

Laughton All Saints' Knowledge Organiser

YEAR 2

CHEMISTRY: Which is the best material to use?

SCIENCE

KEY VOCABULARY

Property: what a material is like and how it behaves

Suitability: having properties to suit a particular purpose

Natural: a material that is made directly from matter in our environment, including materials from living things (such as plants or animals) or from the ground (such as rocks and minerals).

Synthetic: a material made by humans, or made by humans mixing natural things together

Flexible: able to be bent and then return to its original shape

Translucent: allows some light to pass through

Magnetic: can be pushed or pulled by a magnet using magnetic force

Strength: the strength of a material or object is how well it can hold weight without breaking

Hardness: the hardness of a material is how easily it can be scratched

KEY SCIENTIST

John Dunlop (1840-1921) was a British inventor. At the time, bicycle tyres were made of solid rubber. They were very uncomfortable on the rough, potholed roads.

He made some new tyres for his son's tricycle, and in 1887 he came up with a new type of tyre. He created an inflated rubber tyre from thin sheets of rubber glued to the wheel, which he then inflated with a football pump. He called his invention a pneumatic tyre – meaning that it contained air.



KEY CONCEPT – materials are chosen by the suitability of their properties

<p>hard</p> <p>not easily broken or pierced</p> <p>A hard diamond.</p>	<p>squashy</p> <p>easily crushed or squeezed</p> <p>The play dough is squashy.</p>	<p>smooth</p> <p>an even and regular surface</p> <p>Some smooth pebbles.</p>
<p>absorbent</p> <p>able to soak up liquid</p> <p>The sponge is absorbent.</p>	<p>bumpy</p> <p>uneven, raised patches</p> <p>This shell is bumpy.</p>	<p>opaque</p> <p>cannot be seen through</p> <p>She is hidden by the opaque screen.</p>
<p>dull</p> <p>lacking shine or brightness</p> <p>The moth's wings are dull.</p>	<p>brittle</p> <p>hard, but may break easily</p> <p>The glass is brittle.</p>	<p>translucent</p> <p>allowing some light to pass through</p> <p>The screen is translucent.</p>

- Glass can used to make windows because it is **transparent**.
- Rulers can be made from **wood, plastic** or **rubber** because these materials are **smooth** and can be cut straight.
- Spoons are made from **metal**, because it is **waterproof** and can be cleaned easily.
- They can also be made from **plastic** for children because **plastic** is light and it cannot hurt children's growing teeth.

STICKY KNOWLEDGE

1. Natural materials come from our environment.
2. Manufactured materials come from natural materials but have been changed by humans
3. Synthetic materials are made by humans
4. We use the materials most suitable for a job eg –an umbrella must be made from a waterproof material
5. Some materials have multiple uses.eg, metals can be used in coins, cans and cars.
6. Objects can be changed by the effect of forces – they bend, squash, twist and stretch.

KEY CONCEPT – Some materials can be shaped

The shape of some solid objects can be changed depending on what material they are made from.

Squashing, Bending, Twisting and Stretching

