Year 2 Science - Plants
Learning from Home Activites

Year 2 Programme of Study – Plants

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Observe and describe how seeds and bulbs grow into mature plants.	Broad Bean Bonanza	2	
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Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Plant Predictions	5	
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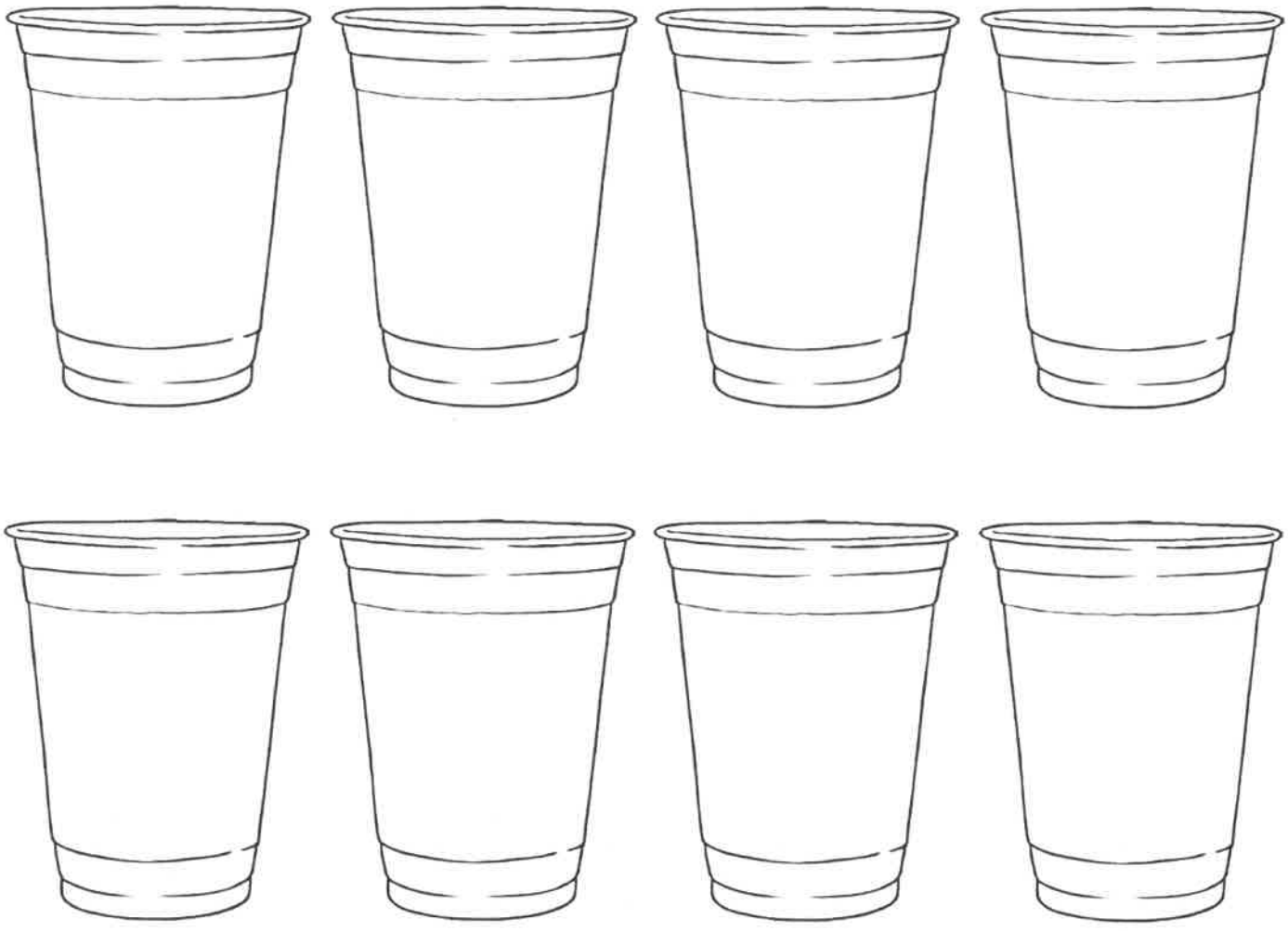
Note for parents: The main focus of science teaching in key stage 1 is to enable pupils to experience and observe things, and to look at the natural and human-made world around them. Encourage your child to be curious and ask questions about what they notice, and help them to use different methods to answer their questions, such as observing changes over time, grouping and classifying things, carrying out simple tests, and finding things out using books and the internet. Talk to your child about what they are doing and encourage them to use simple scientific language to explain their ideas to you. Most science learning should take place through first-hand, practical experiences, therefore this booklet contains some ideas for recording information but has a strong focus on practical activity as well.

