

Science Form 4 Worksheet: Understanding Inertia

Name: _____

Class: _____

Section A: Multiple Choice Questions (5 Marks)

1. What is the simplest definition of inertia?

- A. The heavy weight of an object.
- B. The speed of a moving object.
- C. The natural tendency of an object to stay still or keep moving.
- D. The pull of gravity on an object.

2. When a moving car suddenly brakes, the passengers lurch forward. Why does this happen?

- A. The brakes pull the passengers forward.
- B. Their bodies want to keep moving forward due to inertia.
- C. An invisible force pushes them from behind.
- D. The mass of the passengers suddenly changes.

3. Why does shaking a wet umbrella help to remove the water droplets?

- A. The umbrella fabric absorbs the water quickly.
- B. The shaking motion creates wind that dries the water.
- C. The water drops become lighter when shaken.
- D. The umbrella stops suddenly, but the water droplets keep moving forward due to inertia.

4. A person shakes a tree branch, and ripe fruits fall down to the ground. Why does this happen?

- A. The fruits want to stay still due to inertia while the branch moves.
- B. The wind from the shaking pushes the fruits down.
- C. The fruits grow heavier when the tree shakes.
- D. Gravity only works when the tree is shaken.

5. Which of these objects has the largest inertia, making it the hardest to start moving or stop?

- A. A light bicycle
- B. A heavy wooden wardrobe
- C. An empty plastic bottle
- D. A small toy car

Section B: Structured Questions (5 Marks)

Question 1: The Chilli Sauce Bottle Scenario

To get chilli sauce out of a bottle easily, a student pushes the bottle down quickly and stops it suddenly. The chilli sauce immediately flows out of the bottle.

(a) Name the science concept involved in this daily life situation. [1 mark]

Answer:

(b) Briefly explain why the chilli sauce keeps moving out when the bottle stops suddenly. [2 marks]

Answer:

Question 2: The Shopping Carts Scenario

Imagine two identical shopping carts. Cart X is completely empty, while Cart Y is heavily loaded with groceries. Both carts are pushed forward at the same speed.

(a) Which shopping cart is much harder to stop moving? [1 mark]

Answer:

(b) State the relationship between the mass of an object and its inertia. [1 mark]

Answer:
