



St John's Highbury Vale C of E Primary School

Conewood Street, London N5 1DL

Tel: 020 7226 4906

E-mail: admin@stjhv.islington.sch.uk

Head of School: Mrs Lindsey Hodgson

Executive Head: Mrs Tonnie Read

Knowledge, Skills and Understanding breakdown for Physical Processes Year 1			
Electricity (non statutory)	Movement (non statutory)	Light	The Earth and beyond (non statutory)
<ul style="list-style-type: none"> Can they identify everyday appliances which use electricity? Can they recognise that electricity is an important source of light? 	<ul style="list-style-type: none"> Can they describe and show how to make something move, e.g. push and pull? 	<ul style="list-style-type: none"> Can they identify and name the sources of light? Can they identify and name sources of light that we can see? Can they explain what darkness is? Can they compare sources of light? (brightest, dimmest, darker, lighter) Can they observe and describe shadows during the day? 	<ul style="list-style-type: none"> Do they know that the sun lights up the Earth? Can they stay safe when observing the sun? Can they describe how the sun moves across the sky?
Year 1 (Challenging)			
Electricity (non statutory)	Movement (non statutory)	Light	The Earth and beyond (non statutory)
<ul style="list-style-type: none"> Can they explain how electricity helps us at home and at school? 	<ul style="list-style-type: none"> Can they describe and explain changes in movement as a result of an action? 	<ul style="list-style-type: none"> Can they describe changes in light that result from action/s? Can they describe how light and temperature are different during the night and day? 	<ul style="list-style-type: none"> Do they know that the sun moves across the sky during the day? Can they explain why they can't see stars in the daytime?





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Knowledge, Skills and Understanding breakdown for Physical Processes Year 2		
Electricity (non statutory)	Sound	Light (non statutory)
<ul style="list-style-type: none"> Can they explain how bulbs work in an electrical circuit? 	<ul style="list-style-type: none"> Can they describe different ways of making sound? Can they explain why a sound is louder the closer they are to the source? 	<ul style="list-style-type: none"> Can they compare the brightness and colour of lights? Can they explain what dark is; using words like shadow? Can they explain why their shadow changes during the day?
Year 2 (Challenging)		
Electricity (non statutory)	Sound	Light (non statutory)
<ul style="list-style-type: none"> Can they make a bulb go on and off? Can they say what happens to the electricity when more batteries are added? 	<ul style="list-style-type: none"> Can they explain what makes a sound louder and softer and higher and lower? Can they explain how the loudness and pitch of sounds can be altered? 	<ul style="list-style-type: none"> Can they explain why lights need to be bright or dimmer according to need? Can they explain how the loudness and pitch of sounds can be altered?





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Knowledge, Skills and Understanding breakdown for Physical Processes Year 3	
Forces and magnets	Light
<ul style="list-style-type: none"> Can they observe that magnetic forces can be transmitted without direct contact? Can they talk about how some magnets attract or repel each other? Can they classify which materials are attracted to magnets? Can they describe the speed and direction of moving objects? 	<ul style="list-style-type: none"> Can they explain the difference between transparent, translucent and opaque? Can they compare the brightness and colour of lights? Can they explain how bulbs work in an electrical circuit? Can they explain how shadows are formed?
Year 3 (Challenging)	
Forces and magnets	Light
<ul style="list-style-type: none"> Can they investigate the strengths of different magnets and find fair ways to compare them? Can they explain why an object will move faster if it is rolling down a hill or a slope? 	<ul style="list-style-type: none"> Can they explain why lights need to be bright or dimmer according to need? Can they make a bulb go on and off? Can they say what happens to the electricity when more batteries are added? Can they explain why their shadow changes when the light source is moved closer or further from the object?





