

Y5 Fair Tests Materials

KS2 Y5 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Plan a fair test: which material is best for a raincoat?

Step 1 · What will you change?

The material (cotton, wool, plastic, nylon)

Step 2 · What will you measure?

How much water gets through — e.g. ml collected in a cup under the fabric

Step 3 · What will you keep the same?

Size of fabric, amount of water poured, how it is poured, time waited

Answer: Change only the material; measure the water that soaks through; keep everything else the same.

Check: The best raincoat material lets the least water through.

2. Now try one with the steps

Read the results: cups of hot water wrapped in different materials, after 20 minutes.

Step 1 · No wrap: 38°C. Foil: 42°C. Wool: 51°C.

Step 2 · What does that tell us?

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. In a fair test, how many things should you change?

2. Which property makes plastic good for a raincoat?

3. Which property makes glass good for windows?

4. Why are saucepan handles often made of plastic or wood?

5. Why is wood a good material for a chair?

6. Name a material that would be good for keeping an ice lolly frozen on a picnic.

7. Why is copper used inside electrical wires?

8. In a test of which fabric is most waterproof, what should you change?

9. Name TWO things to keep the same when testing which fabric is most waterproof.

10. A cup starts at 60°C and is 45°C after 20 minutes. How many degrees did it cool?

11. Cup A cooled by 8°C and cup B by 14°C. Which wrapping was the better insulator: A or B?

12. Sam wants blackout curtains. Which property should he test for?

13. Why is a metal spoon a bad choice for stirring very hot soup for a long time?

14. Ruth Benerito, an American chemist, helped make cotton that doesn't crease. Why would people want that?

4. Before you hand it in

Testing two things at once to save time.

Change one thing only; keep everything else the same.

Choosing a material just because it is strong.

Say which property is needed AND why: 'waterproof, so rain can't soak through'.

A material that keeps things warm will make cold things warm up.

Wool keeps hot drinks hot AND ice cold for longer.

One test is enough to be sure.

Repeat the test and check the results agree.