

## Types of Force

### A. Choose the correct answer:

1. Which of the following is a contact force?

- (a) Magnetic force
- (b) Muscular force
- (c) Gravitational force
- (d) Electrostatic force

2. Which of these is a non-contact force?

- (a) Friction
- (b) Air resistance
- (c) Magnetic force
- (d) Push by hand

3. Frictional force always acts:

- (a) In the direction of motion
- (b) At a right angle to motion
- (c) Opposite to the direction of motion
- (d) Along the gravitational pull

### B. Fill in the Blanks:

1. Muscular force is an example of a \_\_\_\_\_ force.
2. Gravitational force acts between \_\_\_\_\_.
3. A magnet exerts a \_\_\_\_\_ force on iron objects without touching them.

### C. Case Study:

During a science fair, Aarav set up three experiments:

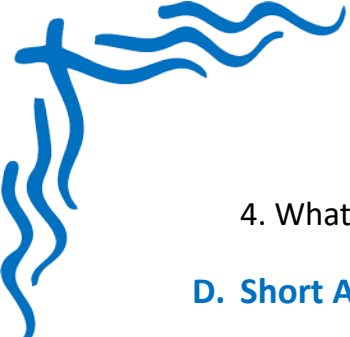
He pushed a toy car to show muscular force.

He rubbed a balloon on his hair and observed it attracting paper bits, showing electrostatic force.

He dropped a ball, which fell to the ground due to gravity.

#### Case Study Questions:

1. What types of forces did Aarav demonstrate?
2. Which of the forces was a contact force?
3. What force pulled the ball to the ground?

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4. What kind of force attracted the paper bits to the balloon?

**D. Short Answer Questions:**

1. What are contact and non-contact forces? Give one example of each.
2. Name three types of non-contact forces.
3. What causes friction between two surfaces?

**E. Long Answer Questions:**

1. Differentiate between contact and non-contact forces with examples and diagrams.
  2. Explain various types of contact forces and their effects on objects.
  3. Describe gravitational, magnetic, and electrostatic forces with real-life applications.
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