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Knowledge, Skills and Understanding breakdown for Physical Processes Year 4	
Sound	Electricity
<ul style="list-style-type: none"> Can they describe a range of sounds and explain how they are made? Can they compare sources of sound and explain how the sounds differ? Can they explain how to change a sound (louder/ softer)? Can they describe and explain how a sound travels from a source to our ears? Can they explain what happens to sound as it travels away from its source? Can they explain how you could change the pitch of a sound? Can they investigate how different materials can affect pitch and volume of sounds? 	<ul style="list-style-type: none"> Can they explain how electricity is useful to us? Can they construct a simple circuit? Can they explain what a conductor is and test materials for conductivity? Can they explain closed and open circuits? Can they construct a circuit with a switch? Can they recognise some common conductors and insulators?
Year 4 (Challenging)	
Sound	Electricity
<ul style="list-style-type: none"> Can they explain why sound gets fainter or louder according to the distance? Can they explain how pitch and volume can be changed in a variety of ways? Can they work out which materials give the best insulation for sound? 	<ul style="list-style-type: none"> Can they explain how a bulb might get dimmer? Can they recognise if all metals are conductors of electricity? Can they work out which metals can be used to connect across a gap in a circuit?





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Knowledge, Skills and Understanding breakdown for Physical processes Year 5		
Earth and space	Magnetism	Forces
<ul style="list-style-type: none"> Can they identify and explain the movement of the Earth relative to the sun? Can they explain how seasons and the associated weather is created? Can they identify and explain the movement of the moon relative to the earth? Can they explain the size, shape and position of the earth, sun and moon? Can they explain how night and day are created and use diagrams to show this? Can they explain how planets are linked to starts? 	<ul style="list-style-type: none"> Can they explain how the force of magnetism works? Can they describe how magnetism is used in everyday objects? Can they describe magnets as having two poles? Can they make predictions associated with whether two magnets will attract or repel depending on which poles are facing? 	<ul style="list-style-type: none"> Can they explain what gravity is and its impact on our lives? Can they explain why a wheeled object that is initially pushed will slow down and stop? Can they explain the impact of friction on a moving object? Can they explain the effect of drag force on moving objects? Can they explain how force and motion can be transferred through gears, pulleys, levers and springs?
Year 5 (Challenging)		
Earth and space	Magnetism	Forces
<ul style="list-style-type: none"> Can they compare the time of the day at different places on the earth? Can they create shadow clocks? Can they begin to understand how older civilizations used the sun to create astronomical clocks? Can they explore the work of some space pioneers? (Galileo, Copernicus, Neil Armstrong) 	<ul style="list-style-type: none"> Can they work out how magnets are useful in an everyday context? Can they work out the link between magnets and the North and South poles? 	<ul style="list-style-type: none"> Can they describe and explain how motion is affected by forces? (including gravitational attractions, magnetic attraction and friction) Can they design very effective parachutes? Can they work out how water can cause resistance to floating objects?





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Knowledge, Skills and Understanding breakdown for Physical Processes Year 6	
Electricity	Light
<ul style="list-style-type: none"> Can they identify and name the basic parts of a simple electric series circuit? (Cells, wires, bulbs, switches, buzzers) Can they compare and give reasons for variation in how components function, including bulb brightness, buzzer volume and on/off position of switches? Can they explain how to make changes in a circuit? Can they explain the impact of changes in a circuit? Can they explain the effect of changing the voltage of a battery? 	<ul style="list-style-type: none"> Can they explain how light travels? Can they explain how the human eye sees objects? Can they explain how different colours of light can be created? Can they use and explain how simple optical instruments work? (periscope, telescope, binoculars, mirror, magnifying glass, Newton's first reflecting telescope) Can they explain changes linked to light (and sound)?
Year 6 (challenging)	
Electricity	Light
<ul style="list-style-type: none"> Can they make their own traffic light system or something similar? Can they explain the danger of short circuits? Can they explain what a fuse is? 	<ul style="list-style-type: none"> Can they use the ray model to explain the size of shadows?

