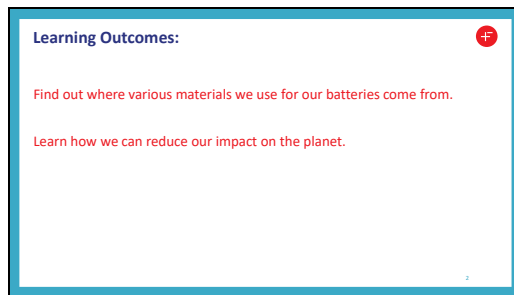


Slide 1



Slide 2



Slide 3



The countries listed above provide us with some of the most essential materials or elements we need for making batteries.


Activity: name the countries

- UK
- Guinea
- Australia
- China
- DRC
- Chile
- Oceans

Slide 4

Global materials

- The materials we use in our phones come from all over the world.
- It can be expensive and time consuming to bring them all to one place where they can be turned into the final product.
- Batteries contain the most difficult to obtain metals including lithium and cobalt.



Many of the materials we use to make phone including metals and raw materials to make plastic come from the ground.

These are extracted all around the world as we saw on the map.


Not only does it require massive amounts of energy to dig up these materials it is also very expensive to transport them. Transport release more pollutants.

- Two critical metals used in batteries are Lithium and Cobalt.
- Lithium is mainly mined in Chile which requires huge amounts of energy.
- Cobalt comes from the Democratic Republic of Congo where political issues can mean that obtaining it is unethical and often leads to exploitation of workers.

Slide 5

Wellbeing issues

- Cobalt is an essential battery material.
- Unfortunately, cobalt is often mined unethically.
- As global citizens we have a duty to ensure everyone's rights are respected.



Cobalt mainly comes from the Democratic Republic of Congo in Africa and is an essential battery material.

The cobalt is often mined unethically – this means workers are not paid fairly, forced to work in unsafe conditions and sometimes even children are forced to work in the mines.

- As global citizens we have a duty to ensure everyone's rights are respected. This means we should do all we can to improve the lives of those less fortunate than us. This can include trying not to use materials which may exploit workers or damage the environment beyond repair.

Slide 6

Environmental Issues

Lithium is an essential battery material.

To make lithium for batteries we need to use a lot of energy.

This releases pollutants like carbon dioxide.

Lithium is mostly mined in Chile in South America and is an essential battery material. In order to turn raw lithium into the lithium we use in our batteries we need to use a lot of energy. Using this energy releases pollutants like carbon dioxide into the air, which harm our planet and contribute to climate change.

Slide 7

How can we reduce our waste?

We can help reduce the impact of batteries on the world.

Beth and Katja research batteries that don't use any cobalt.

Their research will eventually allow us to stop using cobalt.

Scientists are also working on batteries which use sodium instead of lithium.

Sodium is readily available from the oceans (and salt!).

Katja

Beth

THE FARADAY INSTITUTION FutureCat

We can help reduce the impact batteries have on the world both in terms of the environment and wellbeing of others by getting rid of the cobalt and lithium in our phone batteries.

Beth and Katja both research batteries that don't use any cobalt.

- Their research will eventually allow us to stop using cobalt helping end the exploitation of workers in cobalt mines
- Other researchers are also working on batteries which use sodium instead of lithium. Sodium is readily available from

the oceans and so won't have to be flown in from far away.

- Sodium is used in table salt

Slide 8



Print the battery safari posters to display around the room. Give each student (or group) a safari worksheet.