

Y5 Comparing Materials

KS2 Y5 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

How can you find out which of two materials is harder?

Step 1 · Try to scratch material A with material B

If B leaves a scratch, B is harder than A

Step 2 · Then try to scratch B with A

If A leaves no mark, that confirms B is harder

Step 3 · Keep it fair

Press with the same force each time

Answer: The harder material scratches the softer one. Do a scratch test both ways.

Check: Diamond is the hardest natural material — it can scratch anything else.

2. Now try one with the steps

Are all metals magnetic?

Step 1 · Test a steel paper clip

Step 2 · Test an aluminium drinks can

Step 3 · Test a copper pipe

Answer:

3. Practice

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

1. What word describes a material that you can see clearly through?

2. What word describes a material that lets no light through?

3. What word describes a material that lets some light through but you cannot see clearly through it?

4. Name a material that is a good conductor of electricity.

5. Name a material that is an electrical insulator.

6. Name a material that is a good thermal insulator.

7. Name TWO metals that are magnetic.

8. Is aluminium magnetic?

9. In a scratch test, material A scratches material B. Which is harder?

10. Why are electrical wires made of copper covered in plastic?

11. Why is a tea cosy made of wool?

12. Five materials are tested. 2 are transparent and 1 is translucent. How many are opaque?

13. How could a recycling centre separate steel cans from aluminium cans?

14. A material is hard, opaque, an electrical conductor and magnetic. What could it be?

4. Before you hand it in

All metals are magnetic.

Aluminium, copper, gold and silver are metals but are not magnetic.

Hard means heavy.

A tiny diamond is very hard; a big sponge is heavy-ish but soft.

Thermal and electrical conductors are different words for the same test.

Metals happen to be good at both, but always say which kind you mean.

Translucent and transparent mean the same.

Window glass is transparent; frosted glass is translucent.