

Science

Everyday Materials



Year 1 - Summer 1

Name: _____

Class: _____

Year 1 Science Knowledge Organiser - Summer 1 - Materials

1	Wood	Wood is taken from trees and can be used to make certain objects.					
2	Plastic	Plastics are made from natural materials such as wood, coal and oil. Plastic is used make certain objects.					
3	Glass	Glass is made by heating sand at a very high temperature.					
4	Metal	All metals are found in the earth, but not in a form that can be used straight away.					
5	Material	What something is made of.					
6	Metal	Many metals are strong, shiny and hard. They are also often malleable, meaning they can shaped without breaking or cracking.					
7	Magnet	Objects that pull or push metals with magnetism.					
8	Non-Magnetic	Objects that cannot be directly affected by magnetism.					
9	North Pole	An end of a magnet that is attracted to the south pole of another magnet.					
10	South Pole	An end of a magnet that is attracted to the north pole of another magnet.					
11	Attract	If one object attracts another object, it causes the second object to move towards it.					
12	Repel	When the same poles of magnets push away from each other.					
13	Classify	To classify things means to place them in different categories, or groups					
14	Venn Diagram	A diagram using circles or other shapes, to show the relationship between sets.					
15	Carroll Diagram	A two-way table used for grouping things.					
16	Squashing	Crush something so that it becomes flat, soft, or out of shape		17	Bending	Changing a straight object so that it is curved.	
18	Twisting	Change the shape of an object by turning it.		19	Stretching	Made longer or wider without tearing or breaking.	
20	Waterproof	Waterproof is something that keeps water out. A plastic raincoat is an example of something that is waterproof.		21	Absorbent	Having the ability to absorb or soak up liquids. A sponge is an example of something that is absorbent.	
22	Fabric	Cloth produced by weaving or knitting.					
23	Hard	Something that is solid, firm, and rigid; not easily broken, bent, or pierced.					
24	Soft	Something that is easy to mould, cut, compress, or fold; not hard or firm to the touch.					
25	Heavy	Something of of great weight; difficult to lift or move.					
26	Light	Something that has little weight and is easily movable.					

LESSON ONE: Naming Materials

Retrieval Practice

What I already know about materials.	Questions I still have about materials.
•	•
•	•
•	•

Outcomes	Key Vocabulary
To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock by matching a material to its name.	Materials, wood, plastic, glass, metal, water, rock.
Knowledge needed	
It will be helpful if children have had experience of handling some of these materials before.	

Everybody Reads

Today you are going to explore some different materials, which is very exciting!

These are the **very important** things you need to remember to **stay safe**.

- Listen to all the instructions carefully.
- Be sensible.
- Be gentle with the materials.
- Look out for any sharp edges.

Group Task

Follow the rules to stay safe and explore the different materials - do you know any of the names of the materials? What adjectives would you use to describe them?

Let's look at some examples of different materials on the slides, share the adjectives you would use to describe the materials.

Write your five best adjectives below on the lines.

Independent Task

Write the name of the material shown in the picture. Use the keywords to help you to label them.



glass	plastic	metal
wood	rock	water

Exit Ticket

Can you think of three adjectives to describe each material?

Metal



Plastic

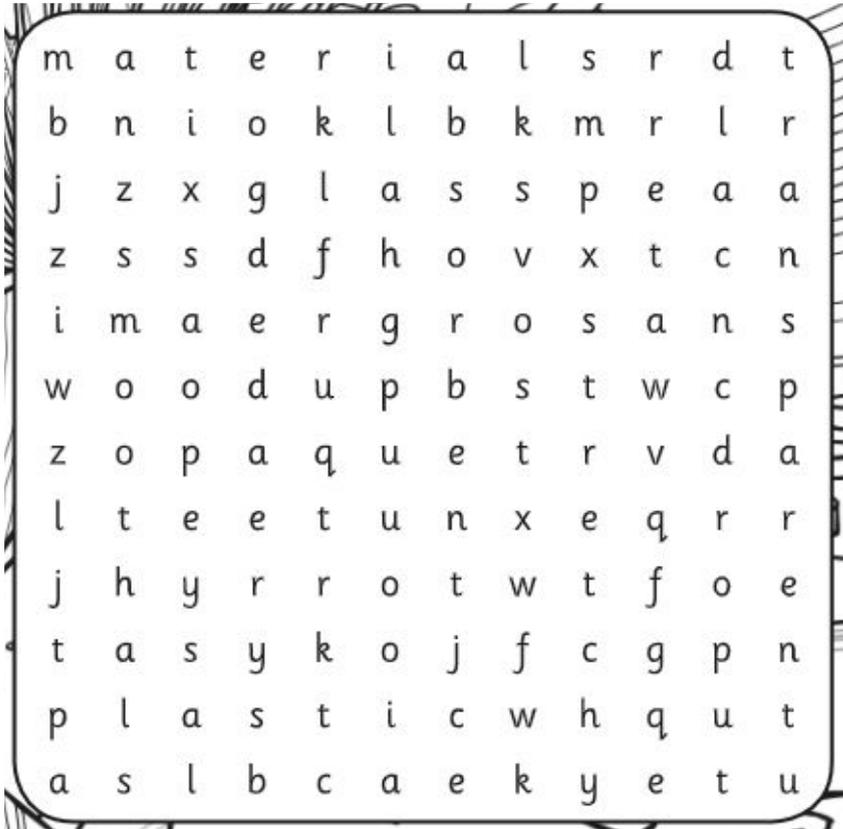


Water



LESSON TWO: Objects and Materials

Vocabulary Practice



materials

rock

wood

stretchy

plastic

smooth

glass

opaque

metal

transparent

water

absorbent

Outcomes	Key Vocabulary
To distinguish between an object and the material from which it is made by naming objects and identifying the material which they are made from.	Object, common, same.
Knowledge needed	
Children will have learnt the names of everyday materials in lesson 1.	

Whiteboard Task

Look at the pictures on the slides, some of the objects are made of more than one material, but they all had one material in common.

What do they all have in common? Make sure you explain your answer.

Write your answer on your whiteboard.
 After one, two, three, show me!

Mini Task
Materials Challenge!



What objects can you see in this picture?
Draw labels to show what materials the objects are made from.



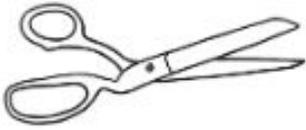
Draw labels to show what material this pencil sharpener is made from.
Is it made from one material?



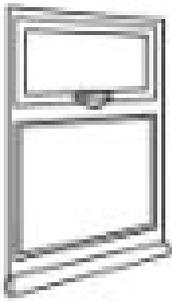
Draw labels to show what material these glasses are made from.
Are they made from one material?

Independent task

Look at the pictures and read the sentences. Choose the right words from the word bank to make the sentences make sense.



The _____ are made from _____
and _____.



The _____ is made from _____.



The _____ is made from _____
and _____.

metal	scissors	window	table
glass	wood	plastic	rock

Exit Ticket

Odd one out!

Which of these objects do you think is the **odd one out**? Why?



I think the odd one out is _____

because _____



LESSON THREE: Properties

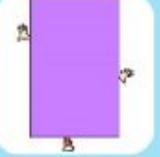
Retrieval practice

With your talk partner, write down adjectives you could use to describe materials and their properties.

Outcomes	Key Vocabulary
To describe the simple physical properties of a variety of everyday materials by looking at and touching different materials.	Describe, properties, hard, soft, stretchy, stiff, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof, absorbent, not absorbent, opaque, transparent.
Knowledge needed	
Children will have handled and learned the names of everyday materials in lesson 1.	

Class Talk Task

Can you remember these words from the last lesson? Can you think of other materials that we could use these words to describe?

							
hard	soft	stretchy	stiff	shiny	dull	rough	smooth
							
bendy	not bendy	waterproof	not waterproof	absorbent	not absorbent	opaque	transparent

Paired Task - Describing Materials

Look at and feel the materials and objects. Can you put the vocabulary card next to a material you think has that property?

Think about these questions:

- What do they look like?
- How do they feel?
- Which words would you use to describe them?

Independent Tasks

Task One

Describe the materials using the vocabulary you have learnt in this lesson.



