

## What should I already know?

- In EYFS children should be able to make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)
- They should understand that objects feel and look different based on the material they are made from.
- They will also have used different materials when painting and making art.

## What will I know by the end of the unit?

- I can distinguish between an object and the material from which it is made
- I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock
- I can describe the simple physical properties of a variety of everyday materials
- I can compare and group together a variety of everyday materials on the basis of their simple physical properties

## Big Questions

**What does it mean when we say that materials are natural or man-made?**

**What is the best material for an umbrella?**

**What is the best material for a roof?**

**What properties should windows have?**

## Vocabulary: Types of material



plastic



wood



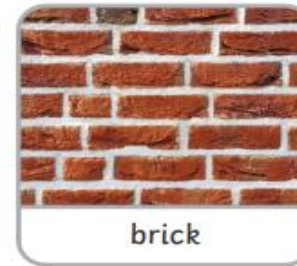
metal



stone



paper



brick



fabric



water

## Vocabulary: Properties of material

**hard**

not easily broken or pierced

A hard diamond.

**squashy**

easily crushed or squeezed

The play dough is squashy.

**smooth**

an even and regular surface

Some smooth pebbles.

**absorbent**

able to soak up liquid

The sponge is absorbent.

**bumpy**

uneven, raised patches

This shell is bumpy.

**opaque**

cannot be seen through

She is hidden by the opaque screen.

**elastic**

springs back once stretched

An elastic band.

**shiny**

reflects light, smooth surface

A shiny silver spoon.

**conductor**

lets heat, electricity or sound to pass through it

Some metals are conductors of electricity.

# Wellesley Park Primary School – Science

Topic: Properties and changes of materials

Year: 1

Strand: Physics

## RESOURCES THAT ARE IN SCHOOL:

- Feely tubs
- Box of different materials

## FAMOUS SCIENTISTS:

- Ole Kirk Christiansen- inventor of Lego
- William Addis - Toothbrush Inventor
- Chester Greenwood – Earmuffs

## CULTURAL CAPITAL/MEMORABLE MOMENTS:

- Go on a material scavenger hunt around the school.
- Explore different materials and sort them into groups before writing songs based on their properties!
- Consider what it would be like if the tables were made of jelly or the chairs were chocolate! Then recreate the story of the three little pigs and predict what will happen to their houses.

## RECOMMENDED/USEFUL ONLINE RESOURCES:

- [Material song to learn](#)
- [Video and plenary quiz - bbc bitesize](#)
- [Six lessons plans on materials - Stem Learning](#)
- [interactive game labelling materials](#)
- [online activity for grouping and sorting](#)

## BOOKS LINKED TO TOPIC:

- **The three little pigs**- James Halliwell-Phillipps
- **We're going on a Bear hunt**- Helen Oxenbury
- **Sticks**- Diane Alber
- **The Great Paper Caper** (Oliver Jeffers)
- **Who Sank the Boat** (Pamela Allen)
- **The Story of Cinderella** (Walt Disney)

## CROSS-CURRICULAR LINKS:

**English:** create simple sentences, innovate a story in writing, use templates to write investigations.

**History-** homes through time.

**DT-** build structures, exploring how they can be made stronger, stiffer and more stable, what materials make the best bridges

# Wellesley Park Primary School – Science

Topic: Properties of materials

Year: 1

Strand: Scientific enquires

## Comparative / fair testing

Changing one variable to see its effect on another, whilst keeping all others the same.



## Research

Using secondary sources of information to answer scientific questions.



## Observation over time

Observing changes that occur over a period of time ranging from minutes to months.



## Pattern-seeking

Identifying patterns and looking for relationships in enquiries where variables are difficult to control.



## Identifying, grouping and classifying

Making observations to name, sort and organise items.



## Experiments

Which materials/kitchen towels/ nappy is the most absorbent?  
What materials are transparent? Which sunglasses are the best?  
Which materials are the most flexible? Which is the bounciest ball?  
Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters.

How are bricks made?  
Which materials can be recycled?

What happens to materials over time if we bury them in the ground?  
What happens to shaving foam over time?  
How does the colour of a UV bead change over the day?

Is there a pattern in the types of materials that are used to make objects in a school?

We need to choose a material to make an umbrella. Which materials are waterproof?  
Which materials will float and which will sink?  
Classify objects made of one material in different ways e.g. a group of object made of metal.  
Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials.  
Classify materials based on their properties.