

OLSE Year Two Science Knowledge Organiser

Advent - Uses of Everyday Materials

Key Objectives: To distinguish between an object and the material it is made from. To identify and name a variety of everyday materials including **wood, plastic, glass, metal, water and rock**. To describe the simple physical **properties** of a variety of everyday materials e.g. transparent, opaque, rough, smooth, hard, soft etc. To identify and compare the **suitability** of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. To find out how the shapes of solid objects made from some materials can be **changed** by squashing, bending, twisting and stretching. To know about the effect of heating on changing materials. To learn about the scientific discovery of **Charles Mackintosh** who used his chemistry skills to design and make the first waterproof coat.

Key Vocabulary

materials	Materials are what objects are made from.
suitability	Suitability means having the properties which are right for a specific purpose.
properties	This is what a material is like and how it behaves (soft, stretchy, waterproof).

Key Knowledge

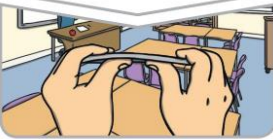
Properties of Materials

 wood: hard, stiff, strong, opaque, can be carved into any shape.	 glass: waterproof, transparent, hard, smooth.
 plastic: waterproof, strong, can be made to be flexible or stiff, smooth or rough.	 metal: strong, hard, easy to wash.
 paper: lightweight, flexible.	 cardboard: strong, light, stiff.
 fabric: soft, flexible, hard-wearing, can be stretchy, warm, absorbent.	 rubber: hard-wearing, elastic, flexible, strong.

Squash an object by pushing both hands together.



Bend an object by grabbing both ends of the object and bringing the ends inwards together.



Twist an object by turning your hands in opposite directions.



Stretch an object by pulling your hands slowly and gently apart.



wood



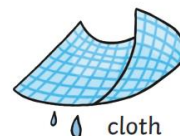
metal



brick



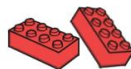
ice



cloth



plastic



plastic



paper



metal



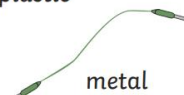
stone



water



glass



metal



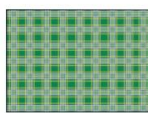
glass



leaves



plastic



fabric



wool



leather

More Vocabulary

opaque	Not see through.
transparent	See through.
durable	Will last a long time and resist wear and tear.
fragile	Will easily break.
rough	Uneven, bumpy and coarse.
smooth	Flat, even, plane.
flammable	Will easily catch fire and burn.
flexible	Can change shape and move easily, is bendy.
rigid	Will not change shape easily, keeps its shape, is stiff.
hard	Firm, solid, stiff, rigid.
soft	Squashy, furry, woolly, downy.
solid	Hard, dense, compact, keeps its shape - solid ice .
liquid	Pours and takes the shape of a container - liquid water
gas	Vapour, air, smoke - steam
natural material	Raw materials: wool, stone, wood, straw, cotton, coal, rubber etc.
man-made material	Plastic, steel, glass, paper, brick, concrete.
reduce, reuse, recycle.	Making sure we do not waste materials and instead we use them again. How we can use materials again to help protect the environment? What do you recycle?

Charles Macintosh

Charles Macintosh was a Scottish inventor and chemist who invented waterproof fabrics in 1818. The Mackintosh raincoat was introduced in 1824.

Charles Macintosh invented the first waterproof fabric by painting a dissolved rubber solution onto cloth.

