of the home and the overcrowding in the sleeping apartments is a great factor in the causation of this disease.

I would like to mention one or two cases which show how much damage may be done to children's eyes by neglect of parents who had been advised to bring their children in for re-examination and also for operation and had failed to do so.

Case One—Child age 8, had a squint in the right eye with vision 15-120; left eye normal; operation was advised but refused. The child was brought in four years later and complained that she could not see out of left eye that was normal before. On re-examination the vision in the right eye was practically gone, the left eye had become very myopic from strain and overuse and by the extra strain from the child being allowed to read in bed.

Case Two—Little girl aged 6 when I first saw her, but two years previous to this the father had consulted me about a squint, which he said the child had developed a few weeks before. I advised him to bring her in for examination at once. This he neglected to do for two years, till the squint had become very pronounced. The vision then in the squinting eye was only 3/200. On testing the child's eyes they were found to be very hyperopic. Glasses and muscle exercises were ordered, with the result that in a short time the squint was cured but the improvement in vision in the squinting eye was only about a third of normal.

MEDICAL EXAMINATION OF CHILDREN.

(From an address on the 22nd of last December in Melbourne, Australia, by Sir John Corst, late vice-president of the Council of Education, Great Britain).

Another great question is the regular medical examination and inspection of school children. In Victoria, with your compulsory attendance laws, you have assembled in your classes the whole of the next generation of your people. You have a rare, a unique opportunity to test and examine the health of your people. No way in the world could be more accurate or more timely. If there is anything in your social order which tends to the deterioration of the race, here you find it out directly. If there is any remedial measure to be taken to improve your race, here you can apply it. Many diseases, many ailments, which after full growth are incurable and irremediable, can be cured in childhood. Besides this care of your rising generation, you can prevent the spread of infectious diseases. The bodies of ill-fed, ailing and weakly children are the great nurseries of the microbes which are the source of almost all diseases. Take in particular tuberculosis which, turning into phthisis, carries off so many young men and women. Its microbe is developed more easily and freely in the bodies of ill-to-do young children than in any other place. An examination of such children would insure their segregation until cured, and would do more than anything else to stamp out the disease. What an economic advantage is thus to be gained! Do not fall into the error, because the population of Victoria is well-to-do and parents can feed and clothe their children sufficiently, that that shuts out the necessity for examination. Examinations made in Britain and elsewhere have shown that there is an immense amount of hidden disease among the children of well-to-do people.

(From "The Doctor in the Public School," by John J. Cronin, M. D., in the American Monthly Review of Reviews for April).

We have shown beyond peradventure that physical defects exist in about sixty per cent. of all school children in New York; that in most cases these defects are remediable by proper treatment, and that the early discovery of these defects is the prime factor in the maintenance of the health of the school children and in enabling them to pursue their studies.

We have shown, furthermore, that backward, mentally deficient and truant children can be vastly improved by the early recognition of physical infirmities which underlie their mental or moral defects, and that by appropriate treatment, if applied early enough, we can save these children from illiteracy, from drudgery in factories at small wages, or from an almost inevitable criminal career.

In view of these facts, what can be more important than a systematic individual physical examination of every school child, at stated periods, and what can be of more lasting benefit than the early application of the proper treatment in all cases in which physical defects are found?

PUBLIC SCHOOL SANITATION.

PROVINCIAL HEALTH OFFICER'S CIRCULAR TO PUBLIC SCHOOLS.

To the Teacher :

The poisons of some of the common and also of some of the most loathsome diseases are frequently contained in the mouth. In such cases anything which is moistened by the saliva of the infected person may, if it touches the lips of another, convey disease. The more direct the contact the greater the danger.

It is the purpose of health officials to keep in isolation all persons having communicable disease during the time that they are infectious. But in many cases this is impossible. Little restraint is put on certain mild diseases as measles, whooping cough, chicken pox and mumps, and even such diseases as diphtheria, scarlet fever and tuberculosis are frequently so mild as to be unnoticed, and children affected with them mingle freely with others. It is probable that in such cases one of the chief vehicles of contagion is the secretion of the mouth and nose. It is believed that much can be done to prevent contagion by teaching habits of cleanliness. But if such instruction is to be effectual it must be continuous. The teacher must notice and correct violations of these rules as habitually as the violation of the more formal school rules are corrected.

When the floors are swept, wet sawdust (not wet enough to wet the floor), should be sprinkled on the floor in front of the broom, as it will collect the dust and prevent it from rising, leaving the floor clean and dry. The custom of sprinkling water on the floor before sweeping is to be avoided, because where the drop of water falls the dirt is fixed to the floor and is very imperfectly removed by the broom. When the floor dries it is but little better than it was before it received attention.

The janitor or caretaker should at least once a week go over the walls, window and door casings, ledges, corners, etc., with a cloth DAMPED (preferably in any disinfecting solution), even with plain water, so as to remove all the adhering dust. *Cloth wants to be very damp.*

Even if the question of disease and contagion did not enter into the matter at all the subject ought to be given more attention by teachers. Our schools should not only teach reading, writing and arithmetic, but it is perhaps quite as important that they should inculcate cleanliness, decency, refinement and manners. Cleanliness should be taught for its own sake, even if it had no relation whatever to health.

CHILDREN SHOULD BE TAUGHT

to wash the hands and face often, and keep their person and clothing clean; for if one should then be taken down with a communicable disease there will be less danger of infecting other pupils or things.

They should also be taught the reasons of the following rules, and carefully watched and directed until all objectionable habits are lost and replaced by good habits. This duty is really the most important work of the teacher, and should be done even should the teaching of the book lessons be delayed.

TO BE PLACED IN EVERY CLASS ROOM AND GIVEN TO EVERY PUPIL.

Remember These Things.

- Do not spit if you can help it. Never spit on a slate, floor, or sidewalk.
- Do not put the fingers into the mouth.
- Do not pick or wipe the nose on the hand or sleeve.
- Do not wet the finger in the mouth when turning the leaves of books.
- Do not put pencils into the mouth or wet them with the lips.
- Do not put money into the mouth.
- Do not put pins into the mouth.
- Do not put anything into the mouth except food and drink.
- Do not swap apple cores, candy, chewing gum, half eaten food, whistles or bean blowers, or anything that is put in the mouth.
- Do not drink out of the common drinking cup before allowing some of the water to run over the edge of the cup that is to be applied to the lips.
- Never cough or sneeze in a person's face. Turn your face aside.
- Keep your face and hands clean; wash the hands with soap and water before each meal.

A. P. REID, M. D.,
Provincial Health Officer.

TO SCHOOL TRUSTEES.

