

Ashtree Primary School and Nursery Unit Progression Plan for Science

Forces

Year Group	Unit	Key Knowledge	Key Vocabulary
Nursery	Forces	Development Matters 2020 – 3 – 4 years old <u>Understanding the World</u> <ul style="list-style-type: none"> Explore how things work. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. <u>Expressive Arts and Design</u> <ul style="list-style-type: none"> Join different materials and explore different textures. 	Model and encourage children to use vocabulary such as: object, float, sink, water, up, down, top, bottom, push, pull, magnet, spring, squash, bend, twist, stretch, turn, spin, smooth, rough, fast, slow Expose children to supplementary vocabulary such as: rising, falling, attract, repel, faster, slower, pulley, gear, elastic
Reception	Forces	Development Matters 2020 – Reception <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel whilst outside. 	Model and encourage children to use vocabulary such as: float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow, bounce Expose children to supplementary vocabulary such as: force, rotate, solid, liquid, gravity
Year 1		Not covered in these year groups	
Year 2			
Year 3	Magnets and Forces	<ul style="list-style-type: none"> that pushes and pulls are forces recognise that a force acts in a particular direction observe the movements, shape and direction of objects when forces act on them describe how to make a familiar object start moving by pushing or pulling describe how to use pushes and pulls to make familiar objects speed up, slow down, change direction or shape produce annotated drawings showing the direction of force needed to make an object move identify friction as a force observe and explore how friction affects the movement of objects describe some ways in which friction between solid surfaces can be increased or decreased classify materials as magnetic or non-magnetic describe the difference between a magnet and a magnetic material describe what happens when some materials are put near a magnet recall that magnets have a north and a south pole describe the direction of forces between magnets 	Force, push, pull, speed up, slow down, change shape, change direction, movement, direction, friction, magnets, magnetic, surface, magnetism, north pole, south pole, repel, attract,
Year 4		Not covered in this year group	
Year 5	Earth and Space	<ul style="list-style-type: none"> identify and name the components of the solar system (i.e. Sun, Moon, Earth and other planets) locate the Sun, Earth and other planets in the solar system and recognise that the Earth and other planets orbit the Sun recall that the Earth takes one year to orbit the Sun and recall that the Earth rotates on its' axis, and this takes one day recognise that the Moon orbits the Earth recognise that the Earth, Sun and Moon are spherical and support this with some evidence recognise that it is daylight in the part of the Earth facing the Sun and recall that a shadow from the Sun changes over the course of a day explore and describe how a shadow from the Sun changes over the course of a day and explain in terms of the rotation of the Earth why shadows change, and the Sun appears to move across the sky during the course of the day explain why it is night-time in Australia when it is daytime in England 	Earth, Sun, planet, Mercury, Venus, Mars, Jupiter, Moon, Saturn, Uranus, Neptune, solar system, spherical, moon, day and night, celestial body, rotation, hemisphere, orbit, shadow, daylight
	Forces	<ul style="list-style-type: none"> identify weight as a force and identify that force is measured in Newtons and name simple forces such as gravity, friction and air resistance recognise that more than one force can act on an object and observe and explore the effect of several forces on objects describe and explain the motion of some familiar objects in terms of several forces acting on them identify forces on an object as either balanced or unbalanced and use the terms 'balanced' and unbalanced' when describing several forces on an object explain that balanced forces on an object cause it to remain stationary or travel at the same speed and explain that unbalanced forces on an object cause it to speed up, change shape or slow down understand that air resistance is the frictional force of air on objects moving through it and recognise that air resistance slows things down (gravitational attraction) describe some of the factors that increase friction between solid surfaces and increase air and water resistance (upthrust, surface area) describe situations in which frictional forces are helpful as well as those in which frictional forces are unhelpful recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 	force, air resistance, water resistance, magnetic attraction, gravitational attraction, direction, force, motion, weight, upthrust, Newton, forcemeter, stationary, surface area, force applied, pulley, lever, gear
Year 6		Not covered in this year group	