Coley Primary School – Knowledge Organiser

SUBJECT FOCUS: Chemistry Strand	Science: Everyday materials	YEAR 2	TERM 3

WHAT? – Key Knowledge

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
- Use scientific language: say, read and spell scientific vocabulary

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

Paper



Lightweight, flexible

Metal



Strong, hard, easy to wash

Cardboard



Strong, light, stiff

Rubber



Hard –wearing, elastic, flexible, strong.

Fabric



Soft, flexible, hard-wearing, Can be stretchy, warm, absorbent.

Famous People who Developed New Materials

John McAdam





A Scottish engineer who experimented with using new materials to build roads, inventing a new process called **macadamisation**.

McAdam's invention was so successful that roads were built in this way right across the world.

Macadamisation was the name given to McAdam's construction process of building roads. The name tarmac means a road made like this using tar.

John Dunlop





A Scottish inventor who invented the air –filled rubber tyre. It was originally invented in 1887 to use with bicycles, and then became very useful when automobiles were developed.

Originally used rubber to make tyres for his son's tricycle.

Charles Macintosh





A Scottish inventor and chemist who invented waterproof fabric in 1818.

The Machintosh raincoat was introduced in 1824.

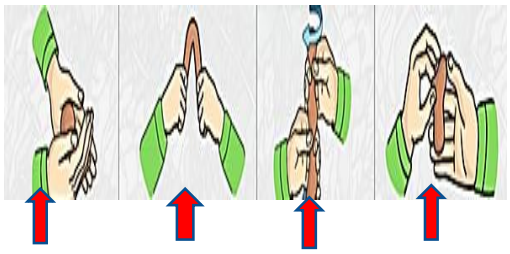
Macintosh invented the first waterproof fabric by painting a dissolved rubber solution onto cloth.

WHAT? – Key vocabulary

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

Diagrams and symbols

Some material can…



Squash Bend Twist Stretch

Working Scientifically Challenge:

- Explore how the shapes of solid objects can be changed. (squashing, bending, twisting, stretching)
- Find out about people who developed useful new materials. (Dunlop, MacKintosh, MacAdam)
- Identify and compare the uses of a range of everyday materials? (wood, metal, plastic, glass, brick/rock, paper/cardboard)
- Explain how things move on different surfaces.

I wonder…

- Can they explain how materials are changed by bending, twisting and stretching?
- Can they describe the properties of different materials using words like transparent or opaque, flexible, etc?
- Can they sort materials into groups and say why they have sorted them in that way?
- Can they say which materials are natural and which are man-made?

Possible experiences: *Curious minds…*

- **Material hunt:** Discuss what different items around the home are made from and why that might be.
- **'Plastic** (Acorn: Exploring Materials)' by Abby Colich
- **Everyday Materials** (Ways Into Science) , by Peter Riley