(DUST AND DIRT IN THE SCHOOLROOM.)

Physicians and scientific men have for years been studying dust, and its effect in causing disease. They have gathered it in schools, public buildings and dwelling houses, have examined it under the microscope, added it to substances in which germs will grow, have compared these germs with those known to cause different diseases, and have found it to be one of the great disease carriers.

The finest and lightest dust which cannot be seen by the naked eye, or can only be seen as motes when a beam of sunshine passes through the room, is by far the most dangerous.

Many scores of times the dust collected in various places has been administered to animals (fed to them, injected into the lungs or under the skin), with the result that sickness or death followed—according to the germs present.

It is well-known that consumption of the lungs (tuberculosis), that great scourge of the human race, is spread by means of dust, and in hardly any other way. The dust of a room in which a consumptive has been spitting about the floor is more deadly than arsenic or strychnine, and injected under the skin of an animal causes it to die of tuberculosis in a few weeks. If the dust is breathed by a human being, he is very likely to contract the disease and die.

Other disease germs are carried in the same way, and it has very often happened that dust carried to a child's mouth by his fingers or breathed in from the air has formed the starting point to a case of fatal illness without the parents, or perhaps even the physician, suspecting the true origin.

Nor is this all. Dust in any form, breathed in day after day for years, irritates and inflames the delicate tissues of the child's lungs, until like a well-ploughed, well-manured field, they become a favorable growing ground, so that when germs are inhaled, instead of being starved out as they often are in healthy tissues, they flourish exceedingly and the child sickens, suffers and dies.

These are not dreams but facts, proved many times over by men whose whole lives are given to studying and fighting disease, and I would earnestly ask your sympathy and help in seeing that the following rules are observed, and if we succeed in preventing even a little sickness, and in saving even one life, we shall have had our reward.

DIRECTIONS FOR THE CLEANLINESS OF THE SCHOOLROOM.

I. *Have the Schoolroom, Halls and Entries swept every day.*

NOTE.—Every good housekeeper sweeps her house every day. How much more necessary is it in a building where many children are crowded together for six hours a day, and into which dirt and germs are dragged from every part of the section.

II. *Raise the windows while sweeping, and keep them raised for some time afterward.*

NOTE.—By keeping the windows open much of the dust will blow out.

III. *Before sweeping sprinkle the floor with damp sawdust; don't use water.*

NOTE.—Sawdust is the best substance, and can generally be easily obtained and kept in barrels. It keeps the dust from rising and settling again after the room is swept. Sprinkling with water simply binds the dust to the floor, ready to rise again as soon as dry.

IV. *At least an hour before school opens the schoolroom should be carefully dusted, especially the tops of desks, seats, window ledges, etc.*V. *The schoolroom should be thoroughly scrubbed at least every month.*

NOTE.—If scrubbing, perhaps every week, is necessary in our homes, how much more so in our schoolrooms, where there are so many to drag in dirt. Besides, dust is even more dangerous to children than to grown persons.

VI. *Once a year the walls, floors, desks, etc., should, after being scrubbed, be wetted over with a mixture of carbolic acid and water, four teaspoonfuls of the acid to a pint of water.*

NOTE.—Such a cleansing of the schoolroom would kill all germs, and if this could be done at the Christmas vacation (germs are more virulent in winter) it would go far toward the health of the school.

TO TEACHERS.

Post a copy of the "Health Rules for Pupils" where it can be easily read.

Give a series of short lessons on these rules and the reasons for them.

Check the practices therein condemned. Make frequent reference to them and, as far as possible, see that they are observed.

Read carefully the "Circular to Trustees"—talk it over with them and assist in carrying it out.

Try and persuade the physician of the section to impress upon the ratepayers the connection of dust and dirt with disease and to advocate the more frequent scrubbing and sweeping of the schoolroom.

See that the water bucket is thoroughly scrubbed every week. Get a cover for it in order to keep out the dust.

NOTES ON "HEALTH RULES FOR PUPILS."

The following brief notes are given so that the teacher can explain and apply the rules more intelligently.

The germs which cause tuberculosis (consumption), pneumonia, lagrippe, diphtheria and many other diseases are found in the saliva, especially when mixed with secretions or discharges from the nose, throat or lungs. It is not uncommon for these diseases to exist in so mild a form that the child is hardly sick and yet such cases are capable of spreading the disease. The spit mixes with the dust on the floor, becomes dry, the germs are set free, rise in the air, enter the lungs and cause the disease.

Children are not careful as to what they handle and their chances of acquiring disease are much increased by putting their fingers into their mouths.

The long passage from the nostrils to the lungs gives off and is constantly wet with a sticky secretion, the object of which is to strain the dust, disease germs and other foreign substances from the air before it reaches the lungs. It will be readily understood that this secretion, even from a healthy person, might contain disease germs.

Both paper money and coins are capable of carrying dangerous germs. Remembering that money is frequently handled by persons affected with the most loathsome diseases, the necessity of this rule will be at once understood.

The intelligent teacher will be able to apply the principles given above to all the rules, and show the pupils the great necessity of observing them.

TO THE TEACHER—The carrying out of the directions for the cleanliness of the schoolroom and the health of the pupils depends almost entirely on you. Let your own desk be a model of cleanliness and neatness. Put into practice yourself the rules given for pupils. Your example in these respects will carry more weight with the pupils than anything else.

Should your schoolroom become dirty or the outbuildings and premises be in an unsanitary condition, through the neglect of the trustees or those in charge, do not fail to report to your Inspector at once.

EDUCATIONAL LEGISLATION, 1907.

[For the legislation from the issue of the Manual of School Law, 1901 to 1906, see the JOURNAL OF EDUCATION, April, 1906.]

NOVA SCOTIA TECHNICAL COLLEGE.

An Act relating to Technical Education.

(Passed the 25th day of April, A. D., 1907.)

SECTION.	SECTION.
1. Citation.	14. When established.
2. Director.	15. Rules and regulations.
3. Duties of Director.	16. Instructors.
4. Gov.-in-Council may accept gifts for objects of this Act.	17. Maintenance.
5. When established.	18. Schools for miners.
6. Name of institution.	19. Purposes.
7. Power to borrow.	20. Supervision.
8. Rules and regulations.	21. Instructors, how appointed.
9. Principal of institution.	22. Instruction free.
10. Appointment of professors.	23. Examinations free.
11. Teaching staff.	24. Expenditure, how provided.
12. Annual expenditure, how defrayed.	25. Regulations.
13. Local schools.	26. Act repealed.

Be it enacted by the Governor, Council, and Assembly, as follows:—

Citation. 1. This Act may be cited as "The Technical Education Act."

