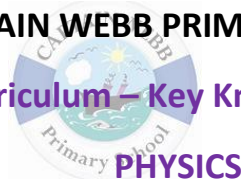


CAPTAIN WEBB PRIMARY SCHOOL

Science Curriculum – Key Knowledge and Skills

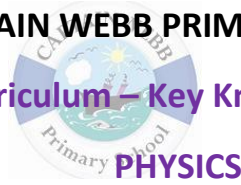


PHYSICS

Range 4: Daycare	Range 5: Nursery	Range 6: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Forces and Magnets - Substantive								
I know how to explore objects by linking together different approaches (i.e. shaking, hitting, pulling and turning)	I know how to talk about different forces I feel (i.e. going down a slide).  I know how to explore how things work.	I know that heavy objects will sink and light objects float.  I know how to talk about different forces (i.e. push, pull)			I know that objects move differently on different surfaces.  I know some materials which are attracted to materials and some which are not.  I know that magnetic forces can act at a distance.  I know that magnets have two poles and can predict whether two magnets will attract or repel.		I know that unsupported objects fall towards the earth because of the force of gravity.  I know air resistance slows down moving objects.  I know that water resistance slows down objects that are moving through water.  I know that friction is caused when one object rubs against another.  I know that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	
Vocabulary								
Shake, hit, pull, turn	Forces, fall, magnet	Push, pull, magnets, sink, float, attract, repel			Friction, force, magnetic, north pole, south pole, attract, repel		newtons, gravity, friction, air resistance, upthrust, water resistance, mechanism, gear, lever, pulley	
Scientific enquiry - Disciplinary								
					Which surface is best to stop you slipping? (Comparative and fair testing)		Which shape parachute takes the longest to fall? (Comparative and fair testing)	

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## Science Curriculum – Key Knowledge and Skills

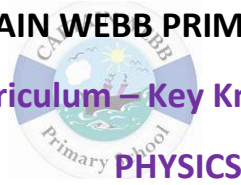


### PHYSICS

Range 4: Daycare	Range 5: Nursery	Range 6: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Light – Substantive</b>								
I know features of object in my environment (i.e. the light and the sun)	I know that light shines through some materials, but not others.  I know that when I put an object in front of a torch, it makes a shadow.	I know that objects, such as a torch, a lamp and the sun, cast a shadow.  I know that light from the sun can be dangerous and that there are ways to protect my eyes.			I know that we need light in order to see things.  I know that dark is the absence of light.  I know that light is reflected from surfaces.  I know that shadows are formed when the light from a light source is blocked by a solid object.  I know that shadows change according to the position and direction of the light source.			I know that light appears to travel in straight lines  I know objects are seen because they give out or reflect light into the eye.  I know how shadows have the same shape as the objects that cast them.  I know the parts of the eye.
<b>Vocabulary</b>								
Light, dark, on, off, sun	Shadow, torch, shine	Lamp, cast, dangerous, protect			Absence, reflection, shadow, light source, opaque, transparent, translucent			reflect, absorb, shadow, emit, pupil, retina, iris, optic nerve, lens
<b>Scientific enquiry - Disciplinary</b>								
					How does the distance between the puppet and the light source affect the size of the shadow created? (Comparative and fair testing)			How does the type of liquid affect the angle at which the light refracts? (Comparative and fair testing)  Child led research (research)

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Science Curriculum – Key Knowledge and Skills

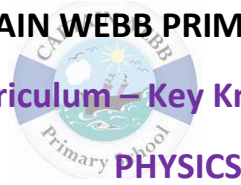


PHYSICS

Range 4: Daycare	Range 5: Nursery	Range 6: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Electricity – Substantive</b>								
						<p>I know how to construct a simple series circuit, which includes switches and buzzers</p> <p>I know that a switch opens and closes a circuit</p> <p>I know some common conductors and insulators, and associate metals with being good conductors</p>		<p>I know the necessary precautions for working safely with electricity.</p> <p>I know the reasons why there are variations in how components function, including the brightness of bulbs</p> <p>I know what the effect of changing the voltage of a battery is within a circuit</p> <p>I know the reasons why there are variations in how components function, including the brightness of bulbs the loudness of buzzers</p> <p>I can use recognised symbols when representing a simple circuit in a diagram</p>
<b>Vocabulary</b>								
						conductor, insulator, switch, series circuit, electricity, buzzer, metal, plastic, graphite, battery, cell, wire		conductor, insulator, battery, cell, lamp, switch, circuit, component, buzzer, motor, voltage, function, symbols, wire, graphite, series, metal, connect.
<b>Scientific enquiry - Disciplinary</b>								
						Which room in school has the most electrical sockets? (Pattern seeking)		Which fruit makes the best battery? (Comparative and fair testing)

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Science Curriculum – Key Knowledge and Skills

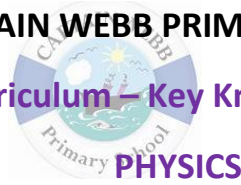


PHYSICS

Range 4: Daycare	Range 5: Nursery	Range 6: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Sound – Substantive</b>								
						<p>I know that some sounds are made when something is vibrating. recognise that vibrations from sounds travel through a medium to the ear</p> <p>I can find patterns between the pitch of a sound and features of the object that produced it</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>I know that sounds get fainter as the distance from the sound source increases</p>		
<b>Vocabulary</b>								
						vibration, pitch, volume, absorb, medium, vibrate, data logger, sound meter, decibels.		
<b>Scientific enquiry - Disciplinary</b>								
						<p>How does the volume of a drum change as you move further away from it? (Comparative and fair testing)</p> <p>How does the volume of sound change over time in different parts of the school? (Observation over time)</p>		

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Science Curriculum – Key Knowledge and Skills

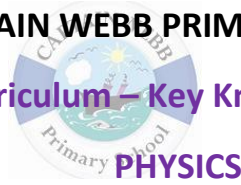


PHYSICS

Range 4: Daycare	Range 5: Nursery	Range 6: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Earth and Space – Substantive								
							<p>I know that the sun, earth and moon are approximately spherical bodies.</p> <p>I know the eight planets that make up the solar system and their relative position to the sun.</p> <p>I know how seasons and the associated weather is created.</p> <p>I know the movement of the Moon relative to the Earth.</p> <p>I know the movement of the Earth and the moon, relative to the Sun</p> <p>I know that the Earth's rotation and the apparent movement of the sun across the sky explains night and day.</p>	
Vocabulary								
							gravity, star, planet, attract, attraction, moon, orbit, mass, rotation, axis, equator, solar system, sphere, phases	
Scientific enquiry - Disciplinary								
							<p>What are the planets that make up our solar system? (Research)</p> <p>Why does the moon change every night? (Observation over time)</p>	

CAPTAIN WEBB PRIMARY SCHOOL

Science Curriculum – Key Knowledge and Skills



PHYSICS

Range 4: Daycare	Range 5: Nursery	Range 6: Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal Change – Substantive								
I know the weather changes.	I know how to talk about what I see.	<p>I know how to describe the weather using key vocabulary.</p> <p>I know that the four seasons are Summer, Winter, Autumn and Spring.</p>	<p>I know how to record the weather and can observe it across the four seasons.</p> <p>I know the different weather patterns associated with each season.</p> <p>I know that the length of daylight varies over time.</p>					
Vocabulary								
Weather, hot, cold	Wet, rain, sun, snow	Warm, dry, windy, icy, frosty, Autumn, Winter, Spring, Summer	temperature, daylight, hours, day, night, weather pattern, cloudy, forecast					
Scientific enquiry - Disciplinary								
			Which season is the coldest? (Observation over time)					