Broad Bean Bonanza

You will need two or three clear plastic drinking cups, some plain white kitchen paper and a packet of broad bean seeds.

Wrap one sheet of kitchen paper around the inside of each cup, then stuff the centre of the cups with paper as well. Slip a broad bean seed between the cup and the outer sheet of paper, so that it is visible from the outside. Now, water the paper so that it is wet but not soaking, put the cups in a warm, light place, and keep them well-watered. Look at the seeds every day and watch how they are developing. You can draw the changes here:



Note for parents: Broad beans are one of the best choices for children to plant and grow as they develop quickly, and the parts can be clearly seen as they grow. If you have one, your child can use a magnifying glass to observe the bean seeds closely as they develop.

Other Ideas

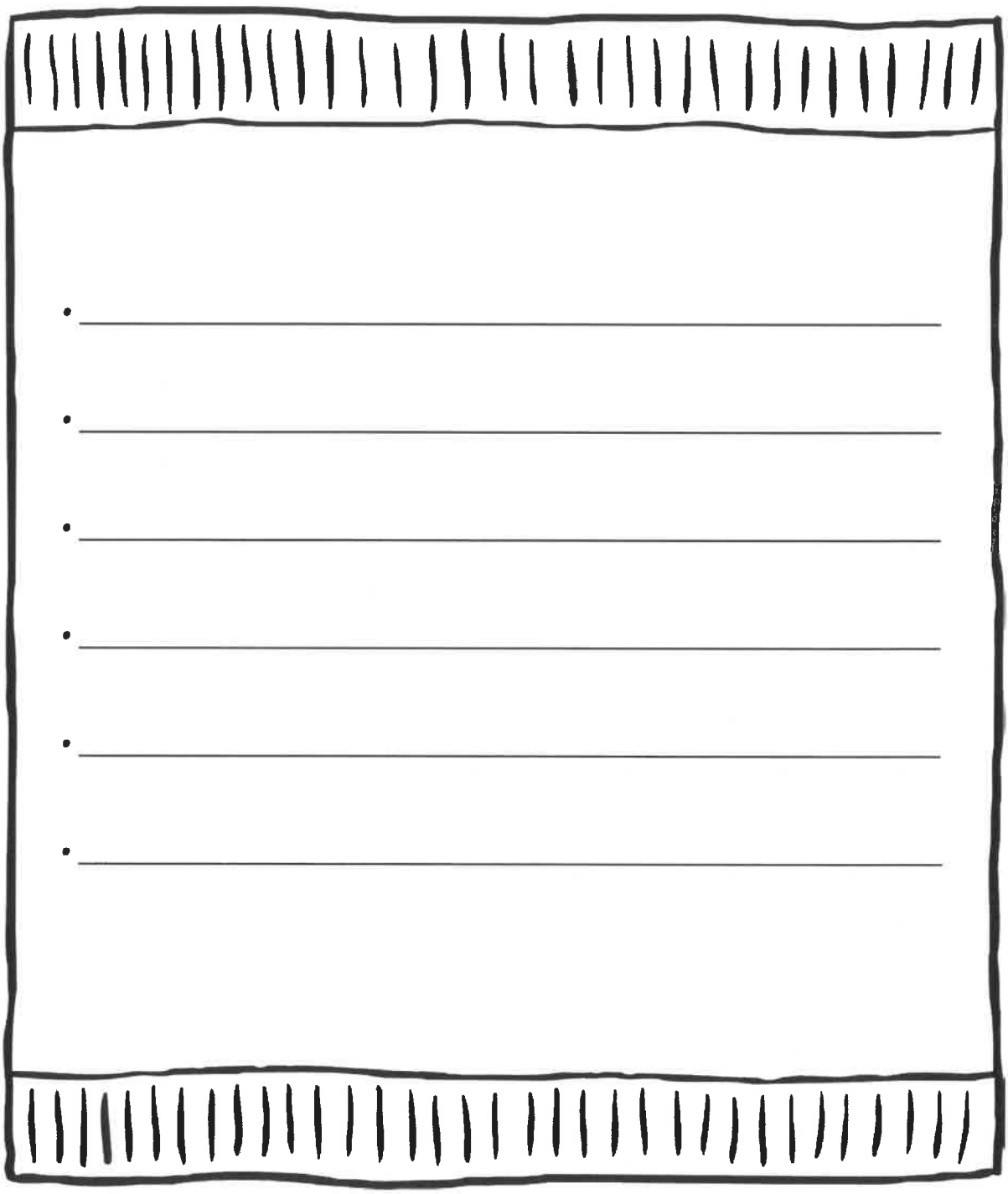
We suggest that you plant more than one broad bean seed because sometimes seeds don't germinate. If you are planting more than one, you could try these ideas:

- Once one of the seeds starts to grow roots, put the cup inside a shoe box with a small hole cut in the lid. Wait and see what happens. Don't forget to keep the cup watered!
- Try planting the bean seed upside down. Broad bean seeds have a black line at one edge – this is where the roots emerge. Try putting the seed in the cup with the black line at the top. Predict what you think will happen. Will the roots grow up and the shoots grow down?
- Put one of your cups in the fridge. Do you think this will make a difference? Check it every day and compare it to a seed which is in the warmth.
- Have a seed growing competition- whose seed will sprout the tallest?
- Once your seed has grown a few leaves, if you want to keep it growing, you will need to put it in a pot of soil or in the garden. If you do this, you could grow your own broad beans to eat for dinner!

All of these activities can also be done with bulbs. Sit the bulb on top of a cup or glass of water so that its roots are touching the water. You can buy special vases for growing bulbs, if you prefer. Hyacinth bulbs work well for this, and you can try all the activities suggested for the broad bean seeds.

Share What You Know about Seeds

Imagine you are writing instructions to go on the back of a packet of seeds. What would you tell people to do to make sure their seeds grow and stay healthy?



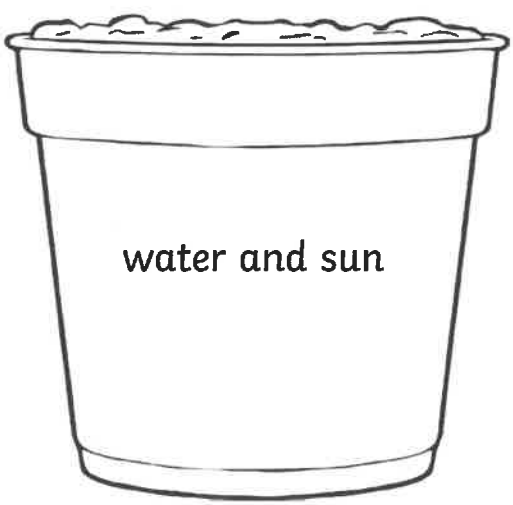
Note for parents: Children can complete this activity at their own level. Confident writers should be able to have a go at writing the instructions; less confident writers may need more support, or to express their ideas verbally.

Plant Predictions

Take three of your healthy broad bean plants. Put one on a sunny windowsill and water it every day, put one on the same windowsill but stop watering it and put the third one in a dark cupboard but water it every day.

Draw pictures in these flowerpots of what you think your plants will look like in a couple of weeks. This is your prediction (what you think will happen).

After two weeks, compare your plants to your predictions. Were you right?



Share What You Know about Plants

Imagine you are writing instructions to go on the label of a plant that someone might buy from the garden centre. What would you tell people to do to make sure their plant grows and stays healthy?

