

How can a mobile phone kill a gorilla ...

and what's it got to do with Leonardo Di Caprio? The answer is coltan!

(Source: Philippa Hulme)

What is coltan?

Coltan is a metal ore. It contains two metals – tantalum (Ta) and niobium (Nb). Tantalum is very expensive.

Why is tantalum expensive?

Because it's so useful!

It does not corrode (go rusty), so surgeons use tantalum bolts to fasten broken bones.

Tantalum can store electrical charge and then release it slowly. So tantalum components are vital in mobiles, laptops and playstations.

I want to be rich – where can I find some tantalum?

There's lots of coltan (tantalum ore) in Congo. It's easy to extract!

- Find the right sort of rock and dig it out.
- Crush the rock and sieve it.
- Put the small bits into a bowl of water. The coltan sinks because it is very dense.
- Pour off the muddy water.

So what's all this got to do with gorillas?

Much Congolese coltan is in a national park. The park is densely forested. In 1980, 8000 gorillas lived in the park; now there are only about 1000. Gorillas die because coltan mining destroys their habitat.

- Miners cut down trees to find coltan ore. They use wood to build camps. They cook over wood fires.
- Miners use water from streams to separate coltan ore from mud. The streams get polluted.
- Miners kill animals, including gorillas, for food.

Is it fair to blame the miners?

Maybe we should blame the mobile companies that buy tantalum.

What about people who buy mobiles? Are they innocent?

Who cares? Is anyone trying to save the gorillas?

Leonardo di Caprio and the Dian Fossey Gorilla Fund are working with Congolese people to save the gorillas' habitat. They want to:

- Help park rangers protect the park
- Find out more about the coltan trade
- Tell governments, technology companies and the public about the damage caused by tantalum mining
- Set up conservation projects in the national park.

Activity 1

Mobile phone manufacturers use tantalum to make mobiles.

Write a letter to a mobile company to tell it about the problems caused by mining for tantalum ore (coltan).

Tell the company they should make gorilla-friendly mobiles – these mobiles will contain tantalum that has been mined without damaging the environment.

Activity 2

It is 2010. A mobile phone company makes gorilla-friendly mobiles. These mobiles contain tantalum that has been mined without damaging the environment. Gorilla-friendly mobiles are more expensive than normal mobiles.

Make a leaflet for Leonardo di Caprio to send to British kids to tell them why they should buy gorilla-friendly mobiles.

Activity 3

Remi is 15. He lives in the Congo and mines and sells coltan. He thinks coltan mining should continue as it is. Sarah lives in the UK. She thinks coltan mining in the national park should stop so that gorillas don't become extinct.

Write a series of txt messages between Sarah and Remi – they both want to persuade the other that their opinion is right.

Curriculum links

The main curriculum links are to QCA modules 9E (reactions of metals and metal compounds) and the environment modules (7C and 8D). There are also links to the following modules:

- 7H (solutions) and 8G (rocks and weathering) – coltan extraction
- 7J (electric circuits) and 9I (energy and electricity) – capacitors made from tantalum.

Activities

I suggest that students choose one activity to work on

Useful websites

www.iucn.org/themes/wcpa/newsbulletins/news/Coltan_Camp_rpt.pdf

www.seeingisbelieving.ca/cell/kinshasa/

www.leonardodicaprio.org/gorilla/articles2.html

www.lehigh.edu/~kaf3/books/tantalum.html