Practice Paper

CBSE Class 8 Science (Curiosity) — Chapter 5: Exploring Forces

Time: 1½ hours	**Maximum Marks:** 40	**Session:** 2026–27
Name: _____	Roll No.: _____	Date: _____

General Instructions: (1) All questions are compulsory. (2) Questions marked **[Fig. N]** are figure-based (Fig. 1 to Fig. 7); study the figure carefully. (3) Write answers in the answer sheet; draw neat labelled diagrams wherever needed. (4) Marks for each question are shown in square brackets.

SECTION A — Multiple Choice Questions (1 mark each)

1. Which of the following can **not** be an effect of a force applied on an object? **[1]**

(a) Change in its speed

(b) Change in its direction of motion

(c) Change in its shape

(d) Change in its mass

2. [Fig. 1] Fig. 1 shows a spring balance with an object hanging from it. There are 5 small divisions between any two neighbouring bigger marks. What is the weight of the object? **[1]**

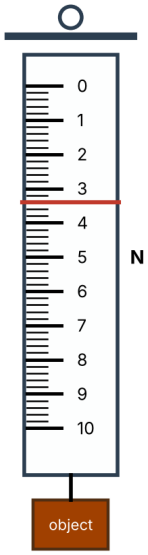


Fig. 1: A spring balance

(a) 3.2 N

(b) 3.4 N

(c) 3.6 N

(d) 4.4 N

3. [Fig. 2] Fig. 2 shows three objects, X, Y and Z, of the same size in water. Which statement is correct? **[1]**

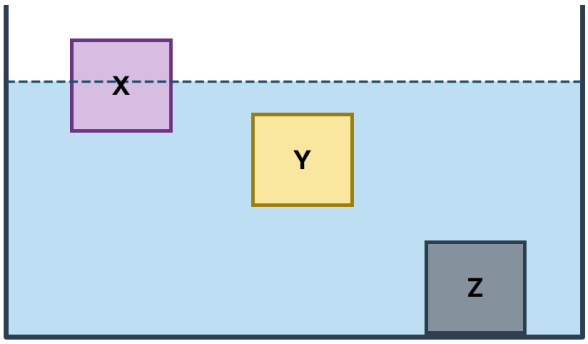


Fig. 2: Three objects of the same size in water

(a) For object Z, the gravitational force is less than the buoyant force.

(b) For objects X and Y, the gravitational force is equal to the buoyant force.

(c) For object Y, the buoyant force is zero.

(d) The three objects have the same weight.

4. Which of the following pairs contains only contact forces? **[1]**

(a) Muscular force and frictional force

(b) Magnetic force and gravitational force

(c) Electrostatic force and frictional force

(d) Gravitational force and muscular force

5. An astronaut of mass 60 kg travels from the Earth to the Moon. Which of the following is correct? **[1]**

(a) His mass becomes 10 kg but his weight remains the same.

(b) His mass remains 60 kg but his weight becomes less.

(c) Both his mass and his weight remain the same.

(d) His mass becomes less but his weight remains the same.

6. The force of friction always acts **[1]**

(a) in the direction in which the object moves

(b) opposite to the direction in which the object moves or tries to move

(c) at right angles to the direction of motion

(d) vertically downwards

Questions 7 and 8 consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below:

7. Assertion (A): A ball rolling on level ground comes to a stop on its own after some time.
Reason (R): The force of friction between the ball and the ground acts opposite to the motion of the ball. **[1]**

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, and R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

8. Assertion (A): The weight of an object is the same on the Earth and on the Moon.
Reason (R): The weight of an object depends on the gravitational pull of the body on which it is placed. **[1]**

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, and R is not the correct explanation of A.

(C) A is true but R is false.

(D) A is false but R is true.

