Oxford Cambridge and RSA

GCSE Chemistry A (Gateway Science)

J248/02 C4-C6 and C7 Foundation (Foundation Tier)

Question Set 20

1 This question is about metals and alloys.

(a) The table gives information about some alloys.

Alloy	Main metal or metals	Use
Brass	copper and zinc	Musical instruments and coins
Bronze	copper and tin	Statues
Duralumin	aluminium and copper	Aircraft parts
Solder	Lead and tin	Joining metals
Steel	Iron	Bridges, cars

Complete the table.

Choose your answers from the list.

Aluminium and copper

Aluminium and iron

Copper and tin

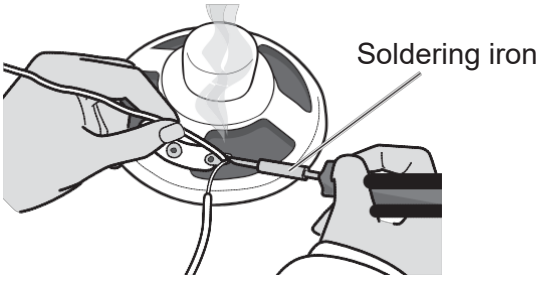
Copper and zinc

Copper and lead

Lead and zinc

[3]

(b) Solder can be used to join metals together. A hot soldering iron is used to melt the solder.



The table gives some information about solder, copper and tin.

Metal	Melting point (°C)	Density (g/cm^3)	Relative hardness
Copper	1085	8.96	Soft
Tin	232	7.31	Soft
Solder	130	10.3	Quite hard

Solder is better than copper or tin for joining metals together.

Suggest why. Use the information in the table.

Because solder is hard, the joint made would be stable and it has low melting point thus it is easier to handle / melt. **[2]**

(c) Steel is an alloy containing iron.

Complete the **word equation** for the corrosion of iron.

Iron + ...oxygen.... + ...water.... → ....hydrated iron (III) oxide or ferrous oxide.... **[2]**

(d) **(i)** Iron can be plated with a layer of **zinc** to prevent it corroding.

This is called **galvanising**.

Explain how galvanising prevents iron from corroding. **[2]**

It prevents corrosive substances from reaching the underlying iron.

(ii) Iron can also be plated with a layer of **tin** to prevent it corroding.

Describe a **disadvantage** of tin plating for preventing corrosion. **[1]**

If the tin plating is scratched or penetrated the underlying iron would corrode more rapidly

Total Marks for Question Set 20: 10