Wood



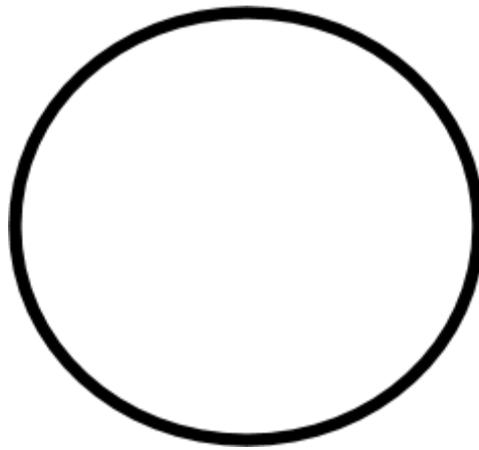
Metal



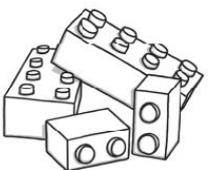
Plastic

Task Two

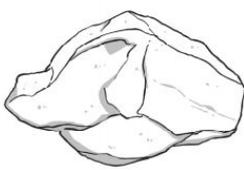
Choose one of these materials: glass, water or rock. Write the word in the middle (in the circle), and then add the properties and some examples of objects which are made from your material around the outside.



Exit Ticket



plastic



rock



wood

Feely Bag!

Listen to the description and choose which material you think is being described.

Write your answer on your whiteboard.

After 1, 2 and 3, show me!

Date:

LESSON FOUR: Testing Properties

Do now: FEEDBACK

Look through what you have completed in your booklet so far and complete any blank pages. If you were absent, read the **Everybody reads** sections and write **ABSENT BUT READ** in **purple pen** and your sign your name.

If you **complete all** of your feedback, on your whiteboard write 2 questions about materials for another person in the class to answer.

Outcomes	Key Vocabulary
To describe the simple physical properties of a variety of everyday materials by testing different objects.	Behave, test, record.
Knowledge needed	
Children will have looked at materials and described some of their properties in lesson 3.	

Class Talk Task

Can you remember these words from the last few lessons? Can you think of other materials that we could use these words to describe?



How materials behave

You can sometimes tell just by looking at materials which properties they have, but sometimes you have to do a few tests to see how they behave.

Group Task

Today you are going to test how bendy, waterproof, transparent and absorbent objects are. Listen carefully to your teacher as they tell you how to complete each experiment. When they have finished, they will tell you which station to begin on, you will have **5 minutes** on each station. When the time is up, your teacher will tell you which station to go to next.

On your results sheet write the material or materials the object is made from and then after you have completed the experiment, tick whether or not the material has that property.

For example; if a window is waterproof, you would put a tick in the waterproof box.

Object	Material/s the object is made from	Waterproof (non permeable)	Not Waterproof (permeable)
Window	Glass and plastic	✓	

Results

Object	Material/s the object is made from	Bendy (Flexible)	Not Bendy (Not flexible)
Straw			
Table			
Tape measure			
Elastic band			

Object	Material/s the object is made from	Waterproof (non permeable)	Not Waterproof (permeable)
Wellies			
T'shirt			
Paper			
Rubber gloves			

Object	Material/s the object is made from	Transparent (Lets all the light through)	Opaque (Lets no light through)
Wellies			
T'shirt			
Paper			
Rubber gloves			

Object	Material/s the object is made from	Absorbent	Not absorbent
Notebook			
Sock			
Towel			
Paper			

Exit Ticket

As a class we are going to discuss our results.

- What did you do?
- What did you find out?
- Did anything surprise you?
- Why?

LESSON FIVE: Umbrella Investigation

Retrieval Practice

Why do you think babies' spoons and bowls are made of plastic?

Outcomes	Key Vocabulary
<p>To observe closely by watching what happens to teddy.</p> <p>To perform simple tests to find out which material would be suitable to make an umbrella from.</p> <p>To use their observations and ideas to suggest answers to questions by deciding which materials would be suitable to make an umbrella from.</p>	<p>Investigation, prediction, predict, watch, test, record, sensible, results, decision.</p>
Knowledge needed	
<p>Children will have explored the properties of different materials in lessons 3 and 4.</p>	

Everybody Reads

Ted's Problem



Poor Ted, can you help him? He has gotten wet while out playing in the garden. What could he do to stop that from happening again? We are going to make him an umbrella.

We are going to test these materials today and work out which would be the best one to make Ted's umbrella from.

Talk Task

How could we test these materials?
What would we need to look out for?

Group Task

- Put your bear in a plastic pot.
- Choose a material to test. Place it on top of the pot and secure it with an elastic band
- Drop water onto the material using the pipette.
- Watch closely.
- Write down the results of the test.
- Do the test again using a different material.



