

Year 7 Forces Knowledge Organiser

Week 1: KEYWORDS

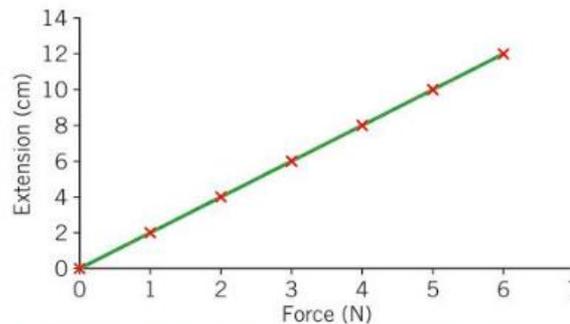
air resistance	The force on an object moving through the air that causes it to slow down (also called drag).
balanced	Forces acting on an object that are the same size but act in opposite directions.
compress	To squash into a smaller space.
contact force	A force that acts when an object is in contact with a surface, air, or water.
deform	To change shape.
drag force	The force acting on an object moving through air or water that slows it down.
elastic limit	The point which a spring will not return to its original length when the force is removed.
extension	The amount by which an object gets longer when a force is applied.
friction	The force that resists movement because of contact between surfaces.
gravity	A non-contact force that acts between two masses.
interaction pair	The equal and opposite forces interacting on two objects.
lubrication	A substance that reduces friction between surfaces when they rub together.
newton (N)	The unit we measure force in using a newtonmeter.
non-contact force	A magnetic, electrostatic, or gravitational force that acts between objects not in contact.
reaction	The support force provided by a solid surface like a floor.
resistive forces	Any forces that act to slow down a moving object.
streamlined	Shaped to reduce resistance to motion from air or water.
tension	A stretching force measured in newtons (N)
water resistance	The force on an object moving through water that causes it to slow down (also known as drag).

Week 2: Hooke's law; Forces at a distance; Balanced & unbalanced

magnetic force	The forces between two magnets or a magnet & a magnetic material
electrostatic force	The force acting between electrically charged objects
field	A region where an object feels force
weight (N)	The force of the Earth on an object due to its mass
mass (kg)	The amount of matter an object is made up of
balanced	Equal sized forces acting on an object but in opposite directions
unbalanced	Opposing forces acting on an object that are unequal
equilibrium	When opposing forces acting on an object cancel each other out
driving force	The force that is pushing (thrust) or pulling something
resistive force	Any force that acts to slow down a moving object

Hooke's Law

The law that says that if you **double the force** on an object the **extension will double**.

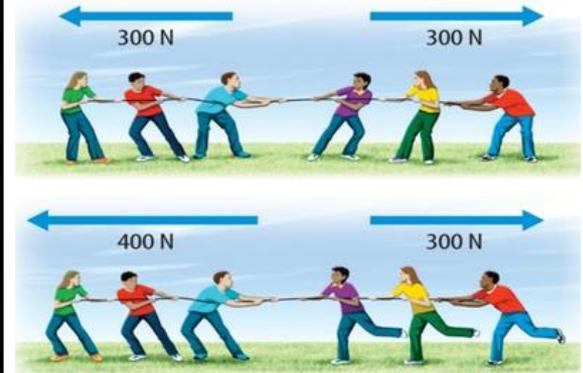


▲ This graph shows how the extension of a spring changes as you pull it.

Week 3: Concepts

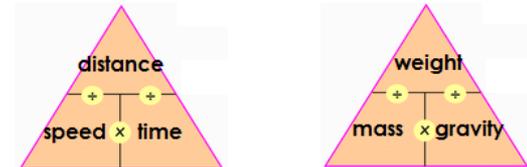
Forces diagrams

Science uses arrows to show the sizes of forces on objects, the bigger the arrow, the bigger the force.



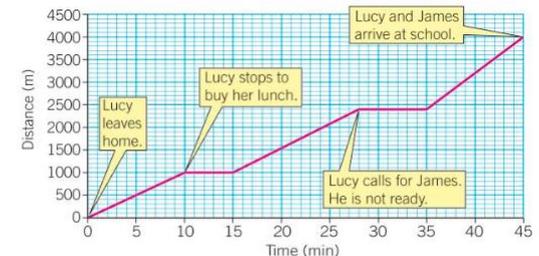
Formula triangles

When we calculate quantities it helps to remember the equations or formulae in these formula triangles.



Motion graphs

These show us how a journey has unfolded. When the graph flattens out we know the person has stopped because the distance stays the same. We can work out the overall average speed of the journey by dividing the total distance travelled by the total time it took.



▲ A distance-time graph for Lucy's journey to school.