

# Key Stage 3 Precise Learning Points



<b>Unit Number</b>	P1
<b>Unit Title</b>	Forces & Space
<b>Chapter</b>	Forces

## Key Scientific Points

1. A force is a push or a pull, they change the way an object moves by speeding it up, slowing it down, changing its direction (or changing its shape)
2. Forces are represented by arrows.
3. The size and direction of an arrow represents the size and direction of the force.
4. The size of a force is measured in Newtons.
5. Balanced forces result in no change in movement
6. When a force is applied another force acts in the opposite direction
7. A resultant force is the overall force in a system.
8. A force can produce a turning effect around a pivot.
9. This turning effect is called a moment.
10. Moment = Size of force x distance from pivot.
11. Levers reduce the force applied by increasing the distance to the pivot.
12. The velocity of an object is the distance travelled in a given time.
13. Velocity = distance  $\div$  time ( $v = s/t$ )
14. The changing velocity of an object can be represented on a distance-time graph.
15. Friction is a force that opposes motion as a result of two surfaces rubbing against each other. It is caused by undulations in the surfaces interlocking. Overcoming friction requires the undulations to be broken, bent or one surface lifting over the other.