



# DEFOREST ACTION

## ROCK CYCLE LESSON

(Earth's Resources Are Not Renewable)

## Essential Question:

What is the true cost of our digital devices, such as a mobile phone?

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## Overview

Students will develop an understanding of the rock cycle in relation to our consumerism of digital technology. Students will create a multi-modal presentation highlighting their chosen digital device (mobile phone, computer, ipad, etc). They will research and present information on a specific mineral component of the device, how it forms in relation to the rock cycle and the extraction process (mining). Students can extend upon their research by creating an awareness campaign of how their chosen device's life cycle contributes to depletion of resources and contributes to environmental destruction. Student's will explore and present solutions to highlighted problems.

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## Stimulus material

As a class watch the video clip from the story of stuff website ([www.storyofstuff.com](http://www.storyofstuff.com)) on the story of electronics. This will help set the stage giving students an understanding of product lifecycles and the often forgotten 'costs' to mobile electronic devices.

<http://www.storyofstuff.org/movies-all/story-of-electronics/>

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## Curriculum links for Australian National Curriculum

### AU.8.S.HE.2.1.

Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations (ACSHE135)

### AU.8.S.HE.2.2.

Science understanding influences the development of practices in areas of human activity such as industry, agriculture and marine and terrestrial resource management (ACSHE136)

### AU.8.S.IS.3.1.

Construct and use a range of representations, including graphs, keys and models to represent and analyse patterns or relationships, including using digital technologies as appropriate (ACSIS144)

### AU.8.S.IS.3.2.

Summarise data, from students' own investigations and secondary sources, and use scientific understanding to identify relationships and draw conclusions (ACSIS145)

### AU.8.S.IS.4.1.

Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate (ACSIS148)

### AU.8.S.U.3.1.

Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales (ACSSU153)

## Scenario:

Our lives are becoming ever more dependent on digital technologies. From the moment your alarm goes off in the morning, until you brush your teeth with your electronic toothbrush before bed - technology has infiltrated some of your most fundamental daily routines.

Have you ever considered what the real costs of your digital devices are? Most of us purchase a device based on the price in the store - we want the newest latest gadgets with the most desirable features at the lowest costs. However, we often don't consider the true "cost" of the production, packaging and distribution of these devices. One of the real "costs" of a products lifecycle is the extraction of non-renewable materials from the Earth in the creation of a product that is often created as if it were a disposable item.

Watch this clip from BestBuy – illustrating the often out of control technology race

<http://www.youtube.com/watch?v=Ufw2D8oMJ64>

Could you live without your mobile phone or other mobile devices? Identify the non-renewable resources (minerals) that have gone into the creation of your chosen device. Research the mining process and be sure to include: the country of origin and the geological process that went into the formation of the rock from which the mineral will be mined. Your role is to investigate the social and environmental costs associated with your device and create a compelling presentation to alert people of your generation to the greater costs associated with mobile technologies.

It isn't enough to simply discover and present this information to your peers - how can you as an individual create a real lasting difference? How could you influence the behaviour and mindset of your peers towards consumption of technology? How can you reach a broader audience to influence a shift in the consumerism mentality? Come up with a way to inform, not only your school community, but the wider community of the environmental costs associated with technology. This could include: writing a letter to the newspaper, starting a blog or Facebook page, YouTube video, or connecting with organizations and movements involved in environmental awareness.

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## Share

Be sure to share your creations with us at DeforestACTION, so we can inspire other youth around the world with your informative creations. Email us at: [deforestation@takingitglobal.org](mailto:deforestation@takingitglobal.org)

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## Take Action!

Now that students have an understanding of the environmental and social costs associated with their mobile devices, why not start a mobile phone recycling drive at your school! It is estimated that within Australia there is 22 million mobile phones not being used and sadly many of these devices reach landfills instead of recycling depots! Help curb this trend and give us your old phones to be recycled.

For each phone you donate funds will be donated to the Jane Goodall Institute helping those people and wildlife in the Congo region of Africa that are suffering as a direct result of the coltan mining process for production of mobile phones.

[Click here for posters to help create a phone recycling campaign at school](#)

[For more information about collections and our mobile phone campaign please visit:](#)

[www.deforestation.org/action/?section=phones](http://www.deforestation.org/action/?section=phones)