DIRECTOR OF TECHNICAL EDUCATION.

Director. 2. (1) The Governor-in-Council may appoint a person to be Director of Technical Education, who shall be an officer of the Council of Public Instruction, and shall be paid such annual salary (and receive such allowances) as the Governor-in-Council determines.

(2) The Council of Public Instruction shall, upon the recommendation of the Director, provide the Director with such assistants as may be found necessary, and shall define their duties and fix the salaries they shall receive.

3. The duties of the Director of Technical Education shall be as follows:— Duties of Directors.

(a) To exercise general supervision over the conduct and management of all schools established or carried on under the provisions of this Act;

(b) To report to and advise the Council as to all matters relating to engineering, mining and industrial education;

(c) To promote the establishment and efficiency of local technical schools and other schools under his supervision;

(d) To report annually to the Legislature on the state of technical education in the province, and as to the condition and efficiency of the schools under his supervision, with detailed accounts of the expenditure of the moneys appropriated for the support of the same;

(e) Such other duties as the Council of Public Instruction from time to time prescribes.

4. The Governor-in-Council, on behalf of the province, may accept, take, hold and administer any gifts, bequests or devises of real or personal property of every kind which may be made for the furtherance of any of the objects of this Act. Gov.-in-Council may accept gifts for object of this Act.

TECHNICAL COLLEGE.

5. There shall be established at Halifax an institution for the purpose of affording facilities for scientific research and instruction and professional training in civil, mining, mechanical, chemical, metallurgical and electrical engineering or any other departments which may from time to time be added. When established.

6. The institution shall be called the Nova Scotia Technical College. Name of institution.

7. The Governor-in-Council is hereby authorized to borrow a sum not exceeding \$100,000, and to expend the same in securing a site, erecting a building and in providing Power to borrow.

adequate apparatus, plant, books, materials and appliances for the purposes of said institution.

Rules and regulations.

8. The Council of Public Instruction may from time to time make such rules and regulations as it deems expedient for the efficient conduct of the said institution, and may amend or repeal the same.

Principal of institution.

9. The Director of Technical Education shall be the principal of the said institution.

Appointment of Professors.

10. The Council of Public Instruction shall, upon the recommendation of the principal, appoint such professors and instructors as the Council considers requisite for the purposes for which the institution is established.

Teaching staff.

11. (1) The members of the teaching staff of the institution having the rank of professors, and such representative of any university of the province or elsewhere as the Council may select, shall constitute a body corporate, under the name of the Nova Scotia Technical College.

(2) The said corporation shall have power to grant such degrees as it may determine, to prescribe the several qualifications therefor, the course of study to be pursued in the several departments, and in respect to all matters of discipline and all matters connected with the educational work of the institution shall have the conduct and control thereof.

(3) In the event of any part or parts of the course of study prescribed for the said institution for the first and second years being included in the educational work done in the universities recognized by the Council in this province or elsewhere, the Council of Public Instruction shall exclude such part or parts from the course of study of the said institution.

(4) The principal shall report from time to time the proceedings of the corporation to the Council of Public Instruction, and the Council may modify or reverse any action or ruling taken or made by the corporation.

Annual Expenditure, how defrayed.

12. The annual expenditure incurred in connection with the institution shall be defrayed out of the provincial treasury.

LOCAL TECHNICAL SCHOOLS.

13. The Governor-in-Council may from time to time ^{Local schools.} establish, in such places as it may be deemed advisable, local technical schools to furnish industrial education of such character and extent as will most effectively meet the requirements of the population and industries of the locality.

14. No such local technical school shall be established <sup>When estab-
lished.</sup> until the necessity or desirability thereof, the amount of local aid to be furnished, the facilities which can be afforded and the advantages to be derived have been reported upon by the Director of Technical Education, and he has recommended the establishment of such school.

15. (1) The Council of Public Instruction may make <sup>Rules and
regulations.</sup> such rules and regulations as they deem advisable for the support, conduct and management of the school.

(2) Subject to such regulations the Council may associate the Board of School Commissioners of the place in which the school is established, or a committee thereof, or any other person or persons with the Director in the management of any local technical school.

16. The Council of Public Instruction shall, upon the ^{Instructors.} recommendation of the Director, appoint such instructors as may be required for the carrying on of such schools and shall fix their salaries.

17. Such sums as may be required in addition to the ^{Maintenance.} local aid provided, for the establishment and maintenance of the local technical schools shall be paid out of the provincial treasury.

SCHOOLS FOR MINERS.

18. The schools of instruction for miners established <sup>Schools for
miners.</sup> under the provisions of chapter 22 of the Revised Statutes, 1900, "Of Schools of Instruction for Miners," are hereby continued and hereafter the establishment and maintenance of such schools shall be under the direction of the Council of Public Instruction.

19. Such schools shall be for the purpose of instructing ^{Purposes.} persons who wish to prepare themselves to undergo examination by the board of examiners for the purpose of

obtaining certificates of competency as underground managers or overmen or stationary engineers, under the provisions of "The Coal Mines' Regulation Act," and amendments thereto.

- Supervision.** 20. All such schools shall be under the supervision and control of the Director of Technical Education.
- Instructors, how appointed.** 21. (1) The instructors in such schools shall be appointed by the Council of Public Instruction upon the recommendation of the Director.
- (2) Such instructors shall be paid such salaries as the Council determines.
- Instruction free.** 22. No teacher in any such school shall take from any intending candidate any fee for the instruction given by him; provided, however, that this provision shall not apply in the case of any person desiring instruction but not contemplating examination for a certificate.
- Examination free.** 23. No fee shall be charged by the board of examiners to candidates who have been prepared at any school established or continued under the authority of this Act.
- Expenditure, how provided.** 24. All expenditure necessary for the establishment and maintenance of said schools, including buildings, rent, apparatus, instruments, instruction, fuel, light and incidental expenses shall be defrayed out of the provincial treasury on the certificate of the Director of Technical Education.
- Regulations.** 25. The Council of Public Instruction may from time to time make such regulations as are necessary or expedient for the conduct and management of said schools, and may amend or repeal the same.
- Act repealed.** 26. Chapter 22 of the Revised Statutes, 1900, "Of Schools of Instruction for Miners," is repealed.

EDUCATIONAL AMENDMENTS, 1907.

**An Act to amend Chapter 52, Revised Statutes, 1900,
"The Education Act."**

(Passed the 25th day of April, A. D., 1907.)

SECTION.

1. Sub-section 1, section 23 amended.
2. Sub-section 2, section 23, amended.
3. Sub-section 1, section 24 amended.
4. Sub-section (b), section 55 amended.