- _____
- _____
- _____
- _____

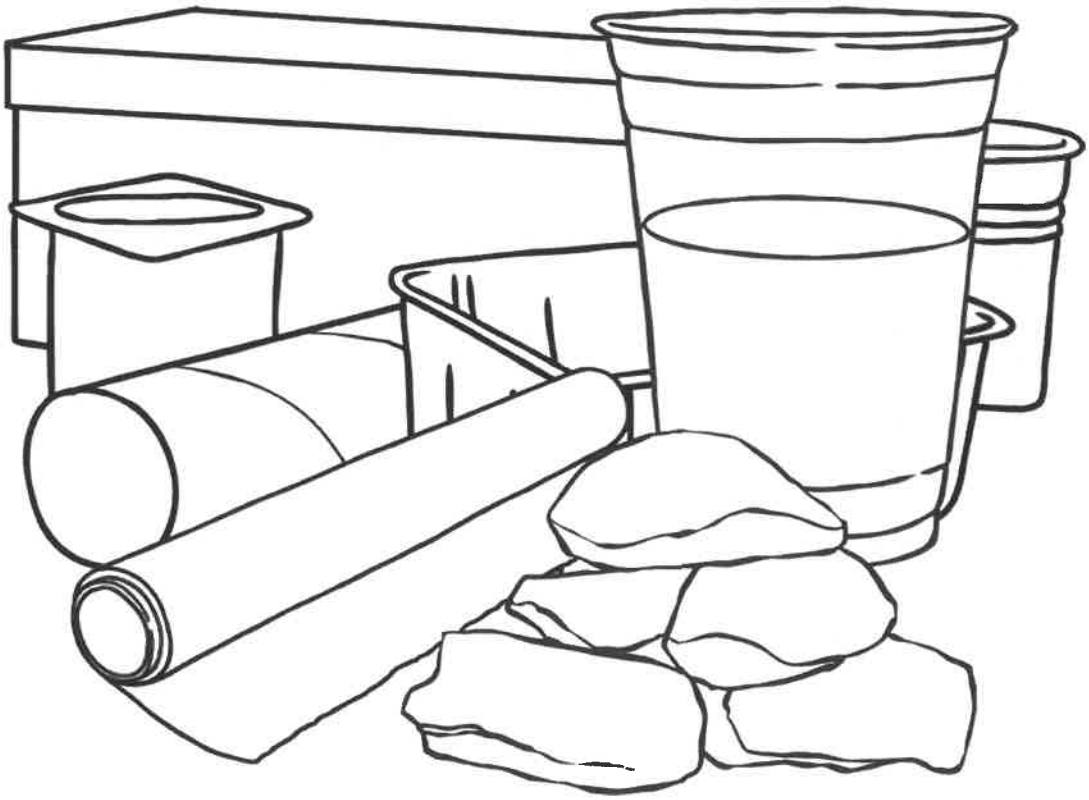
Note for parents: Children can complete this activity at their own level. Confident writers should be able to have a go at writing the instructions; less confident writers may need more support, or to express their ideas verbally.

Key Vocabulary

Children should become familiar with this vocabulary and, where appropriate, depending on age and ability, read and spell the words.

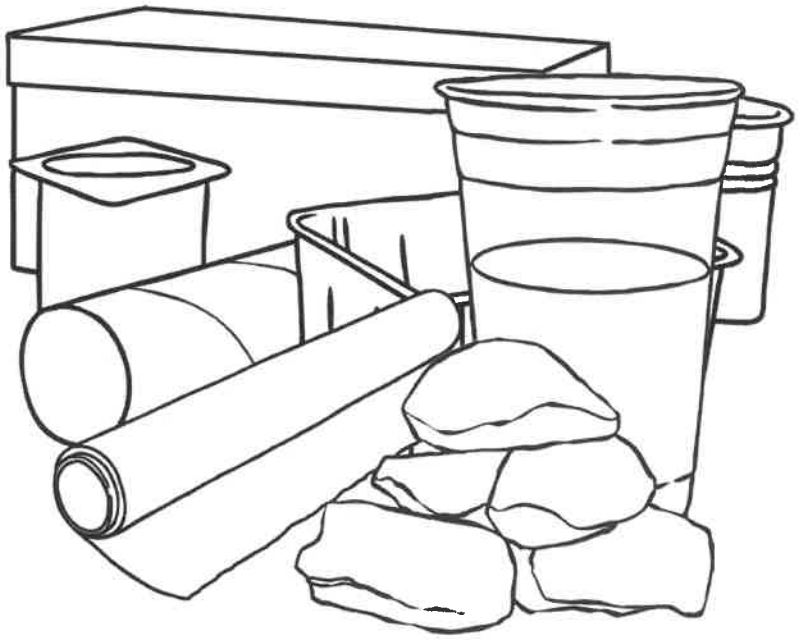
seed bulb germinate grow	water sunlight warmth prediction	root shoot leaf

