

Metals and Non Metals

KS3 Chemistry · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Why are saucepans made of metal?

Step 1 · Property needed

To transfer heat from the hob to the food.

Step 2 · Metal property

Metals are good thermal conductors and have high melting points.

Answer: Metals conduct heat well and don't melt on the hob

Check: Handles are often plastic, a poor conductor.

2. Now try one with the steps

An element is a dull yellow solid that crumbles and does not conduct electricity. Metal or non-metal?

Step 1 · Check properties

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Give TWO physical properties of most metals. [2]

2. Give TWO physical properties of most non-metals. [2]

3. What does 'malleable' mean? [1]

4. What does 'ductile' mean? [1]

5. Which metal is a liquid at room temperature? [1]

6. Which non-metal conducts electricity? [1]

7. Name the three magnetic metals. [1]

8. Why are electrical wires made of copper but covered in plastic? [2]

9. Element X is shiny, conducts electricity and bends without breaking. Is it a metal or non-metal? [1]

10. Element Y melts at -7°C and does not conduct. Is it more likely a metal or a non-metal? [1]

11. Where are the metals found in the periodic table? [1]

12. Why is 'shiny' not enough to decide if an element is a metal? [2]

13. Suggest why aircraft bodies are made from aluminium rather than iron. [2]

14. Describe a fair test to compare how well different metal rods conduct heat. [3]

4. Before you hand it in

"All metals are magnetic."

Aluminium, copper and gold are not magnetic.

"Everything shiny is a metal."

Test conductivity and malleability too.

"All metals are hard solids."

Use the typical pattern, and learn the exceptions.

"Non-metals are all gases."

Non-metals can be solid, liquid or gas at room temperature.