SECTION.

5. Section 77 amended.
6. Section 99 amended.
7. Chapter 7, acts of 1907 amended.

Be it enacted by the Governor, Council, and Assembly, as follows:—

1. Sub-section one of section twenty-three of chapter 52 of the Revised Statutes, 1900, "The Education Act," is amended by inserting the word "resident" before the word "ratepayers" in the first line. Sub-section 1, section 23 amended.

2. Sub-section two of said section twenty-three is amended by inserting the word "resident" before the word "ratepayers" in the second line. Sub-section 2, section 23 amended.

3. Sub-section one of section twenty-four is amended by striking out the word "of" in the fifth line and inserting in the place thereof the words "residing in." Sub-section 1, section 24, amended.

4. Sub-section (b) of section fifty-five is amended by striking out of the third line the words "or unlicensed" with the brackets enclosing the same. Sub-section (b), section 55 amended.

5. Section seventy-seven is amended by adding the following sub-section (gg):— Section 77 amended.

(gg) "Any necessary expense for the periodical dental and general medical examinations of the pupils attending school."

6. Section ninety-nine of chapter fifty-two of the Revised Statutes, 1900, "The Education Act," and all Acts in amendment thereof, are repealed and the following substituted therefor:— Section 99, amended.

99. (1) If, in any school section where sectional assessment is required to support a free public school, no provision is made at the annual meeting for the support of a school

for the ensuing year, or if no annual meeting has been held, or if the provision made at said annual meeting proves to be insufficient to have a school provided and opened before the twentieth day of September in any year, the committee of the District Board appointed under section thirteen of the Education Act shall, when notified by the Inspector that any section is without a school for any of the above reasons, appoint not more than three trustees in the said section interested in the keeping school open, and they shall thereupon be and become the trustees of the said school section with all the powers and authorities vested in trustees under the Education Act in the place of the trustees, if any, elected by the ratepayers, whose duties shall, during the remainder of said school year, be suspended.

(2) The said trustees or trustee so appointed, shall forthwith estimate and name the sum of money which they deem sufficient for the support of a school for the remainder of the current school year, and shall submit their estimate to said committee for its approval, and when so approved of, the amount thereof shall be communicated to the Inspector by the said committee in writing.

Provided, however, that if the committee of the District Board is unable to secure desirable trustees or trustee, they shall notify the Inspector of that fact, in which case the Inspector shall have all the powers of trustees for the school section as provided in this section, and shall forthwith estimate and name the sum of money which he deems sufficient for the support of a school for the remainder of the current school year, and shall submit his estimate to the said committee for its approval as above provided for, which approval shall be communicated to the Inspector by the said committee in writing.

(3) The Inspector shall certify the said sum to the municipal clerk who shall levy the said sum so fixed on the section in the same manner as if it had been voted for school purposes at a regular school meeting called for the purpose, and shall prepare a collectors' roll for the collection of the same. The regular municipal collectors shall collect such rates and taxes in the same manner and with the same remedies and for the same remuneration as in the case of other municipal rates and taxes and shall return the same to the municipal treasurer.

(4) The amount so collected shall be paid on the order of the Inspector to meet the necessary expenses for the support of a public school in the said section.

7. Section one of chapter seven of the Acts of 1906, Chapter 7, acts of 1906 entitled an Act to amend chapter fifty-two, Revised Statutes, amended, 1900, "The Education Act," is amended by adding thereto the following section:—

128. "Such school boards, municipal councils and trustees are hereby empowered to enter into any agreement with any annuity company to undertake the payment of such annuities under such agreements as may be approved by the Council."

REGULATIONS OF C. P. I., 1907.

SCHOOL THROUGH SUMMER VACATION.

(C. P. I., 22nd February, 1907.)

Ordered, That on the recommendation of the Inspector, the Superintendent of Education may allow schools closed during the earlier portion of the school year on account of the impossibility of obtaining a regularly qualified teacher, to continue the school during the summer vacation, so as to make up any portion of the time of teaching lost, provided a special return be sent in to the Inspector for the time taught during the said vacation period, and that the public grants shall become due on the said special return at the end of the following half school year.

CONVEYANCE OF PUPILS TO CONSOLIDATED SCHOOLS.

(C. P. I., 26th April, 1907.)

Ordered, That in the case of consolidated school sections where the conveyance of pupils more than two and one-quarter miles from school is necessary, it shall be deemed sufficient to provide satisfactory conveyance of these distant pupils to and from a point not much exceeding one and one-half miles from the school, or the same distance one way towards the school in the morning, or towards the pupils' homes in the evening—sufficient time to be allowed for the pupils to be "in time." No contract for the conveyance of pupils can be completed by the school trustees without the formal approval of the Inspector of Schools and of the Chairman of the District School Commissioners.

SYLLABUS AND CERTIFICATES OF M. P. Q. EXAMINATION.

The last five lines of Regulation 107, from "(1) School Law and Management..... to....." "no paper below 30," and the whole of Regulation 115, shall on and after the first day of August, 1907, stand repealed, and the following simplification of the minimum professional qualification syllabus and alterations of the certificates shall come into effect in their stead.

The questions set for the minimum professional qualification examinations shall be on the following syllabus :

1. *School Law and Forms.*
 - (a) The Acts of the Legislature and Regulations of the Council of Public Instruction bearing on public education, with their latest amendments, and a knowledge of the way in which the law is to be administered.
 - (b) The proper keeping of the School Register, the making out of neat and accurate school Returns, and a knowledge of all the ordinary forms required by school boards in administering the affairs of the section.
2. *Theory and Practice of Teaching.*
As in Calkin's "Notes on Education," or any equivalent.
3. *Hygiene and Temperance.*
As in Knight's "Introductory Physiology and Hygiene," the Education Act and Regulations, and the text books prescribed for the public schools.
4. *School Management.*
As in *Lectures on Teaching*, by Sir Joshua Fitch.
5. *History of Education.*
As in *Educational Reformers*, by Quick, or an equivalent.

For *Third Rank M. P. Q.*—An aggregate of 150 on 1, 2 and 3, with no subject below 30 per cent.

For *Second Rank M. P. Q.*—An aggregate of 250 on 1, 2, 3, 4 and 5, with no subject below 40 per cent.

For *First Rank M. P. Q.*—An aggregate of 300 on 1, 2, 3, 4 and 5, with no subject below 50 per cent.

RURAL SCIENCE SCHOOLS AND GARDENS.

