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Worksheet: Motion and Time

1. A simple pendulum takes 32 s to complete 20 oscillations. What is the time period of the pendulum?
2. What is the SI unit of speed?
3. A car travels a distance of 120 kilometers in 3 hours. What is its speed in meters per second (m/s)?
4. What is uniform motion? Give one example.
5. Explain different types of motion with examples.
6. What is non-uniform motion? Give one example.
7. Classify the following as motion along a straight line, circular or oscillatory motion: (i) Motion of your hands while running. (ii) Motion of a horse pulling a cart on a straight road. (iii) Motion of a child in a merry-go-round. (iv) Motion of a child on a see-saw. (v) Motion of the hammer of an electric bell. (vi) Motion of a train on a straight bridge.
8. Which of the following are not correct? (i) The basic unit of time is second. (ii) Every object moves with a constant speed. (iii) Distances between two cities are measured in kilometres. (iv) The time period of a given pendulum is constant. (v) The speed of a train is expressed in m/h.
9. A car moves with a speed of 40 km/h for 15 minutes and then with a speed of 60 km/h for the next 15 minutes. The total distance covered by the car is:
10. Name the instrument used to measure time in a laboratory.
11. What is meant by periodic motion?
12. What does an odometer measure?
13. The distance between two stations is 240 km. A train takes 4 hours to cover this distance. Calculate the speed of the train.
14. What is a speedometer and what does it measure?
15. Salma takes 15 minutes from her house to reach her school on a bicycle. If the bicycle has a speed of 2 m/s, calculate the distance between her house and the school.
16. The odometer of a car reads 57321.0 km when the clock shows the time 08:30 AM. What is the distance moved by the car, if at 08:50 AM, the odometer reading has changed to 57336.0 km? Calculate the speed of the car in km/min during this time. Express the speed in km/h also.