



Properties of Metals and Materials

1. Sort the materials listed below into the table.

iron	wood	steel	concrete	porcelain
cardboard	aluminium		fabric	plastic

Metals	Non-metals

2. List **five** properties of metals, and **five** properties of non-metals.

Metals	Non-metals
property 1 _____	_____
property 2 _____	_____
property 3 _____	_____
property 4 _____	_____
property 5 _____	_____

3. Draw **one** line from each type of material to the correct description.

polymers

ceramics

composites

These materials are good insulators of heat and electricity. They are brittle and stiff.

These materials are made of two or more materials together, combining the useful properties in the new material.

These materials are good insulators of heat and electricity. They are usually flexible, lightweight, and strong.

4. Name **two** examples of synthetic polymers.

example 1 _____

example 2 _____

5. Name **two** examples of ceramics.

example 1 _____

example 2 _____

6. Name **two** examples of composites.

example 1 _____

example 2 _____

7. The floor of a car park is made by pouring concrete over a mesh sheet made of steel.



a. What type of material is steel reinforced concrete?

b. Explain why this material is chosen.

Properties of Metals and Materials **Answers**

1. Sort the materials listed below into the table.

iron	wood	steel	concrete	porcelain
cardboard	aluminium		fabric	plastic

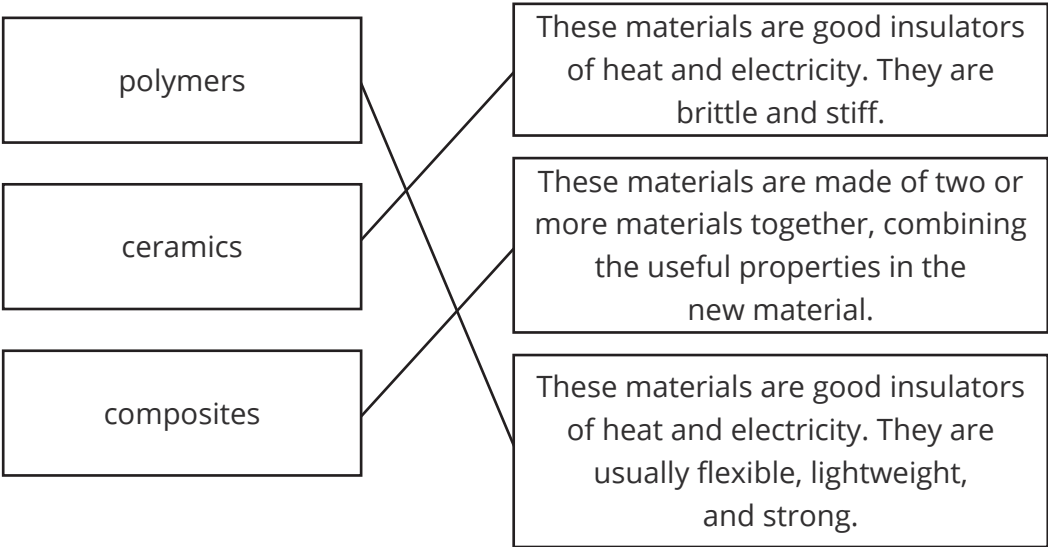
Metals	Non-metals
aluminium iron steel	cardboard concrete fabric plastic porcelain wood

2. List **five** properties of metals, and **five** properties of non-metals.

Any five from each list.

Metals	Non-metals
malleable ductile high melting and boiling points electrical conductor thermal conductor strong can be magnetic hard wearing shiny high density sonorous	low melting and boiling points electrical insulator thermal insulator brittle non-magnetic dull low(er) density not strong not hardwearing

3. Draw **one** line from each type of material to the correct description.



4. Name **two** examples of synthetic polymers.

Any two from:

nylon

PVC

polythene

Any other appropriate answers are acceptable.

5. Name **two** examples of ceramics.

Any two from:

glass

porcelain

bone china

Any other appropriate answers are acceptable.

6. Name **two** examples of composites.

Any two from:

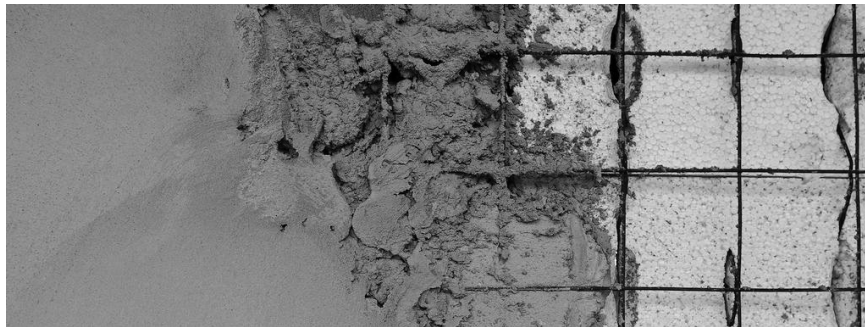
fibreglass

concrete

MDF

Any other appropriate answers are acceptable.

7. The floor of a car park is made by pouring concrete over a mesh sheet made of steel.



- a. What type of material is steel reinforced concrete?

composite material

- b. Explain why this material is chosen.

A composite material combines the useful properties of two or more materials.

The concrete has a lower density than steel, so overall the structure is not as dense.

The steel is strong and hardwearing, so provides support to the otherwise brittle concrete.