

plain the bearing of the second law upon the definition of force.

Equal weights, *A* and *B*, are attached to the ends of a perfectly flexible, weightless string, which passes over a perfectly smooth pulley *C*. The weight *B* hangs vertically, and the weight *A* rests on a plane *AC*, inclined at 30° to the horizon, the co-efficient of friction between *A* and the plane being $\frac{1}{3}$. Find the tension of the string and the space passed over by *A* in two seconds from rest. (The part of the string between *A* and *C* is parallel to the plane.)

7. Describe the common hydrometer, and state the principles of its action.

A vessel floats in water with half of its volume below the surface-level. Two cubic inches of oil of turpentine, weighing exactly one ounce, are poured into the vessel, which now sinks until two-thirds of its volume is below the surface-level of the water. Find the volume of the vessel. (A cubic foot of water weighs 1000 oz.)

PHYSIOLOGY.

1. (a) Describe the structure of the Eye.
- (b) State the function of each part.
- (c) Give the most important rules for the preservation of the sight.

(d) How should the light be admitted to a school-room?

(e) How can a teacher prevent the too rapid development of *myopia* in his pupils?

2. Give rules for the guidance of your pupils in taking a daily bath.

3. What steps should be taken to prevent the spread of contagious diseases?

4. (a) Describe the process of digestion.

(b) Show why it is wrong:

- (i.) To work soon after eating.
- (ii.) To study soon after eating.
- (iii.) To eat or drink what is hot.

5. Give rules for the preservation of the proper tone of the nervous system.

SECOND-CLASS TEACHERS AND INTER-MEDIATE.

ENGLISH HISTORY.

1. Derive and explain the terms "vil-

lain," "sheriff," "confiscation," "homage," "knights templars."

2. State the chief differences between the Saxon and the Normal rule in England with respect to (i.) the government of the country; (ii.) the condition of the people.

3. Mention the chief clauses of the Magna Charta.

4. Tell the principal events of the reign of Edward I.

5. Write concise historical explanatory notes on the Restoration, the battle of Culloden, the declaration of American Independence, the Corn Laws, the Crimean War.

6. Tell briefly the part played in English history by Thomas Cromwell, John Hampden, Charles James Fox, John Wilkes.

7. "The Queen reigns, but does not govern." Discuss this statement.

8. Say what you know about Lord Sydenham's administration in Canada.

9. What led the Romans to interfere in the affairs of Macedonia, and by what steps did Macedonia become a Roman Province?

10. Give a brief account of the "Social War" in Italy.

ENGLISH LITERATURE.

1. State Milton's conception of the universe, as presented in *Paradise Lost*.

2. Give a brief synopsis of Book I., and explain the position of affairs at the time at which Book II begins.

3. Quote the descriptions of Death, Belial, Beëlzebub, and Lethe, and the simile of the Gryphon.

4.
 "Before their eyes in sudden view appear 890
 The secrets of the hoary Deep, a dark
 Illimitable ocean, without bound,
 Without dimensions, where length, breadth, and
 height,
 And time, and place are lost; where eldest Night
 And Chaos, ancestors of Nature, hold 895
 Eternal anarchy amidst the noise
 Of endless wars, and by confusion stand;
 For Hot, Cold, Moist, and Dry, four champions
 fierce,
 Strive here for mastery, and to battle bring
 Their embryon atoms; they around the flag 900