Year 2 Science
Uses of Everyday Materials
Learning from Home Activites



Year 2 Programme of Study – Uses of Everyday Materials

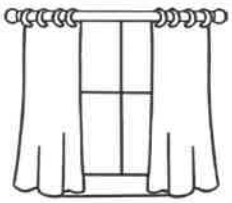
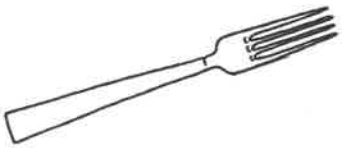
Statutory Requirements	Activity Sheet	Page Number	Notes
Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.	Magic Materials Challenges The Day the Materials Went Wrong!	2 3 4	
Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Bend, Stretch and Squash Key Vocabulary	5 6	



Note for parents: The main focus of science teaching in key stage 1 is to enable pupils to experience and observe things, and to look at the natural and human-made world around them. Encourage your child to be curious and ask questions about what they notice, and help them to use different methods to answer their questions, such as observing changes over time, grouping and classifying things, carrying out simple tests, and finding things out using books and the internet. Talk to your child about what they are doing and encourage them to use simple scientific language to explain their ideas to you. Most science learning should take place through first-hand practical experiences, therefore this booklet contains some ideas for recording information but has a strong focus on practical activity as well.

Magic Materials

Find the following objects around your home. For each object, write what material it is made from, and one property of that material which makes it suitable for this object. You will find the words you need on the key vocabulary page (page 6).

	A window is made from glass because it is transparent.
	A fork is made from _____ because it is _____.
	An umbrella is made from _____ because it is _____.
	A coat is made from _____ because it is _____.
	A pencil is made from _____ because it is _____.
	A house is made from _____ because it is _____.

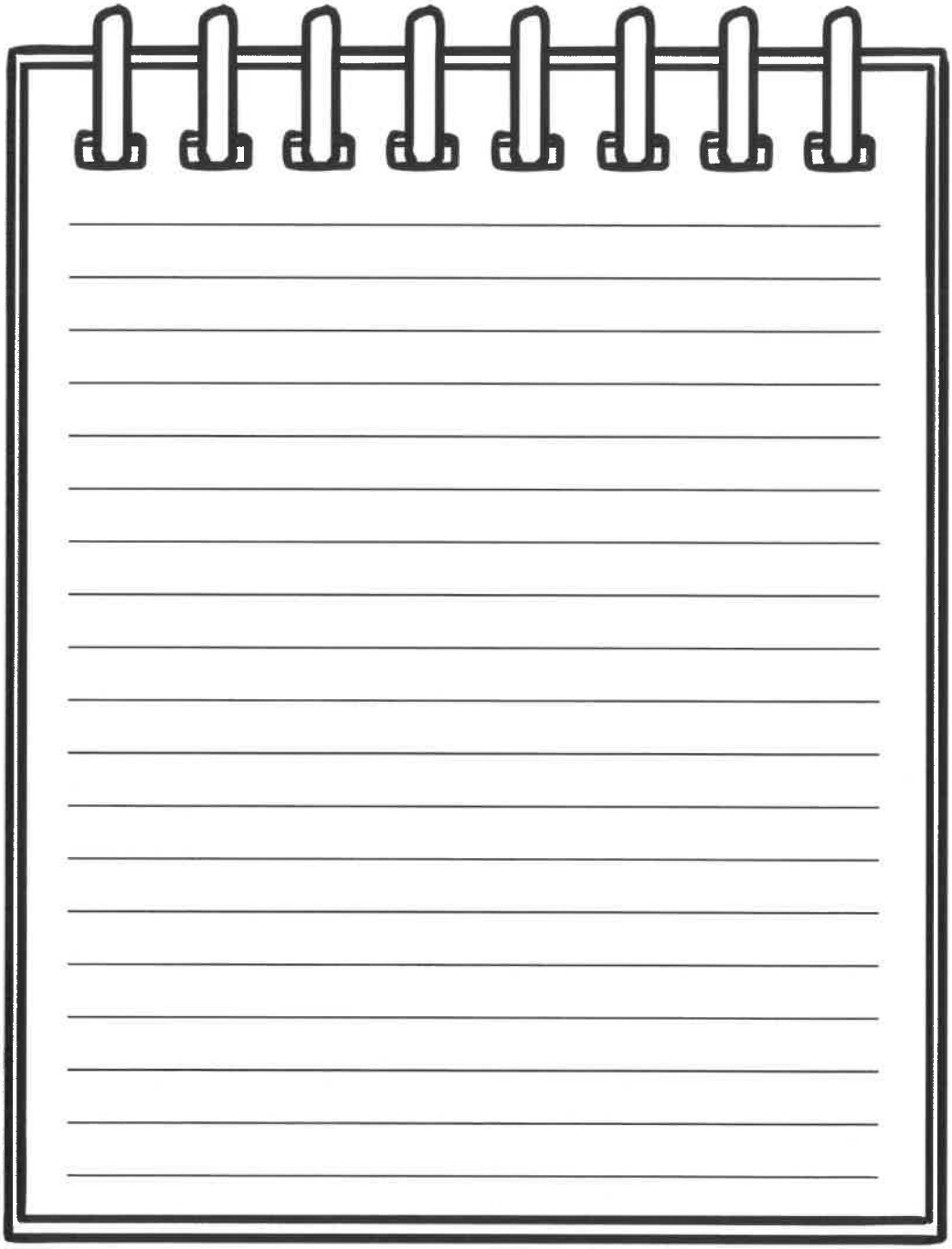
Note for parents: In year 1, children will have learnt about the most common materials in everyday use including; wood, metal, plastic, fabric, rock and glass. They also learned some of the properties of these materials, such as if it was hard/soft, rigid/flexible, transparent/opaque, shiny/dull, waterproof or strong. In year 2, this knowledge is extended by asking children to think about why materials are used for particular uses.