Regulation 36, pages 66 and 67 of the "Manual of School Law, Nova Scotia, 1901," has been repealed and the following substituted in its stead:

36. Rural Science Schools and Gardens:—To qualify under section 69 of chapter 52 of the Revised Statutes of 1900, the teacher of a school must have an Agricultural or Rural Science diploma as specified in the clauses following, and must notify the Inspector at the opening of the school each year of the classification to be competed for—"superior," "good" or "fair" of the Statute, which are the equivalent respectively of "A₁," "A₂" and "A₃" of Regulation 34 preceding:

(1) The "Agricultural diploma" shall be known hereafter as the "Rural Science diploma" and shall be awarded hereafter to First Rank graduates of the Provincial Normal School, who subsequently to graduation have completed with credit a prescribed course conducted by the science instructors of the affiliated institutions in Truro.

(a) The course of study for the Rural Science diploma shall extend through at least fourteen months, requiring the candidates attendance during a summer term of six weeks (July and August) and a following term, beginning the first week of March and ending with the ensuing summer term, and requiring in addition during the August to March interim, reading and practical investigation prescribed by the instructors of the affiliated institutions.

(b) As an alternative candidates shall be held to be qualified for the diploma who have completed with credit four summer terms of at least six weeks as well as the prescribed interim work.

(c) In general, candidates shall not be admitted to the course in March unless they have already completed a summer term and the prescribed interim work.

(d) The course of study for the rural Science diploma shall comprise:—
Applied Chemistry: especially laboratory investigation of the chemistry of the air, of the soil, of plants and of plant food; of the chemistry of household processes; of physiological chemistry.

Applied Physics: especially weather phenomena and the phenomena of radiation, conduction, convection as bearing on ventilation, air-drainage and agriculture; texture of soil, percolation, capillarity, and other problems of soil-physics; transmission of fluid pressure, and problems of water supply; simple astronomical phenomena.

Geology: field-work in the study of surface phenomena and of the dynamics of the earth; minerals, their distribution, properties, uses, chemical composition.

Biology: plants and animals studied in the concrete, especially the ecology of those plants, animals, birds, insects and bacteria which play important parts in the economy of nature.

Horticulture. especially the management of school gardens, each student preparing, planting and caring for a plot of ground, making a hot-bed and a cold-frame, practising grafting, budding, layering and other methods of propagation.

(2) Any such licensed teacher intending to compete for classification as "fair," "good," or "superior," under section 69 of the Education Act, must give notice of this intention at the opening of the school to the inspector, who has at the end of each half-year to rank the school; and the lack of such notice shall be a disqualification even should all the other conditions be complied with.

(3) For the lowest rank "fair" the school should have the equipment specified in Reg. 51, a and b, must have a school garden of not less than one-eighth of an acre, one-third of which should be set off in beds 4 x 10 feet with walks 3 feet wide, the rest to be set out as an arboretum and shrubbery, part set out each year till all is planted, and a library of not less than 15 volumes in addition to the prescribed books of reference. The school must in all respects be conducted as a first-class school with special excellence in Nature Study.

(4) For the rank "good" the school should, in addition, have the equipment specified in Reg. 51, c and d, with a library of not less than 25 volumes, a well conducted school garden of one-fourth of an acre, one-third of which must be in beds as above, the rest arboretum and shrubbery as above, and must be conducted in all respects as a first-class school with good demonstrations in Nature Study done by the individual pupils and the school generally.

(5) For the rank "superior" the school should have, in addition to the requirements of the previous ranks, the equipment specified in Reg. 53, with a library of not less than

forty volumes, a school garden containing three-eighths of an acre, one-third of which should be set out in beds as above, the remainder as arboretum and shrubbery as above, with a special class of pupils doing advanced work in Nature Study of such a character as to be clearly advancing the industrial methods of the community in at least some department of agriculture, horticulture, forestry, etc.

(6) The "small" standard school garden should not be less than one-eighth of an acre (54445 square feet), one-half of which might be set out as an arboretum and shrubbery, the remainder being plowed each spring, then worked up by the pupils into beds of four feet by ten, separated by walks three feet broad. This arrangement would give one bed to each of thirty pupils. The younger pupils might be assigned in twos to each bed. The grounds should be prettily fenced and kept in good order, even during holidays, when they should be visited by relays of pupils at least once a week. Such a school garden might be recommended by the Inspector for ten, fifteen, twenty or twenty-five dollars per annum from the municipal fund, according to the excellence of the general condition of the school, provided the School Board spend at least as much on the plowing, fertilizing, etc., forming the annual current expense of maintaining the school in order, in addition to the labor of the pupils and teacher.

(7) The "medium" standard school garden should be about one-quarter of an acre on the average, one-half of which might be set out as an arboretum and shrubbery, and the remainder divided into fifty or sixty "four by ten feet" beds separated by three feet walks, to be conditioned on the same general principles as the "small" standard. This would be the size of garden desired for the rank "good" where possible, drawing \$15, \$20 or \$25, according to excellence, from the municipal fund.

(8) The "large" standard school garden should be over a quarter of an acre, with at least three times the number of "four by ten feet" plots recommended for the "small" standard, say from 75 to 100 individual beds. This would be the size of garden desired for the rank "superior"; drawing under the same general principles \$20 to \$25 from the municipal fund.

(9) A small shed for the garden tools, with a projection, glass-roofed, facing the sun, to serve as a miniature "hot-house" for forcing plants in spring, is a necessary part of any standard garden, a very cheap structure sufficing, especially for the "small" garden. The size, number and management of plots specified above are merely given as general directions when teachers or school boards have no other scheme which they deem superior. Any other arrangements approximating these conditions, but demonstrating novel or special advantages, or improvements, are not only allowable, but will be specially commended after a successful test.

(10) If the teacher or the secretary of the school board recorded under oath the attendance of pupils during the holidays in weeding and observing the beds, such time might be arranged through the Inspector to be substituted equitably, according to agreement, for an equivalent number of holidays during the winter or stormy weather of the school year following or the "days attendance" added.

(11) Inspectors may have to consult with each other, and perhaps exchange visits to the schools of each inspectorate, in order to be sure that the same standards of classification are maintained in each inspectorial division. The same conditions hold with respect to the inspection of Manual Training and Superior Schools generally. Notice of competition for school garden grants must be given to the Inspector at the opening of the school each year, and should be signed by the *Secretary* as well as the teacher.



JOURNAL OF EDUCATION.

APRIL, 1907.

OFFICIAL NOTICES.

The full number of legal teaching days in the half year, ended 1st February, was 105 ; in the second half year, ending 28th June next, there will be 103 days. Total teaching days for the year, 208.

CALENDAR, SUMMER, 1907.

