

**CREST Science Olympiad (CSO)** Worksheet for

Class 6

**Topic Motion** 









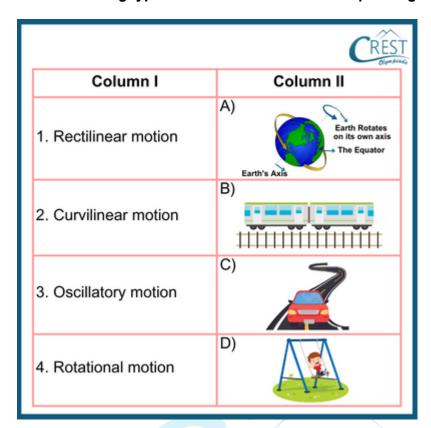
#### **Worksheet on Motion**

- 1. Charles wants to conduct an experiment to study oscillatory motion. Which of the following setups would be suitable?
  - a. Observing the motion of a ball rolling down a slope
  - b. Measuring the distance covered by a bicycle on a straight road
  - c. Investigating the swinging motion of a pendulum
  - d. Analysing the rotational motion of a spinning top
- 2. Which of the following is an example of non-uniform circular motion?
  - a. A spinning top slowing down gradually
  - b. A planet orbiting around the Sun
  - c. A car moving on a circular track at a constant speed
  - d. A pendulum swinging back and forth
- 3. Objects can exhibit multiple types of motion simultaneously. Which of the following examples illustrates this phenomenon?
  - a. A car moving in a straight line at a constant speed
  - b. Clothes spinning in a washing machine
  - c. The hands of a clock ticking
  - d. A fan rotating
- 4. A stretched rubber band is plucked and left to quiver. What type of motion is observed?

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- a. Revolutionary motion
- b. Translatory motion
- c. Curvilinear motion
- d. Vibratory motion

5. Match the following types of motion with their corresponding examples.



- a. 1:C, 2:B, 3:D, 4:A
- b. 1:B, 2:C, 3:D, 4:A
- c. 1:A, 2:C, 3:B, 4:D
- d. 1:C, 2:D, 3:B, 4:A

### **Answer Key**

- **1.** c A pendulum exhibits oscillatory motion as it swings back and forth. By observing and analysing the swinging motion of a pendulum the characteristics of oscillatory motion can be studied.
- **2.** a Non-uniform circular motion refers to a motion where the speed of the object changes over time. In the case of a spinning top, as it slows down gradually, its speed decreases, indicating a non-uniform circular motion.
- **3.** a A car moving in a straight line at a constant speed exhibits both translatory motion (straight line movement) and rotational motion (the wheels rotating). Therefore, it is an example of an object exhibiting multiple types of motion simultaneously.
- **4.** d When a stretched rubber band is plucked and left to quiver, it undergoes back-and-forth motion. This motion is known as vibratory motion, characterised by oscillations or vibrations.

**5.** b -

Rectilinear motion: Earth rotating on its axis

Curvilinear motion: Train moving on a straight railway track

Oscillatory motion: Car moving on a curved path

Rotational motion: Child on a swing moving back and forth

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