



Class 9 Science | How Forces Affect Motion

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. A 3 kg object accelerates at 4 m/s^2 . The resultant force is:

- A. 0.75 N B. 7 N C. 12 N D. 1.33 N

2. Two horizontal forces, 9 N east and 5 N west, act on a body. Net force is:

- A. 14 N east B. 4 N west
C. 4 N east D. 14 N west

3. A body moving with constant velocity has:

- A. Increasing resultant force
B. Zero resultant force
C. No forces of any kind
D. Increasing acceleration

4. When a bus stops suddenly, passengers tend to move forward due to:

- A. Action of gravity alone
B. Loss of weight
C. Increased mass
D. Inertia

5. Which object has the greatest inertia?

- A. A 50 g ball B. A 500 g ball
C. A 10 kg stone D. A 2 kg stone

6. A 6 N force acts on a 2 kg trolley. Acceleration is:

- A. 12 m/s^2 B. 3 m/s^2 C. 0.33 m/s^2 D. 8 m/s^2

7. The same net force acts on masses m and $2m$. Their accelerations are in ratio:

- A. 1:1 B. 4:1 C. 2:1 D. 1:2

8. If force and mass are both doubled, acceleration:

- A. Halves B. Quadruples
C. Remains unchanged D. Doubles

9. A swimmer pushes water backward. The forward force on the swimmer is exerted by:

- A. The swimmer on themselves
B. Gravity only
C. Air only
D. Water

10. Action and reaction forces act on:

- A. Only objects of equal mass
B. Only stationary bodies
C. The same body only
D. Different interacting bodies

11. A book rests on a table. The reaction to the book's force on the table is:

- A. Air's force on the table
B. Book's force on Earth
C. Table's force on the book
D. Earth's force on the book

12. A box slides right on a rough floor. Sliding friction on it acts:

- A. Upward only B. Left
C. Downward only D. Right

13. Lubricating a machine usually reduces friction by:

- A. Removing gravity
B. Separating rubbing surfaces with a film
C. Increasing their roughness
D. Increasing their mass

14. A 4 kg trolley changes speed from 2 to 8 m/s in 3 s. Net force is:

- A. 8 N B. 12 N C. 24 N D. 32 N

15. Balanced forces can change an object's:

- A. Acceleration necessarily
B. Mass necessarily
C. Velocity necessarily
D. Shape without changing its centre-of-mass velocity

ANSWER KEY — check after completing all 15 questions

1.C 2.C 3.B 4.D 5.C 6.B 7.C 8.C 9.D 10.D 11.C 12.B 13.B 14.A 15.D