

Progression in Substantive Knowledge

Physics Forces

Substantive Knowledge year R	Substantive Knowledge year 1	Substantive Knowledge year 2	Substantive Knowledge year 3
		<u>Pushes and pulls</u> Knowledge Block 1 - Objects can move (be in Motion) in various ways-roll, slide and bounce Knowledge Block 2 - The pushing or pulling of an object can affect its motion. - Pushing or pulling can do three things, slow down, speed up or change the direction of an object. Knowledge Block 3 The larger the push/pull the bigger the effect on motion	<u>Magnets</u> Knowledge Block 1- What magnets do - Magnets exert attractive forces on some metals Knowledge Block 2- Magnets don't need to touch - Magnetic forces work through other materials including air, so magnets don't need to be touching to exert their force. It is called a non-contact force Knowledge Block 3- Magnets attract and repel - Each end of a magnet is called a pole, opposite poles are called north and south. - Magnets exert attractive forces on each other when the poles facing each other are north and south (opposites). - Magnets exert repulsive forces on each other when the poles facing each other are the same. Knowledge Block 4- what affects magnetic strength The strength of magnetic forces is affected by: - The strength of the magnet. - The distance between the magnet and the object. The material the object is made from.

Progression in vocabulary

Physics
Forces

Year R Vocabulary	Year 1 Vocabulary	Year 2 Vocabulary	Year 3 Vocabulary
		<u>Pushes and Pulls</u> motion Moving or being moved. pushing To move something away from you or away from where it was before. pulling Move something towards you or away from where it was before. Slow down To move or happen more slowly. speed up To move or happen faster. direction The path along which something moves.	<u>Magnets</u> magnet A piece of iron or other material that attracts other iron objects. force A push or a pull action that changes the motion of the object. attraction The coming together of opposite poles. repulsion The moving away of like poles. metal A solid material that is hard and shiny, with good electrical and heat conductivity. <u>non</u> <u>contact</u> force A force that acts on an object without coming physically in contact with it. pole The ends of a magnet. Either north or south.