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|-------|-----|--|
| April | 22. | Fourth Quarter of school term begins. |
| May | 10. | Arbor Day. |
| | 23. | Empire Day. |
| | 24. | Victoria Day (holiday), last day to apply for Provincial Examination. |
| June | 24. | Federal Conference on Education, London, England, opens. |
| | 31. | Inspector's List, Candidates, Prov. Exam., sent to Education Office. |
| | 24. | Regular Annual Meeting of School Sections. |
| | 27. | Provincial Normal School closing. |
| | 27. | County Academy Entrance begins. |
| July | 28. | Public Schools close for Summer Vacation. |
| | 1. | Dominion Day. |
| | 1. | Provincial examinations Grade XII, begin ; Last Day for Minutes of Annual Meeting sent to Inspector. |
| | 2. | Summer School of Science opens at Riverside, N. B. |
| | 3. | Provincial Examinations Grades XI, X, IX, begin. |
| | 6. | Last Day for Annual "Returns" sent to Inspector. |
| | 6. | M. P. Q. and Supplementary Examinations. |
| | 10. | Summer Courses at Normal School and Agricultural College, Truro, begin. |
| | 10. | Dominion Educational Association opens at Toronto. |
| | 16. | Last day for Inspectors' "Sheets" sent to Education Office. |
| Aug. | 19. | Summer School of Science at Riverside, N. B., closes. |
| | 1. | School Year begins. |
| Sept. | 12. | Optional opening of Rural Schools. |
| | 19. | Regular opening of Schools ; beginning of First Quarter of School Term. |
| | 2. | Labor Day (holiday). |
| | 3. | Normal School opens at Truro. |
| Oct. | 4. | First Monday of Second Quarter. |
| Nov. | | |

DISTRICT SCHOOL COMMISSIONERS.

(Appointed 13th February, 1907.)

Cape Breton.	Rev. B. M. Mullins, North Sydney.
Colchester, West.	Thos. D. Crowe, Portauquique. L. C. Layton, Great Village. John McInnes, Londonderry.
Inverness, South.	Rev. R. H. McPherson, Marble Mountain.
“ North.	Rev. G. J. Wilson, N. E. Margaree.

(Appointed 26th April, 1907.)

Cape Breton.	Rev. D. McDonald, Dominion No. 6.
Stirling.	Rev. Wm. Forbes, Tatamagouche.
Inverness, North.	Rev. Alex. McPherson, Broad Cove Chapel. Rev. J. W. A. Nicholson, Inverness. Wm. McKay, N Side, Whycocomah.
Inverness, South.	Rev D. J. Macdonald, Brook Village.
Kings.	J. Norman Robinson, Chipman's Corner. W. H. Woodworth, South Berwick.
Pictou, South.	John Underwood New Glasgow. John B. McKay, Stellarton.
Queens, North.	Jas. W. McLean, Thorburn. Jacob Waterman, Greenfield. W. C. McPherson, Greenfield. Taylor Freeman, Greenfield. Lewis Freeman, Greenfield.
Shelburne.	Rev. D. Stiles Fraser, Shelburne. Rev. Wm. Phillips, Shelburne. Dr. Joseph S. Morton, Shelburne. W. W. Atwood, Shelburne. Winthrop Bower, Shelburne. Charles Hayden, Jordan River. Alex. F. Harlow, Sable River.
Barrington.	Bertron Bower, Lower Ohio. J. Leander Swaine, Port Clyde. Daniel Matheson, Cape Negro. Jas. W. Smith, Baccaro. Jas. C. Snow, Pprt la Tour.

DATES OF MEETINGS OF BOARD OF DISTRICT SCHOOL COMMISSIONERS.

*Halifax, Rural	Wednesday, May 29th	Hants, West	Friday, May 17th.
† “ East	Wednesday, June 5th.	Hants, East	Wednesday, June 19th
“ West	Tuesday, June 18th.	Antigonish	Wednesday, May 15th
‡Lunenburg and N.		Guysboro	Wednesday, May 29th
Dublin	Saturday, May 4th.	St Mary's	Wednesday, June 12th
Chester	Saturday, May 11th.	Cape Breton	Tuesday, May 21st.
North Queens	Wednesday, May 15th.	Victoria	Tuesday, June 18th.
South Queens	Thursday, May 23rd	‡‡Inverness, North	Thursday, July 11th.
Shelburne	Wednesday, May 8th.	Inverness, South	Tuesday, June 18th.
Barrington	Friday, May 10th.	**Richmond	Wednesday, July 10th
Yarmouth	Tuesday, June 4th.	Pictou, South	Thursday, May 16th.
Argyle	Friday, June 7th.	Pictou, North	Friday, May 17th.
Annapolis, West	Monday, May 13th.	Parrsboro	Thursday, May 18th.
Annapolis, East.	Tuesday, May 14th.	Cumberland	Thursday, May 23rd.
Digby	Monday, May 27th.	Colchester, South	Tuesday, April 30th.
Clare	Tuesday, May 28th.	***Colchester, West	Tuesday, May 7th.
Kings	Tuesday, May 14th.	Stirling	Tuesday, May 14th.

*At Middle Musquodoboit. †At Sheet Harbor. ‡At Lunenburg. ‡‡Margaree Forks.
At St. Peters. *At Great Village.

DOMESTIC SCIENCE LICENSES, 1907.

29. Susan Kent, Truro, N. S.
30. Jean Patterson, Truro, N. S.

RURAL SCIENCE LICENSES, 1907.

1. Agnes Spencer, Great Village, Colchester County.
2. Harriet Carter, Truro, Colchester County.
3. Clara Davidson, Truro, Colchester County.
4. Maude Alice Brennan, Truro, Colchester County.

SCHOOL SECTIONS ON SECOND SCHEDULE, AUGUST, 1907.

Catalone, No. 65, Cape Breton. Cheverie, No. 20, West Hants.

SCHOOL SECTIONS, MARCH ANNUAL MEETING, 1907.

Irishvale, No. 98, Cape Breton.	East Port L'Herbert, No. 23, South Queens.
Cleveland, No. 28, Richmond.	Parker's Cove, No. 3, Annapolis West.
Balmoral, No. 31, Richmond.	South Belleville, No. 27, Argyle.
Seabright, No. 8, West Halifax.	Charlesville, No. 21, Barrington.
Smith's Cove, No. 35, East Halifax.	East Sable, No. 3, Shelburne.

ERRATA.

