

4-15.

Places of sunrise, as seen
from the horizon.

partial one throughout
and through a large

points situated on a line
in parts of Norway,

and, and thus render
Mandela.

fully eclipsed; but at
Quebec and Montreal the
into, and places further

ed by the angle made
of the disc drawn to
tion.

4h. 14m. 21s. W. in or

W. (obscuration inc.)
E. Magnitude 0.438.
E.

48s. in or near Quebec.

W. (obscuration inc.)
E. Magnitude 0.417.
E.

4s. in or near Montreal.

W. (obscuration inc.)
E. Magnitude 0.426.
E.

4s. in or near Kingston.

E. (obs. diminishing).
E.

4s. in or near Toronto.

E. (obs. diminishing).
E.

4s. in or near London.

E. (obs. diminishing).
E.

4s. in or near Detroit, U.S.

E. (obs. diminishing).
E.

W of Greenwich Time.

12 feet.

Prof. Kinserson, and

MOON'S PHASES.	Days.	Toronto.		Quebec.		Twilight beg. or ends.				Semidiam.		Pole Star.	
		Toronto.		Quebec.		Toronto. Quebec.				Sun Moon		Polar distance	
		Beg. End.	Beg. End.	Beg. End.	Beg. End.	A. M. P. M. A. M. P. M.	A. M. P. M. A. M. P. M.	A. M. P. M. A. M. P. M.	A. M. P. M. A. M. P. M.	Lat. 45°	Lat. 45°	Lat. 45°	Lat. 45°
● Last Quarter.....	6	h 7 20 pm	h 8 02 pm	h 7 20 pm	h 8 02 pm	h 7 20 pm	h 8 02 pm	h 7 20 pm	h 8 02 pm	h 7 20 pm	h 8 02 pm	h 7 20 pm	h 8 02 pm
● New Moon.....	15	h 0 16 am	h 0 47 am	h 0 16 am	h 0 47 am	h 0 16 am	h 0 47 am	h 0 16 am	h 0 47 am	h 0 16 am	h 0 47 am	h 0 16 am	h 0 47 am
● First Quarter.....	22	h 11 39 am	h 0 12 pm	h 11 39 am	h 0 12 pm	h 11 39 am	h 0 12 pm	h 11 39 am	h 0 12 pm	h 11 39 am	h 0 12 pm	h 11 39 am	h 0 12 pm
● Full Moon.....	29	h 3 54 am	h 4 26 am	h 3 54 am	h 4 26 am	h 3 54 am	h 4 26 am	h 3 54 am	h 4 26 am	h 3 54 am	h 4 26 am	h 3 54 am	h 4 26 am
● Apogee.....	10	h 3.4 pm	h 3.9 pm	h 3.4 pm	h 3.9 pm	h 3.4 pm	h 3.9 pm	h 3.4 pm	h 3.9 pm	h 3.4 pm	h 3.9 pm	h 3.4 pm	h 3.9 pm
● Perigee.....	26	h 8.6 pm	h 4.1 pm	h 8.6 pm	h 4.1 pm	h 8.6 pm	h 4.1 pm	h 8.6 pm	h 4.1 pm	h 8.6 pm	h 4.1 pm	h 8.6 pm	h 4.1 pm

The Planets.

NAME OF PLANET.	JANUARY 1st.				JANUARY 11th.				JANUARY 21st.			
	Rises.	Sets.	On Merid'n	Mer. Zen. dist.	Rises.	Sets.	On Merid'n	Mer. Zen. dist.	Rises.	Sets.	On Merid'n	Mer. Zen. dist.
	h m	h m	h m	°	h m	h m	h m	°	h m	h m	h m	°
Venus.....	6 30 a	3 30 p	11 03 a	06 9	6 52 a	3 45 p	11 19 a	07 0	7 02 a	4 05 p	11 34 a	06 0
Mars.....	1 28 a	0 25 p	6 67 a	52 4	1 16 a	11 59 a	6 88 a	54 2	1 03 a	11 33 a	6 18 a	56 0
Jupiter.....	0 41 p	2 25 a	7 31 p	31 2	0 01 p	1 47 a	6 52 p	11 1	11 23 a	1 11 a	0 15 p	30 9
Saturn.....	5 87 p	8 88 a	1 10 a	22 6	4 54 p	7 55 a	0 27 a	22 4	4 11 p	7 14 a	11 40 p	22 8
Uranus.....	1 29 p	4 11 a	8 48 p	24 7	0 48 p	3 31 a	8 08 p	14 7	0 09 p	2 50 a	7 28 p	24 7

NOTE.—In the above Table a signifies A. M., and p P. M.

