Year 3 Spring 2

Science Topic : Light

What should I already know?

- Light can come from the sur or electrical sources.
- When there is light, an object also has a shadow.
- We need light to see.

<u>Key Knowledge:</u>

- Light travels in a straight line.
- When light hits an object it is reflected (bounces off).
- A shadow is caused when light is blocked by an opaque object.
- Shadows form on the opposite side to the light source and are usually longer than the object.
- The pupils control how much light enters the eyes. Too much light can damage the retina.







	Vocabulary
Light	A form of energy that travels in a wave from a source.
Light source	An object that makes it's own light.
Dark	Dark is the absence of light.
Reflection	The process where light hits the surface of an object and bounces back into your eyes.
Reflect	To bounce off.
Reflective	A word to describe something that reflects light well.
ray	Waves of light are called light rays. They can also be called beams.
Pupil	The black part of the eye which lets light in.
Retina	A layer at the very back of the eye. The retina takes the light the eye sees receives and changes it to a nerve signal to the brain.
Shadow	An area of darkness where light has been blocked.
Opaque	Describes an object that does not let any light through.
Translucent	Describes an object that let's some light in but scatters it so it is not clear.
transparent	Describes an objects that lets light travel through easily.



Year 4 Spring 1

Science Topic : Sound

What should I already know?

- We use our ears to hear sounds.
- Volume allows us to hear things louder or quieter.
- Electrical objects can be used to amplify a sound - hearing aids, speakers.



Outer Ear







	Vocabulary	
Vibration	A movement backwards and forwards.	
Sound wave	Vibrations travelling from a sound source.	
Volume	The loudness of a sound.	
Amplitude	The size of a vibration. The louder the sound the higher	
Pitch	How high or low a sound is.	
Ear	An organ used for hearing.	
Particles	Solids, liquids and gases are made up of small particles	
Distance	A measure of length between two points.	
Soundproof	indproof To prevent sound from passing.	
Absorb sound	sorb sound To take in sound energy, creating a muffling noise.	
Vacuum	A space where there in nothing.	
Eardrum	A part of the ear which is a thin, tough layer of tissue that is stretched out like a drum skin. It separates the different parts of the ear. Sound waves make the eardrum vibrate.	





<u>Key Knowledge:</u>

- Sound is a type of energy created by vibrations.
- Sound can travel through solids, liquids and gases.
- Inside your ear, vibrations hit the eardrum and pass through the inner ear. It is then converted to electrical signals to the brain.
- Sound travels in a wave vibrating from particle to particle.

	Va a				
rear 5 spring i				<u>Vocabulary</u>	
Science Topic : Properties of Materials		Materials	The substance that something is made out of, e.g. wood, plastic, metal.		
<u>Wha</u>	<mark>it should I already know?</mark> Materials can be classified as solids,	solid particles	gas particles	Solid	One of the three states of matter. Solid particles are very close together, meaning solids, such as wood and glass, hold their shape.
•	 Itquids and gases. Materials can change state through heating or cooling. 	Liquid	This state of matter can flow and take the shape of the container because the particles are more loosely packed than solids and can move around each other.		
•	The stages of the water cycle.	solid The solid The solid The liquid	melts. freezes.	Gas	One of the three states of matter. Gas particles are further apart than solid or liquid particles and they are free to move around. A gas fills its container, taking both the shape and the volume of the container.
<u>Key Knowledge:</u>		liquid	Melting	The process of heating a solid until it changes into a liquid.	
				Freezing	When a liquid cools and turns into a solid.
Different materials are used for			Evaporating	When a liquid turns into a gas or vapour.	
particular jobs based on their properties: electrical conductivity, flexibility, hardness, insulators, magnetism, solubility, thermal conductivity, transparency		Condensing	When a gas, such as water vapour, cools and turns into a liquid.		
	flexibility, hardness, insulators, magnetism, solubility, thermal conductivity, transparency Irreversible changes often result in a new product being made from the old materials (reactants).		Sugar is	Conductor	A conductor is a material that heat or electricity can easily travel through. Most metals are both thermal and electrical conductors.
•		material.	Insulato r	An insulator is a material that does not let heat or electricity travel through them. Wood and plastic are both thermal and electrical insulators.	
•	Reversible changes, such as mixing and dissolving solids and liquids together, can be reversed by sieving, evaporating or filtering.	changes, such as mixing ving solids and liquids in be reversed by sieving, g or filtering.	Sand is an insoluble material.	Transparency	A transparent object lets light through so the object can be looked through, for example glass or some plastics.

Year 6 Spring 1

Science Topic : Evolution

What sh	rould I	already	know?

- There are five main animal kingdoms mammals, fish, birds, amphibians and reptiles.
- Animals can be classified by characteristics - habitat, number of legs etc



<u>Key Knowledge:</u>

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- Evolution is the gradual development of species over million of years. Scientists have proof that we are evolving daily.
- Characteristics are influenced by the environment living things live in. adaptations can be a result of food and climate.
- Inherited traits can be things like eye colour, the size of your earlobes or even if you can smell flowers or not.



Living Things		Habitat		Adaptive Traits
polar bear	(A)	arctic	Kan	Its white fur enables it to camouflage in the snow.
camel	<pre>Mail</pre>	desert		It has wide feet to make it easier to walk in the sand.
cactus	Ŵ	desert		It stores water in its stem.
toucan		rainforest		Its narrow tongue allows it to eat small fruit and insects.

	<u>Vocabulary</u>	
Offspring	The young animal or plant that is produced by the	
Inheritance	This is when characteristics are passed on to the	
Variations	The differences between individuals in a species.	
Characteristics	The distinguishing features or qualities that are specific	
Adaptation	An adaptation is a trait that changes to increase the	
Habitat	A specific area or place in which particular animals or	
Environment	An environment contains many habitats and includes	
Evolution	Adaption over a very long time.	
Natural selection	The process where organisms that are better adapted to their environment tend to survive and produce offspring.	
Fossil	The remains or imprint of a prehistoric animal or plant	
Adaptive traits	Genetic features that help a living thing survive.	
Inherited traits	Traits you get from your parents.	