SECTION B — Short Answer Questions (2 marks each)

9. [Fig. 3] Fig. 3 shows two ring magnets on a wooden stick. The upper magnet P floats above the lower one without touching it. **[2]**

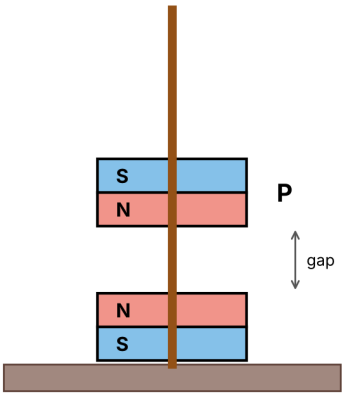


Fig. 3: Two ring magnets on a stick

(a) Name the force that keeps magnet P floating. Is it a contact or a non-contact force?

(b) What will happen if magnet P is turned upside down and placed on the stick again? Give a reason.

10. [Fig. 4] Fig. 4 shows an empty, tightly closed bottle being pushed into a bucket of water. The upward arrow marked X shows a force that you can feel on the bottle. **[2]**

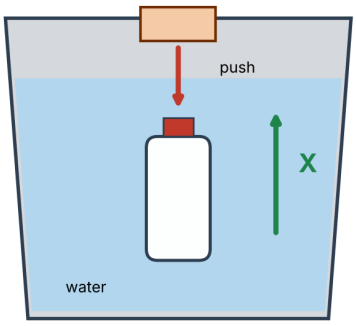


Fig. 4: An empty closed bottle pushed into water

(a) Name the force X.

(b) Under what condition will an object placed in a liquid sink?

11. A bag of sugar has a mass of 1 kg. Its weight is 10 N on the Earth and 1.6 N on the Moon. (a) What is the mass of the bag on the Moon? (b) Why does the weight of the bag change while its mass does not? **[2]**

SECTION C — Long Answer Questions (4 marks each)

12. [Fig. 5] In Fig. 5, the same block is given the same push on glass, a wooden table and sand. The solid block shows the starting position and the dashed block shows where it stops. **[4]**

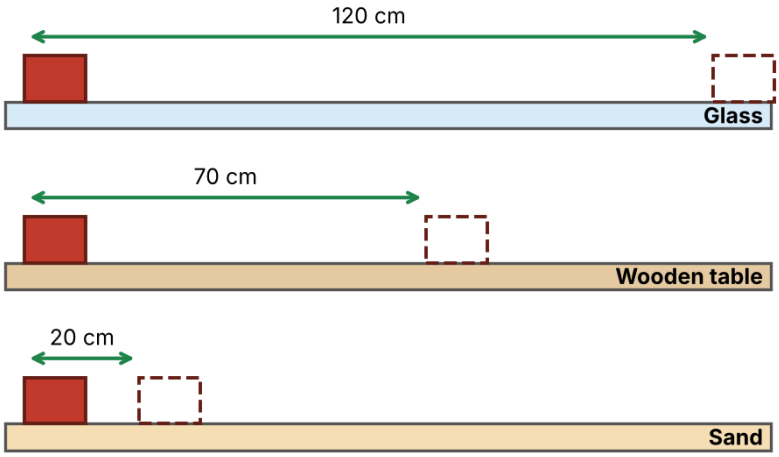


Fig. 5: Same block pushed with the same force on three surfaces

(i) On which surface is the force of friction the greatest? Give a reason. [1]

(ii) Arrange the three surfaces in the increasing order of friction. [1]

(iii) In which direction does friction act on the moving block? [1]

(iv) Even a surface that looks smooth exerts friction. Why? [1]

13. [Fig. 6] Fig. 6 shows a ball at three positions, P, Q and R, when it is thrown vertically upwards. P is on the way up, Q is the topmost point and R is on the way down. **[4]**

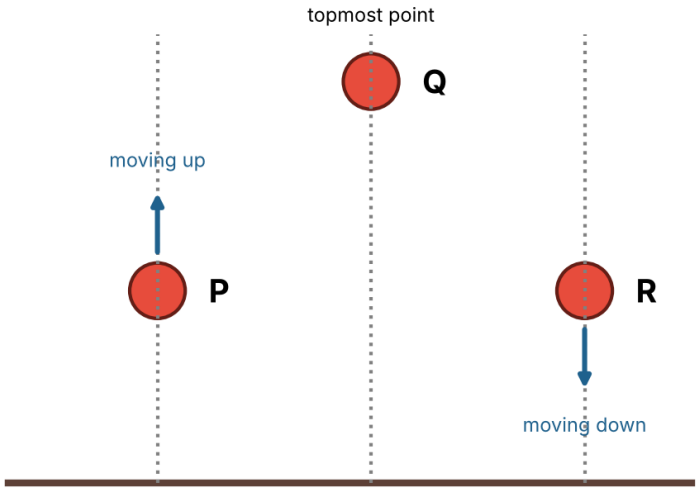


Fig. 6: A ball thrown vertically upwards (air resistance ignored)