When you are working in your groups you can take it in turns to choose the material, put on the water and time the results. Make sure everyone takes part.

We want to find out which would be the best material to use to make an umbrella for Ted.

Prediction: What do you think is going to happen? Which material do you think will be best?

I think...

Method:

We covered the pot with_____. Then we squirted_____drops of water and watched to see if the water came through each material and made Ted wet.



Material	What happened?	Can this be used for Ted's umbrella?

Conclusion: Which material would be the best to use for Ted's umbrella?

Why?

Exit Ticket

As a class, we are going to share the results of our experiment and decide which material is the best for making the umbrella.

Did the class all agree or did different groups have a different opinion?

Talk Task

Look at the objects on the board, how could you sort these objects into two groups? Your teacher will give you time to discuss this with your partner. Be prepared to share your ideas.

Class Task

Sorting circles

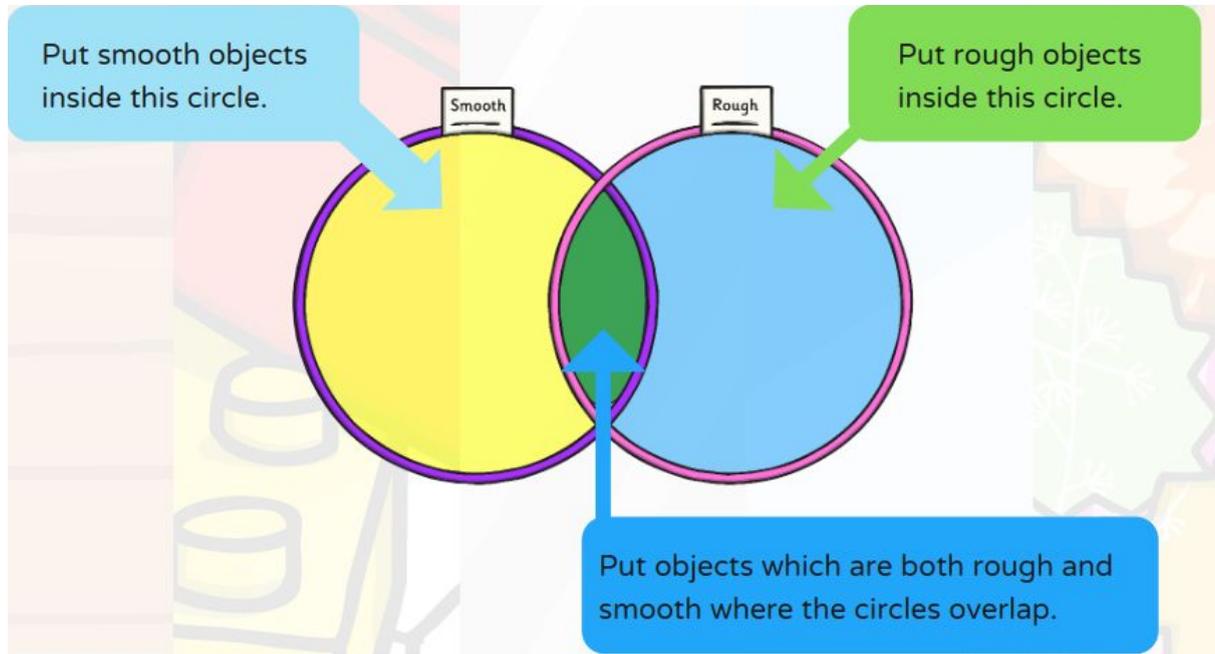
Look at the different objects. Pass them carefully around the circle.

Think about:

- what they look like;
- how they feel;
- words we could use to describe their properties.

But how can we sort our objects? Using sorting hoops!

For example;



Group Task

In your groups, you are going to have 4 sorting hoops. You need to label the hoops rough and smooth and dull and shiny. Look around the classroom and find objects to put into each hoop. Ask your teacher to take a photo of your hoops, to add to your work.

Remember that working as a group means:

- listening to each other;
- respecting what everyone says;
- letting everyone have a turn to speak;
- making decisions together.

Exit Ticket

Material Sort

Let's look at each other's work and add the 'Sorting Materials Cards' by the different materials they are made from. We may need to use one card more than once.

We are going to share our pictures and what we have found out during this session.

Can you explain how your group sorted the objects?

Did you notice if any of the objects were made from more than one material?