October JOURNAL, 1906, page 99, 1st column, 18th line, instead of "Sadie Jane Spares, 554 X," read "Gladys Una Smith, 554 X."
 October JOURNAL, 1906, page 103, 1st column, line 41, instead of "Moise Victor auCoin, 436 IX," read "Effie Ann LeBlanc, 436 IX."
 October JOURNAL, 1906, page, 106, 2nd column, under "XII., 'partial', Pictou," add "Barry F. Burgess, 928."
 October JOURNAL, 1906, page 111, 2nd column, under "XII., 'partial', Truro," add "Margaret Electa Maclellan, 706."

SPECIAL STATISTICS FOR 1907.

The *three* questions for columns 148, 149 and 150 in the *Register* and *Annual Return* are to be filled in this year as below. It is desired to know how many pupils attending school have had during school year any illness believed to be Measles, Scarlet Fever or Diphtheria. The blanks are to be filled, therefore, as follows:—

- | | |
|------|--|
| 148— | No. who had <i>Measles</i> during the School Year. |
| 149— | “ <i>Scarlet Fever</i> during the School Year. |
| 150— | “ <i>Diphtheria</i> “ “ |

NEW LEGISLATION, 1907.

The attention of teachers and trustees is directed to the preceding pages 102-109 containing the Amendment of the Education Act and the new Regulations of the C. P. I.

SANITATION IN THE SCHOOLS.

These instructions on pages 96-101, as well as all the other articles published, are important not only for teachers and trustees, but for candidates for the teaching profession. Public grants are not legally payable on account of schools where good sanitation is not maintained.

EMPIRE DAY.

The October JOURNAL, 1906, beginning at page 183, gives ample references to literature for the occasion. The *Witness*, Montreal, supplies flags on good terms for schools. Teachers should not forget to report briefly the character of the exercises to the Inspector. We need not forget also that our province was the first portion of the Empire to make Empire Day a fixed institution of the School system.

LEAGUE OF THE EMPIRE AND LORD MEATH PRIZES.

Those have been fully described on pages 184 and 185 of the last October JOURNAL, and need not be repeated here.

PUPILS' SCHOOL CORRESPONDENCE.

Teachers who wish to have their pupils linked in correspondence with pupils in other parts of the Empire, can be put in the way of doing so by communicating with

MRS. E. M. ORD MARSHALL, Hon. Secretary "League of the Empire,"
Caxton Hall, Victoria St., Westminster, S. W.,
London, England.

The League of the Empire is the most convenient institution through which to get into touch with other schools for general school correspondence, nature study correspondence, etc., as intimated in previous JOURNALS.

The *Federal Magazine* is published monthly by the League, and makes a specialty of communication with the schools of all parts of the Empire. It contains regular accounts of the progress of the preparation for the Federal Conference on Education in London from the 24th May to the 1st June, where the Education Departments of all parts of the Empire will be represented. Annual subscription three shillings.

PROVINCIAL EXHIBITION, 1907.

Those interested in Natural History and Art are reminded that the Provincial Exhibition, Halifax, opens on the 25th September. As Halifax does not compete this year in the Education Department it is expected that other school sections throughout the Province may send as many school exhibits as possible. For information apply to

A. MCKAY,

Supt. Educ. Dept. of Provincial Exhibition, Halifax.

DELAY IN ISSUING THIS "APRIL" JOURNAL.

The Provincial Legislature was not prorogued until the 25th of April, and the Advisory Board of Education, which was engaged on the revision of the "Course of Study" for grades IX, X and XI did not complete its work until the 27th April. It is not only important but necessary that the changes made should be promptly brought to the attention of all concerned. Hence the delay, which will be more than compensated for by the immediate publication of the new legislation.

THE ADVISORY BOARD OF EDUCATION.

Wm. Cameron, Esq., B. A., Pictou, *Chairman.*
 B. McKittrick, Esq., B. A., Lunenburg, *Secretary.*
 Hiram Donkin, Esq., C. E., Glace Bay.
 A. G. Macdonald, Esq., M. A., Antigonish.
 Prof. Howard Murray, B. A., Halifax.
 Prin. E. J. Lay, Esq., Amherst.
 Prin. W. F. Kempton, Esq., Yarmouth.

PROVISIONAL REVISION OF THE HIGH SCHOOL PROGRAM.

On the 27th of April the Advisory Board of Education presented to the Superintendent of Education recommendations for a revision of the "Provincial High School Course of Study" to the end of grade XI, requesting that the syllabus of grade XII be not published until October, after a further recommendation of the Board.

The Superintendent immediately presented the recommendations to the Council, which ordered the recommendations to be put in form for publication in the forthcoming JOURNAL OF EDUCATION. Should any lack of articulation between the new regulations and the old ones be discovered in the meantime, it can be remedied in the October JOURNAL. In the meantime the Provincial Educational Association's committee of sixteen are elaborating what may, with the future aid of the Advisory Board, become a stable course for a period of years—from the lowest to the highest grade. Suggestions made in writing will gladly be presented to the Advisory Board.

PROVISIONAL HIGH SCHOOL PROGRAM FOR 1907-8.

1. The maximum value of each examination paper shall be 100, and the passes shall be determined not by the aggregate mark, but by the average on the prescribed group.
2. The general pass shall be an average of 50% with no mark below 30%.
3. The Teachers' Pass shall be an average of 60% with no mark below 40%.
4. Two hours shall be given at examination for each paper; but while the time for each paper is doubled, there shall not be a proportionate increase in the number or length of questions usually given.
5. There shall be no optional questions; and all questions shall be from within the limits of the work prescribed.
6. There shall be no "supplementary" papers for those desiring to raise a "general pass" to a "Teachers' pass." The candidate must take the supplementary examination on the regular examination papers on which a mark of 40% was not made.
7. The different grades must be passed in regular order. A "Teachers' Pass" of any grade implies 40% on each of the imperative number of subjects in the grades below.
8. The "general pass" admits to the corresponding class in the Provincial Normal School, whose faculty can raise the *general* to the *teachers'* pass on evidence of improved scholarship, without which the Normal School diploma cannot be awarded.
9. From one to three points may be added by the examiner for specially good writing. Bad writers have no right to be admitted except on certificate of physical or unavoidable causes, and if examined, the papers are subject to deduction of marks.

GRADE IX.

(English and any other *five* subjects imperative).

