

WHAT'S IN A PHONE?



JOIN THE CYCLE



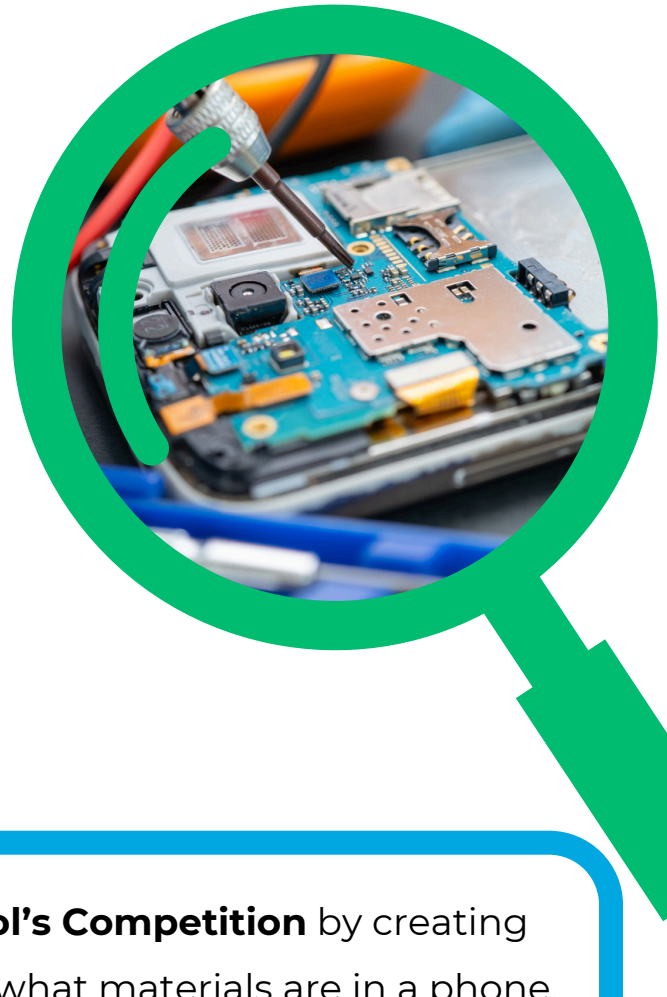
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WHAT'S IN A PHONE?

Just like there are bones, muscle and other parts that make up the human body, mobile phones contain different parts inside the case made from all kinds of materials.

In this exercise you will take a closer look at some of these materials and how they can be reused when a mobile phone is recycled.



JOIN THE COMPETITION

Enter the **Mobile Muster 2024 School's Competition** by creating an **artwork** or **short film** that shows what materials are in a phone, and what they can become when they're recycled!

The competition seeks to:

- **Educate** students about the lifecycle of mobile phones
- **Encourage** them to use creative ways to recycle old mobile phones
- **Motivate** their community to keep valuable resources in circulation.

LEARN MORE

Learn about the prizes and how you can get involved this year via [Mobile Muster](#).



PLASTIC

The most common plastic used in a mobile phone is **polycarbonate**, which makes up the casing of your phone.

Polycarbonate is a **resilient** and **elastic polymer**: this means it is formed by a long chain of different molecules that can be mixed with other plastics, making it more resistant to wear and tear.



LET'S RECYCLE!



Polycarbonate is a **byproduct of crude oil** processing, the process in which we get petrol for cars. It's so **important we recycle plastic**, just like other materials, to reduce our impact on the environment.



When the plastic parts are removed from a phone, the plastic is shredded into **plastic pellets** that can be used to make new products, like plastic **park benches** and **parts for new phones**.



FUN FACT!

Polycarbonate was first formulated by the aerospace industry and used for **astronauts' helmet visors**. This was back in 1968 when the Apollo Space Mission first landed people on the Moon!

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ALUMINIUM

Just like the skeleton in our body, aluminium is used to structure a mobile phone.

Aluminium is the **most abundant metals** found in Earth's crust. Australia is one of the biggest aluminium producers in the world.

