Autumn 1 Year 2 Science Knowledge Organiser
Materials

Subject specific Vocabulary

Materials	What objects are made from.
Properties	What a material is like and how it behaves.
Reflective	To reflect light.
Shock absorbent	Absorbing energy to sudden shocks/impact.
Suitability	Having the right properties for purpose.
Waterproof	Keeps water out.

Images/Diagrams/Maps

Writing/Provision/ Enrichment opportunities

Make material monsters

Writing - Explanation - How do we keep ourselves safe in the dark using reflectors?

Important Knowledge

<u>John McAdam</u>

Scottish engineer who experimented with using new materials to build roads, inventing a new process called 'macadamisation'. His effective and economical method of constructing roads is used across the world.

<u>Changing materials</u>

You can change materials in different ways -

Squash
Bend
Twist
Stretch
Push
Pull
Squeeze

Scientific Enquiry Skills

Working Scientifically Skills

Presentation	Working Scientifically and Scientific Enquiry Assessment		
	• Children can identify and group, compare and contrast using observations of different materials. They may be able to group using some of the identified groups of materials and basic scientific language.	• Children can compare objects based on observable features. They can use their observations to suggest how the object it suitable for its purpose. They may suggest alternative materials which would be suitable or unsuitable.	• Children can make observations and decide how to record them to answer a question. They can identify how materials are suitable and can use scientific language to describe its properties. They can identify compound materials.
	• Children can record their ideas with support and identify and label some materials.	• Children can record their observations using labelled diagrams. Children can identify a range of materials	• Children can record their labelled diagrams accurately and can write a range of properties using scientific language.
	• Can identify if the material is suitable or not but cannot suggest using scientific language and reasons why.	• Can draw basic conclusions based on observations. • Can compare something using own scientific knowledge and uses simple scientific language to justify suitability of materials.	• Can use observations an down scientific knowledge to state why a material is suitable or not. • Is able to use scientific language and back up with other objects and examples.
	• Children can suggest some of their own ideas but are not quite able to think about how to carry out the test independently- need support by the team or teacher.	• Children can carry out a comparative test using own ideas, they select resources and have a good idea of the materials they want to compare and how they will do it.	• Children can work independently showing control over the comparative test. Children remember to keep the wolf at the same place each time and the same weight used- some understanding over keeping things the same for their test.
	• Can make basic predictions based on what they have observed or felt but not able to say why one material is better than the other using its materials.	• Children draws on observation of the materials and the feel of the materials to make a prediction. They will use some scientific knowledge to state reasons using the properties of the materials.	• Children can make a realistic prediction based on their observations and use the properties of materials and scientific language to explain why.
	• Children are able to reflect on the test and use results to state which one was the best ball. They can make suggestions of suitable materials for a tyre but may not be able to back up their thinking.	• Children are able to use their observations to suggest evidence to answer questions. They can make suggestions for which material will be suitable.	• Children are able to use their observations to suggest evidence to answer questions. They can make suggestions for which material will be suitable and use scientific knowledge or evidence from the test to back up.