



ADULT GUIDE · KEEP THIS PAGE

Materials for a purpose

England national curriculum · Year 2

What this pack helps with

Name everyday materials, use observed properties to compare them, choose for a stated purpose and investigate safe shape changes.

Start safely

The child can name a familiar object. An adult supplies only safe, undamaged samples for any hands-on task.

Use the printed evidence when samples are unavailable. Keep water away from electrical items. Do not heat, taste, break or force materials.

Print and use

Print A4 at actual size (100%). Child pages: **2–6**. Answers and feedback: **7**. Colour is optional; every task works in black and white. Pages may be used separately.

Use the supplied observations when materials are unavailable. Record adult help and actual results, including no change or not sure. This is teaching practice, not a standardised test.

What to try next

Names only the object	Ask what substance the object is made from.
Chooses by appearance	Ask which tested property helps with the stated purpose.
Uses one clue	Combine two or more properties before naming a mystery material.
Predicts instead of observing	Record the actual result, including no change or not sure.

Scope and source

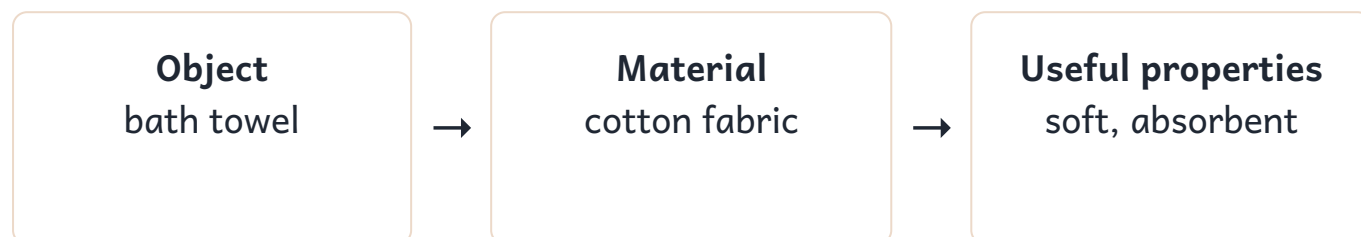
The pack uses bounded everyday samples. Properties depend on the sample, form and thickness; one material is not best for every purpose. Shape changes are observed safely and do not establish a universal rule. Based on DfE Year 2 Science (England; OGL v3.0). Original TheLearnDen tasks and evidence; not an official assessment. Free to print and share.



LEARN TOGETHER

Materials for a purpose

Name: _____ Date: _____



Choose from the purpose

A bath towel needs to absorb water and feel comfortable. Cotton fabric can be suitable because it is absorbent and soft.

A material can have several properties. One property can fit several materials. Use the evidence in the task before deciding.

For shape changes, an adult chooses safe objects. Change one action at a time and record what actually happens.



PRACTISE AND COMPARE

Objects and properties

1 Object or material?

Write one possible material for each object. You may reuse a word or choose another.

plastic

wool

glass

metal

Object	One possible material
window pane	
spoon	
jumper	
drinks bottle	

How could one object above be made from a different material?

2 Use an observation to name a property

cotton cloth

feels soft and absorbs a water drop
Property

clear plastic sheet

light passes through clearly
Property

rubber strip

bends and returns
Property

wooden block

does not bend by hand
Property

Choose one. Which words in the observation support your answer?



PRACTISE AND COMPARE

Origins and light

3 Where do these materials come from?

N = natural material

M = manufactured material

wood

comes from trees

Circle: N / M

wool

comes from sheep fleece

Circle: N / M

glassmade by heating and processing
sand and other minerals

Circle: N / M

plasticmade in factories from processed
raw materials

Circle: N / M

Manufactured means made or processed. It does not mean fake.

4 What happens to light?

T = transparent

TL = translucent

O = opaque

Sample	Printed observation	Circle the code
clear plastic sheet	shape seen clearly through it	T / TL / O
tracing paper	light passes but details blur	T / TL / O
cardboard	light does not pass through	T / TL / O

Which evidence shows that details blur?