Aluminium is **very versatile** and can be **infinitely recycled**.



FUN FACT!

Aluminium was once considered **more precious than gold**. In the past, people thought aluminium was very rare. Because of this, past rulers in Europe, such as **Napoleon III**, used aluminium cutlery for their formal guests.

LET'S RECYCLE!

When a mobile phone is recycled, the aluminium is **removed, melted** and **reformed** into new products.

Some examples of how aluminium can be reused are for use in **construction, car parts, or cans**.



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GLASS

Glass is the first thing you notice when you see a mobile phone - it's right there in the screen!

This glass is made of a mixture of **silica**, mined from deposits of **sand**, and **aluminium**. A **tin** coating is added to ensure the durability of the glass.



LET'S RECYCLE!

Glass can be recycled and reused over and over again. It's crushed then melted to be used in new glass products.



FUN FACT!

Glass can naturally form when lightning strikes sand. It's not like glass we'd normally see and is called **fulgurite**.

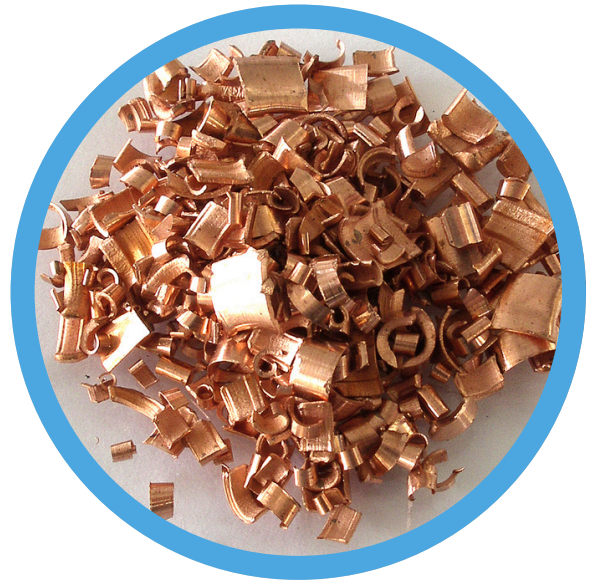
Because of the high temperature of lightning, the bolt will turn the sand into silica under the ground. This glass will often take form like the bolt, so it will shape like a plant root.

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COPPER

Like the neurons that send messages in our brain, copper is used to connect wires to conduct electricity in mobile phones, enabling them to function.

Copper is one of the oldest mined metals in the world, having been used for over 10,000 years!



FUN FACT!

As a result of being exposed to weathering and oxygen, copper forms greenish or brownish film, called **patina**, on the surface.

One example of this is the **Statue of Liberty** in the USA. It's exterior 'skin' is made up of over 300 sheets of copper.



DID YOU KNOW?

Copper is extracted from open cut mines, with around **a quarter of the world's copper mined in Chile** - a country in South America.

This is a photo of an open-cut mine in Peru!

LET'S RECYCLE!


Like aluminium, **copper can be recycled infinitely**. It can be reused in **electronics, coins, musical instruments, building materials, or sculptures**.



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MORE METALS

Below are some of the other resources used in the making mobile phones and recycled afterwards. Do your own research on these resources for your competition entry as well!




LITHIUM

- Lithium is used in batteries used to power our phones.
- It is the lightest metal and is less dense than water.
- It can be recycled infinitely.




COBALT

- Cobalt is also found in mobile phone batteries.
- It is used to help our battery last longer.
- Cobalt is infinitely recyclable.



NICKEL

- Nickel is a hard but malleable metal. That means it's easy to shape.
- It's used for electrical connectors and batteries.
- Nickel is infinitely recyclable.



GOLD AND SILVER

- Gold and silver are used in circuit boards and electrical connectors.
- Only a tiny amount of gold and silver can be found in mobiles.
- Mobile phones can not be used for extra pocket money!

LEARN MORE

Get creative and educate your community about recycling mobile phones by entering the **Mobile Muster School's Competition**.

