

**Use of EVERYDAY MATERIALS**

KNOWLEDGE ORGANISER

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| **What you should already know…** | |  | **Properties of Materials** | | | |
| -Materials are the substances that things are made from.  -We use lots of different materials every day, e.g. metal, plastic, wood, and glass.  -Different materials have certain properties, e.g. glass is see-through, metal is strong and often shiny, etc.  -Composites are made from two or more materials together.  - Some materials are used to make many things. | |  | Material | Image | Properties | What could it be used for? |
| Metal |  | -Metals are often strong, shiny, hard and long-lasting.  -Metals can be hammered into different shapes. | -Metals can be made into things like pots and pans.  -Metals can stretched into wires and rods. |
| Glass |  | -Glass can be strong, but thin glass shatters.  -Glass is transparent and waterproof. It can be made into different shapes. | -Glass is most often used to make windows and glasses.  -It is also used in making mirrors, table-tops and windscreens. |
|  | Wood |  | -Wood is hard and strong;  -Wood is long-lasting and is a natural product.  -Wood is flammable. | -Wood is often used to build furniture, like benches and desks.  -Wood can be used to build houses and cabins. |
|  |  |  | Plastic |  | -Plastics can be tough or flexible and can be made into any shape. Plastics can be dyed different colours and can be made transparent. | -Plastics can be used to make packaging, bottles and toys.  -Plastics can be moulded into plates, knives and forks. |
| **Development of Materials** | |  |
| John Dunlop  -John Dunlop is famous for developing the pneumatic (air-filled) tyre.  -He did this, at first, to improve the tyres on his son’s bicycle!  -He used his understanding of rubber to fit it to a wooden disc. He then used an inflated tube of sheet rubber to blow up the tyre. | |  |
| Rubber |  | -Rubber is extremely tough, but also very flexible.  -Rubber is elastic and also waterproof. Rubber doesn’t tear easily. | -Not including food and drinks, water is still used in many, many products. For example, it is used in making paints, toothpastes, shampoos and cement. |
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| Charles Macintosh  -Charles Macintosh is best known for inventing the raincoat.  -He discovered a way in which rubber could be placed between two layers of cloth, to make it waterproof.  -His name lives on today – a raincoat is often called a Macintosh or Mac. | |  | Brick |  | -Bricks are very hard and strong. They are difficult to break. Bricks are thick and store heat well. | -Bricks are normally attached together with mortar and are used to make buildings.  -They are also used for paving. |
| Paper |  | -Paper is often thin and can be made into lots of different shapes. Paper can be torn. It goes soggy when wet. | -Paper is normally used for writing. Paper is used in diaries, notebooks and for printing on. Paper is used for posters/displays. |
| John McAdam  -John McAdam was the first person to think of tarmac roads.  -Roads used to be made from clay, earth, or chalk, but these materials were messy and not very smooth.  -He spread hot tarmac on a road, adding lime chippings & flattening. | |  |
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|  | Cardboard |  | -Cardboard is often thin but is firmer and tougher than paper. Cardboard is more difficult to tear. It goes soggy when wet. | -Cardboard is often turned into boxes and is then used for packaging items. It can be used for protection, e.g. protecting floors when painting. |

Properties of Materials Vocabulary

Firm

Soft

Waterproof

Translucent

Flammable

Flexible

Dull

Hard

Bumpy

Bouncy

Absorbent

Smooth

Squashy