

One-Dimensional Motion

Learning objectives

After completing this unit you should be able to

- Understand how to design and interpret displacement-time and velocity-time graphs for one-dimensional motion
- Appreciate that velocity is the gradient of displacement-time graphs and acceleration is the gradient of velocity-time graphs
- Create and understand acceleration-time graphs
- Model motion under constant acceleration and be able to use the resulting equations in contexts
- Apply the equations when the acceleration is due to gravity
- Understand Newton's First and Second Laws of motion and appreciate how to use them in contexts
- Understand how to cope with multiple forces to establish the net force acting and its direction.