Day of Month.	Day of Week.	Day of Year.	TORONTO.				QUEBEC.				UPPER AND LOWER CANADA.									
			Sun.		Moon Rises.	Q. M. Z. D.	Sun.		Moon Rises.	Sun on Meridian.		Sun's Declination Noon, S.	C's Age Noon.	Moon on Merid.	Upper Transit of Pole Star.					
			Rises.	Sets.			Rises.	Sets.		h	m	h	m		°	'	''	days	h	m
1	Friday . . .	17	7 35	4 33	6 44	19	6 7	46	4 22	6 32	12	8 58	22 59	46	16.2	1 29	0 21	54		
2	Saturday..	27	7 35	4 34	8 03	24	6 7	46	4 23	7 55	12	4 53	22 54	28	17.2	2 26	0 17	57		
3	SUNDAY.	37	7 35	4 35	9 13	30	27	46	4 24	9 13	12	4 56	22 48	41	18.2	3 17	0 14	00		
4	Monday...	47	7 34	4 36	10 27	36	47	45	4 25	10 26	12	5 21	22 42	29	19.2	4 4	0 10	30		
5	Tues day . .	57	7 34	4 37	11 34	42	77	45	4 26	11 36	12	5 48	22 35	49	20.2	4 47	6 8	7		
6	Wednesday	67	7 34	4 38	Morn	48	97	45	4 27	Morn	12	6 14	22 28	41	21.2	5 29	6 2	10		
7	Thursday...	77	7 34	4 39	39	54	77	45	4 29	44	12	6 40	22 21	8	22.2	6 10	5	58	13	
8	Friday...	87	7 34	4 40	1 45	59	97	44	4 30	1 52	12	7 6	22 13	8	23.2	0 53	5	54	16	
9	Saturday..	97	7 34	4 41	2 50	64	107	44	4 31	3 0	12	7 31	22 4 41	24.2	7 36	5	50	20	0	
10	SUNDAY.	107	7 34	4 42	3 55	68	117	44	4 32	4 8	12	7 55	21 55	49	25.2	8 23	5	46	23	
11	Monday...	117	7 33	4 43	4 58	70	127	43	4 33	5 13	12	8 19	21 46	30	26.2	9 11	5	42	26	
12	Tuesday...	127	7 33	4 44	5 56	72	137	43	4 34	6 14	12	8 42	21 36	46	27.2	10 2	5	38	29	
13	Wednesday	137	7 32	4 45	6 49	71	147	42	4 36	7 6	12	9 6	21 26	38	28.2	10 54	5	34	32	
14	Thursday...	147	7 32	4 47	Sets	70	157	42	4 37	Sets.	12	9 27	21 10	4	29.2	11 47	5	30	36	
15	Friday...	157	7 31	4 49	5 12	67	167	42	4 39	5 0	12	9 48	21 5 5	0.5	Ev. 38	5	26	39	0	
16	Saturday..	167	7 30	4 50	6 20	63	177	40	4 40	6 11	12	10 9	20 53	43	1.5	1 26	5	22	42	
17	SUNDAY.	177	7 29	4 51	7 32	57	187	40	4 41	7 25	12	10 29	20 41	57	2.5	2 13	5	18	45	
18	Monday...	187	7 29	4 52	8 41	51	197	39	4 43	8 39	12	10 48	20 29	47	3.5	2 58	5	14	49	
19	Tuesday...	197	7 29	4 53	9 52	45	207	37	4 44	9 51	12	11 7	20 17	15	4.5	3 42	5	10	52	
20	Wednesday	207	7 28	4 54	11 02	39	217	37	4 45	11 4	12	11 25	20 4 19	5.5	4 26	5	6	55	5	
21	Thursday...	217	7 28	4 55	Morn	32	67	37	4 46	Morn	12	11 42	19 51	1	6.5	5 13	5	2	58	0
22	Fri day . . .	227	7 27	4 57	0 17	26	77	36	4 48	0 22	12	11 58	19 37	21	7.5	6 3	4	59	2	0
23	Saturday..	237	7 26	4 58	1 34	21	87	35	4 49	1 44	12	12 13	19 23	20	8.5	6 57	4	55	5	0
24	SUNDAY.	247	7 25	4 59	2 54	17	97	34	4 50	3 7	12	12 28	19 8	56	9.5	7 56	4	51	8	0
25	Monday...	257	7 24 5	1 4	14	15	47	33	4 52	4 29	12	12 42	18 54	12	10.5	8 59	4	47	12	0
26	Tuesday...	267	7 23 5	3 5	26	15	57	32	4 54	5 43	12	12 54	18 39	7	11.5	10 5	4	43	15	0
27	Wednesday	277	7 22 5	4 6	27	17	77	31	4 56	6 43	12	13 6	18 23	42	12.5	11 8	4	39	18	0
28	Thursday...	287	7 21 5	5	Rises	7	80	30	4 56	Rises	12	13 18	17 57	13	13.5	Morn	4	35	21	0
29	Friday...	297	7 20 5	6 5	33	21	87	29	4 57	5 24	12	13 28	17 51	54	14.5	1	8	31	25	0
30	Saturday..	307	7 19 5	8 6	52	27	97	28	4 59	6 46	12	13 38	17 35	80	15.5	1 2	4	27	28	0
31	SUNDAY.	317	7 18 5	10 8	53	47	107	27	5	8	12	13 47	17 18	47	16.5	1 52	4	23	31	0

Monthly mean Temperature, average of 17 years, 23°88. Mean Velocity of the Wind, average of 9 years, 7.25 miles. Average depth of Rain and melted Snow, 2.935 inches.