Preston Primary School

Preston Primary School Knowledge Organiser

Communication | Critical-Thinking | Collaboration | Creativity

Topic: Science – Everyday materials	Term: Autumn 2	Year: 1 & 2	Duration: 6 lessons

The Powerful Knowledge we will take away from this Learning Enquiry (what will be learning):

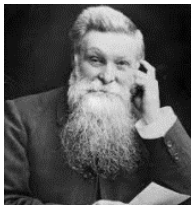
	Observe, identify and classify – What are objects made from?
	Observation – What are the properties of the different materials?
	Identifying and classifying – What are the properties of different materials? Creating a key
	Simple test – What happens to materials when they are heated and cooled?
	Generating questions
	Simple test – How well do different kitchen paper towels absorb water?
	Problem-solve/simple test – Which fabric will be best for a jacket for a child?
	Simple test – Which materials make the best crash mat for Humpty Dumpty?

Our Key Vocabulary:

Word	Meaning
Types of materials	wood, plastic, glass, metal, water, rock, brick, fabric, sand, paper, flour, butter, milk, soil
Properties of materials	hard/soft, stretchy/not stretchy, shiny/dull, rough/smooth, bendy/not bendy, transparent/not transparent, sticky/not sticky
Verbs associated with materials	crumble, squash, bend, stretch, twist
Senses	touch, see, hear, smell and taste
Elastic	Elastic materials can be stretched and when one stops pulling them, they return to their original shape (e.g. rubber and nylon).
Texture	the feel of a material is its texture. Smooth means that it doesn't have lumps so things easy to slide. Rough means having a coarse, uneven surface. Sharp means have edges that are able to cut. Abrasive means that it will wear away other surfaces if rubbed against them.
Hardness	A soft material is easy to scratch. The hardness of some materials (e.g. minerals) is judged using the Mohs index; a maximum value of 10 is given to diamond, and 1 is given to soft minerals like talc.
Strength	A strong material is one that is difficult to break. In order to test strength we need to apply a force.

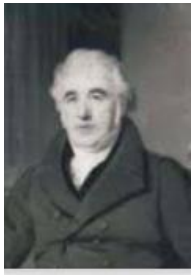
Key Scientists

- **John Boyd Dunlop (1840 – 1921) -**



http://primaryfacts.com/8429/john-boyd-dunlop-facts-and-information/

- **Charles Macintosh (176 – 1843) –**



http://www.rampantscotland.com/inventors/inventions_waterproof.htm

- **John McAdam (1756 – 1836) –**

http://inventors.about.com/library/inventors/blJohnMcAdam.htm

What I already know:

In Puffins and Penguins, I learned about some important processes and changes in the natural world around me, including the seasons and changing states of matter.

Images:

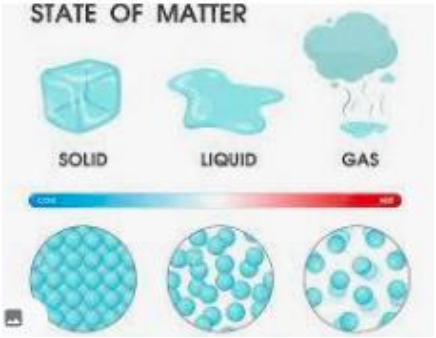
Further Information

Solids, liquid and gases

All materials can exist in all states, dependent on temperature and pressure.

Solids – These have a definite shape and keep it.

Liquids - Not all liquids are the same. They look and feel different. All liquids will pour. Thicker liquids pour more slowly. Liquids take the shape of their container.



Dry sand will pour like a liquid and take the shape of its container. In a flat tray, dry sand will pile up but water will spread to fill the tray. This is because sand is not a liquid. It is made up of lots of tiny solids.
Gases - Gases will fill the space that they are in. If it is in a larger area the pressure will be less than if it were in a small area.