Challenges

Think of another property for each of these materials. For example, 'A window is made from glass because it is waterproof.'
Find six new objects and put them on a tray. Describe two properties of the material each one is made of and see if your helper can guess which object you describing.
Look in your toy box or around your bedroom. Can you find a toy made out of each material you have learnt about? Why is each material used?
How many objects can you find around your home that are made of two or more materials? Can you talk to your helper about why this is?
Plastic is a very popular material, as it can have lots of different properties. How many different forms of plastic can you find in your home?
Ask your helper to talk to you about recycling. Have a look at what goes into your recycling bin at home. Find out why we recycle lots of materials.
Make a poster encouraging people to recycle. Explain why we do this and what can be made by recycling different materials.
Can you find examples of the same material having different properties, for example rigid/flexible, transparent/opaque? Hint: try metal, plastic and glass.
Use books or the Internet to find out where paper comes from.
Use books or the Internet to find out how glass and plastic are made.
Investigate which materials would be best to make a cage for a hamster, who is trying to escape. Which materials will stand up to being nibbled by a hamster's teeth?
Which materials are best for making a mirror? Look at a window on a dark night, can you see your reflection? Investigate backing a piece of clear plastic with different materials to see which would make the best mirror.
Investigate objects which can be made of different materials- for example, can you find spoons made of metal, plastic and wood? Find out and talk about why the same object might be made from different materials.

The Day the Materials Went Wrong!

Imagine you have woken up one day and all the materials have gone wrong! The properties they used to have are all changed. Glass is now flexible, fabric is rigid and plastic isn't waterproof. Write a diary to show what happens to you as a result.



Note for parents: Children can complete this task at their own level. Confident writers can write their own diary after discussing their ideas with you. Less confident writers can draw pictures and label them, or simply talk about their ideas and write simple sentences.

Bend, Stretch and Squash

Some objects can be changed by bending, stretching, squashing or squeezing them. Can you find any objects made from each of these materials, which can be changed by bending, stretching, squashing or squeezing? Can you find another object which cannot be changed? Talk to your helper about why one can be changed but one cannot.

Material	Objects	Can it be changed?	Why/why not?
plastic			
wood			
rubber			
fabric			
glass			
clay			

Challenge: Find out which of your objects can go back to the way they were after being twisted or stretched, and which stay in their new shape.

Further challenge: Make some biscuit dough or pastry with your helper. How do the properties of the dough or pastry change when it is baked?

Note for parents: Before starting this activity, have some of the following items to hand: playdough, pastry, a plastic bag, something made from fabric, a rubber band, a paper clip, sawdust/wood shavings/pencil shavings or a small twig or stick.

Key Vocabulary

Children should become familiar with this vocabulary and, where appropriate, depending on age and ability, read and spell the words.

material	hard	transparent
wood	soft	opaque
paper	rigid	shiny
fabric	flexible	dull
rock	strong	bend
glass	waterproof	stretch
plastic	brittle	twist
clay		squeeze