PRACTISE AND COMPARE

Choose and predict

5 Choose for a stated purpose

1 = rubber

2 = glass

3 = cotton fabric

4 = coated fabric

raincoat

Needs: waterproof and flexible

Choice number: _____

window pane

Needs: transparent and rigid

Choice number: _____

bath towel

Needs: absorbent and soft

Choice number: _____

boot sole

Needs: water-resistant, flexible and hard-wearing

Choice number: _____

Explain one choice using a property.

6 What might go wrong?

paper umbrellaProperty

Possible result
_____**glass football**Property

Possible result
_____**wool window pane**Property

Possible result
_____**metal bath towel**Property

Possible result



USE EVIDENCE SAFELY

Identify and investigate

7 Identify each mystery material

rubber

glass

cotton fabric

metal

hard, strong and shiny

Material

Two clue words

soft and absorbent

Material

Two clue words

transparent, rigid and may break

Material

Two clue words

flexible, water-resistant and grips

Material

Two clue words

8 Investigate shape changes safely

Sample	Before shape	Action	After / released
sponge		squash gently	
modelling dough		bend, then twist gently	
elastic band		stretch a little with two hands, away from faces	
adult-supplied coil spring		press or stretch gently on a table, away from faces	

Record what happens, including no change or not sure.
Adult help



ADULT ANSWER GUIDE

Answers and evidence

Ask which printed observation or purpose supports each choice. Accept drawings, words or adult scribing where the rubric allows it.

- 1** **Example answers: window pane—glass; spoon—metal; jumper—wool; drinks bottle—plastic. Plausible alternatives are accepted.** Name the object and one possible material separately before discussing properties.
Treat the four keyed pairs as example answers. Accept another plausible everyday material for any object when the child names it as a material, such as a plastic spoon or glass drinks bottle. Objects have purposes; materials are substances used to make them. The printed pairs are examples, not unique object compositions: one object type may be made from several materials.
- 2** **Cotton—soft/absorbent; clear plastic—transparent; rubber—flexible; wood—rigid.** Use the printed observation to choose a scientific property word.
Accept each property supported by the supplied observation; do not infer untested properties. Properties describe the sample in the stated test. Different forms and thicknesses of one material can behave differently.
- 3** **Wood and wool—natural (N); glass and plastic—manufactured (M).** Trace each bounded example to its stated source or making process.
Accept the four printed classifications and one correct source chain. Manufactured means made or processed by people; it does not mean fake. Many products combine natural and manufactured materials.
- 4** **Clear plastic—transparent (T); tracing paper—translucent (TL); cardboard—opaque (O).** Classify samples from what happens to light, not from their colour.
Accept transparent, translucent and opaque in the printed order with one evidence phrase. The observation depends on the tested sample and thickness. A coloured material may still be transparent or translucent.
- 5** **Raincoat—coated fabric (4); window—glass (2); towel—cotton fabric (3); boot sole—rubber (1).** Choose against a stated purpose and cite the properties that help.
Accept the four supplied choices and their named purpose-linked properties. No material is universally best. A different material can be suitable if its relevant properties and design are explained.
- 6** **Paper may weaken; glass may break; wool blocks the view; metal is not absorbent like fabric.** Predict from the named material and purpose, then link the consequence to a property.
Accept each bounded consequence or another safe property-based prediction. Predictions are evidence-based possibilities. Do not break, heat or taste materials to test them.
- 7** **Rubber; glass; cotton fabric; metal, using at least two printed clues.** Combine two or more printed properties to identify the intended sample.
Accept all four intended matches and require at least two clue words for one explanation. A single property may fit several materials. These combined clues identify only the supplied mystery set.
- 8** **Open observation: record each adult-approved sample, action, actual change and whether it returns.**
Test one safe action at a time and record the actual shape before, after and when released.
Accept drawings or words for all four adult-approved samples, including no change or not sure. An adult selects undamaged objects. Never over-stretch, snap or release a band or spring towards a face; do not force rigid or sharp objects.

My practice trail

Optional: colour one circle for each task tried and discussed. This records practice, not a test score.



One property to investigate next: _____