(i) Name the force acting on the ball at Q and state its direction. [1]

(ii) How does the speed of the ball change (a) from P to Q, (b) from Q to R? [1]

(iii) Why does the ball slow down while moving up? [1]

(iv) Is this force attractive or repulsive? Is it a contact or a non-contact force? [1]

14. (a) Define (i) contact force and (ii) non-contact force. [2] (b) Classify the following forces as contact or non-contact: muscular force, magnetic force, frictional force, gravitational force, electrostatic force. [2] **[4]**

15. Give reasons for the following: **[4]**

(i) A ball rolling on level ground stops after some time. [1]

(ii) It is harder to pedal a bicycle on a rough road than on a smooth road. [1]

(iii) Aeroplanes, ships and high-speed trains are given special shapes. [1]

(iv) We are more likely to slip on a wet floor. [1]

SECTION D — Case-Based / Practical Questions (5 marks each)

16. [Fig. 7] Case: Aarav read that an object of mass 1 kg weighs 10 N on the Earth. Fig. 7 shows the weight of the same 1 kg object on the Earth and on some other bodies in the solar system. **[5]**

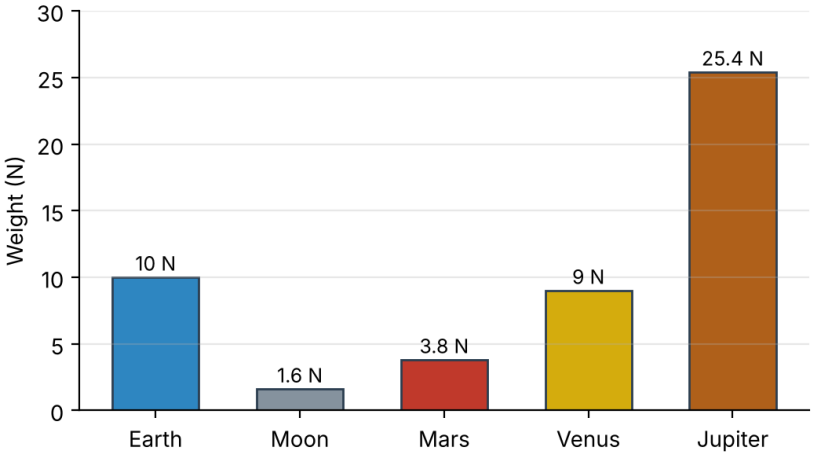


Fig. 7: Weight of the same object (mass 1 kg) on different bodies

(i) On which body is the weight of the object the greatest? [1]

(ii) What is the mass of the object on Mars? [1]

(iii) By how many newtons is the weight of the object on the Earth more than on the Moon? [1]

(iv) Why does the weight of the object change from place to place while its mass does not? [1]

(v) Name the instrument used to measure weight and the SI unit of weight. [1]

17. Case: Rohan rubbed a plastic scale with a piece of polythene and, without touching the paper, brought it near some small pieces of paper. The pieces jumped up and stuck to the scale. Later, he rubbed two inflated balloons with a woollen cloth and hung them near each other with threads; the balloons moved away from each other. When he brought the woollen cloth near one balloon, that balloon moved towards the cloth. **[5]**

(i) Why were the paper pieces attracted by the plastic scale? [1]

(ii) Name the force acting here and say whether it is a contact or a non-contact force. [1]

(iii) Why did the two balloons move away from each other? [1]

(iv) Why was the balloon attracted towards the woollen cloth? [1]

(v) Name the two kinds of static charges. [1]

— End of Question Paper —