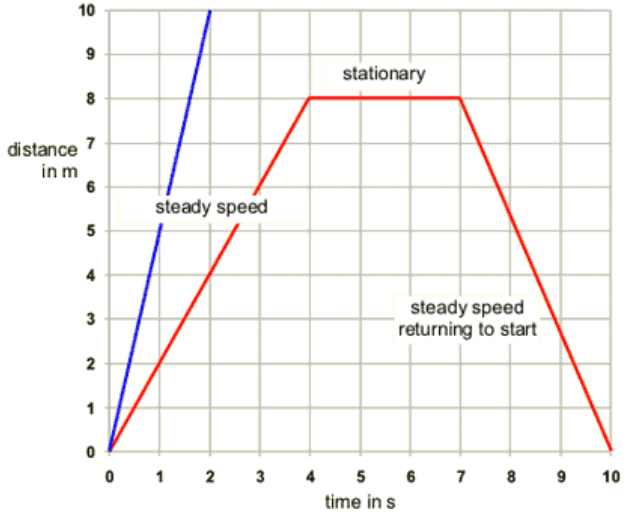
Hillcrest Mathematics Knowledge Organiser

27 - Real Life Graphs

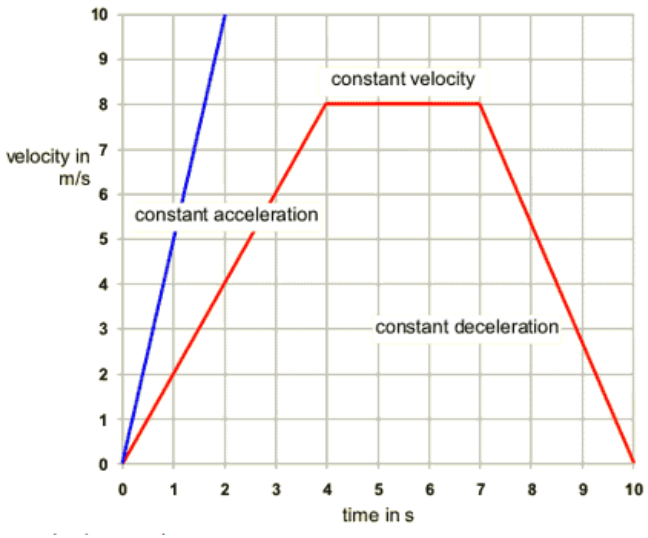
Distance-time graphs

Distance time graphs show distance away from a point. When an object is stationary, the line on the graph is horizontal. When an object is moving at a steady speed, the line on the graph is straight, but sloped. The **steeper** the line, the greater the **speed** of the object.



Speed-time graphs

A speed-time graph tells us how the **speed** of an object **changes** over **time**. When the object is travelling at a constant speed, the line on the graph is horizontal. When an object is accelerating or decelerating, the line on the graph is sloped. The **steeper** the gradient of the line, the greater the **acceleration** (a bigger change in speed in the same time).

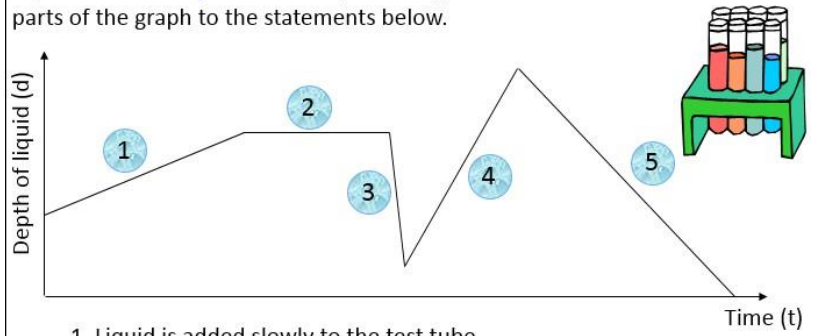


Other real life graphs

Graphs can be used to represent a number of real life situations. It is important to read the labels on both axes to determine the meaning of the graph.

Example:

A test tube containing a chemical liquid is used in an experiment. During the experiment the depth d of the liquid changes with time t. Match the different parts of the graph to the statements below.



1. Liquid is added slowly to the test tube.
2. The level of the liquid remains constant.
3. Some liquid is poured out quickly.
4. Some liquid is poured in quite quickly
5. The test tube is emptied.

Linked Prior Topics

- Coordinates
- Straight line graphs
- Gradients

Vocabulary

- Axes
- Gradient

Linked Future Topics

- Formulae
- Kinematics
- Compound measures