1. ENGLISH :
 - (a) LITERATURE—Lamb's *Tales from Shakespeare* and Longfellow's *Evangeline*, with critical study, word analysis, prosody and recitations; English Composition as in *Sykes*, or an equivalent in the hands of the teacher, with essays, abstracts and general correspondence, so as to develop the power of fluent and correct expression in writing.
 - (b) As in GRAMMAR (except notes and appendix) with easy exercises in parsing and analysis.
2. LATIN : As in *Collar and Daniell's First Latin Book*, to end of Chapter L., or any equivalent grammar, with easy translation and composition exercises. [The *Roman* (Phonetic) pronunciation of Latin to be used in all grades].
3. GEOGRAPHY : Physical and Astronomical, General Geography of Continents and British Empire in detail as in Calkin.
4. ARITHMETIC : As in the *Academic* to page 63.
5. ALGEBRA : As in Hall and Knight's *Elementary* to end of chapter XVI.
6. DRAWING :
 - (a) As in Morton's *Mechanical Drawing*.
 - (b) High school Drawing Course, No. 1, with model and object drawing and *Manual Training* No. 3.
7. SCIENCE : BOTANY=60%. *Spotton* (except chap XIX) and the *Genera* : *Stellaria*, *Acer*, *Potentilla*, *Senecio* (or *Aster*), *Veronica*, *Polygonum*, *Habenaria*, *Aspidium*, *Osmunda*, *Lycopodium*.

PHYSICS=40%. As in Primer or equivalent (winter months). Text to be used only as aids to the study of the objects.

GRADE I.

(English and any other *five* subjects imperative.)

1. ENGLISH :
 - (a) Same subjects as in previous grade but more advanced scholarship required. Composition as in *Sykes*, or an equivalent in the hands of the teacher, with special attention to the development of readiness and accuracy in written narrative, description, exposition and general correspondence.
 - (b) As in GRAMMAR: text book complete.
2. LATIN : As in *Collar and Daniell's First Latin Book* complete, and "*Cæsar's Invasion of Britain*," by Welch and Duffield.
3. GREEK : As in *White's First Greek Book*, lessons I to end of L.
 FRENCH : Bertenshaw's Grammar, Part I., and First Reader to page 56.
 GERMAN : As in *Joynes-Meissner's Grammar*, first 25 exercises, with Buchheim's *Modern German Reader*, Part I, first division only.
4. HISTORY : Review of British History as in "Outlines."
5. CHEMISTRY : Inorganic, as in Williams *except* Chapter XIII ; or the corresponding matter in Waddell.
6. ARITHMETIC : Text book completed.
7. ALGEBRA : As in *Hall & Knight's Elementary* to end of Chapter XXVII.
8. GEOMETRY : *Hall and Stevens' Euclid*. Books I and II, with exercises to end of page 85.

GRADE II.

(English and any other *five* subjects imperative.)

1. ENGLISH : LITERATURE—Milton's *L'Allegro, Il Penseroso, Comus* and *Lycidas*; Macaulay's *Essay on Milton*. History of English literature as in *Meiklejohn*.
2. LATIN : Grammar and easy composition partly based on prose author read.
 - (a) *Cæsar's De Bell. Gall.* Book I (for 1909, Books II and III,) and (b) *Vergil's Æneid*, Book III (also for 1909), with grammatical and critical questions.
3. GREEK : Grammar and easy composition based partly on author read and *White's First Greek Book* completed. *Xenophon's Anabasis*, Book II (for 1909, Book III), with grammatical and critical questions.
3. FRENCH : Bertenshaw's Grammar, Part II, and *Souvestre's "Le Chevrier de Lorraine."*
 GERMAN : As in *Joynes-Meissner*, to lesson 44, with Buchheim's *Modern German Reader*, Part I, complete. Review of Grade X German.
4. HISTORY : General History as in *Swinton*.
5. PHYSICS : As in Gage's *Introduction to Physical Science*, *except* chapters V and VI for the year 1907-8.
6. PRACTICAL MATHEMATICS : As in *Murray's Practical Mathematics*, *except* chapter XI. Mensuration of surfaces and solids to be studied also as in *Eaton* or an equivalent.
7. ALGEBRA : As in *Hall and Knight's Elementary Algebra*, to end of chapter XI, *except* chapter XXIX to end of XXIXd.
8. GEOMETRY : *Hall and Stevens' Euclid*, Books III and IV, with the typical and the easier exercises of Books I-IV.

SIR JOHN GORST ON TECHNICAL EDUCATION.

In the course of his address at Melbourne, in December last, Sir John Gorst, late Vice-President of the Board of Education, England, is reported as follows :

Technical Education :

This leads me to this, that in every country in the world, there is now a great rage for technical instruction. I believe that that rage prevails even in the State of Victoria. Everybody wants to be technically instructed. People are quite right in this desire, for we live in an age when the nation which will be at the head of the economic position will be the nation which produces the most intelligent, industrious and high-charactered set of work-people. The peoples of countries which lag behind will become the hewers of wood and the drawers of water for the more intelligent nations. But remember this. You cannot say, "We will have technical instruction in Victoria"—and begin your instruction to-morrow. There is a great deal of uphill work to be done before men and women are fit to receive technical instruction. Let me compare two places—Charlottenburg in Prussia and Manchester in England. Charlottenburg has the finest technical school in the world—excellent laboratories and lecture rooms, and the first men in Europe as teachers. To this school come every year 5000 young Germans who have been through primary and secondary schools ; who come with a knowledge of chemistry and engineering and other things which fit them to receive higher instruction. Now look at Manchester, one of the most intelligent and go-ahead cities of the Empire. They have an institution in no way inferior—in equipment or in teaching—to Charlottenburg. But you can't get to Manchester 5000 students a year ! You may open your doors and advertise your lectures, but where are the young men and women prepared for the instruction you have provided for them ?

Improving Secondary Schools :

You must improve your secondary schools. Your young men and women must be prepared—by knowledge of literature, of languages of science—before they can become real good technical scholars. It is the duty of every State to guarantee the quality of the education given to its children. In a well-ordered State, no person should be permitted to dabble in the instruction of youth, any more than to dabble in medicine or in law. Though I have always protested against too much State interference this is one of the duties which the State has to perform.

SUMMER SCHOOL OF SCIENCE.

We have received from the Secretary of the Summer School of Science, Mr. J. D. Seaman, Charlottetown, P. E. I., a copy of the annual announcement of the School, which will be in session from the 2nd to the 19th of July.

The course of study of the School, which includes Botany, Chemistry, Geology, Drawing, Manual Training, English Literature, Physiology, Physics, Zoology and kindred subjects, is clearly outlined.

The advantages of Riverside, with its Consolidated School, in Albert Co., N. B., where the session is to be held, are fully detailed.

Teachers, and others interested in education, will find in this announcement information of interest to them. A copy will be sent to any who apply to the Secretary for it.

JOURNAL OF EDUCATION.

Published at HALIFAX, NOVA SCOTIA, on the 10th day of May, 1907.

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