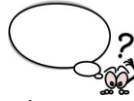


Rock Cycle Relevance – Teacher Notes

It is always important to know why you are studying something. Write down what you already know. I have given some pictures to help.

Have you ever wondered?



1. Why on earth would anyone choose to live on an island that has erupting volcanoes, suffers from earthquakes and perhaps even the occasional tsunami?

Volcanic rock can be very rich in minerals which weather to produce fertile soils. In tropical areas it may only take two years before a farmer can have three crops a year.

Living near a volcano has many economic advantages and several physical disadvantages.



Sulphur fumaroles on White Island New Zealand

2. If there is gold to be found in Kalgoorlie, why isn't it found in my back garden in Perth?

Gold is found in rocks which either came up from very deep in the earth or were affected by fluids which did. These igneous and metamorphic rocks also have to be of a specific age, about 2.6 billion years old, to carry economic amounts of gold. Perth is built on very recent sedimentary rock. Very, very small amounts of gold (a few parts per billion) may be found in these rocks because they are made from weathered gold bearing rocks found further inland.

3. Why is our Hamersley and Pilbara region so important to Australia's economy?

Before there was significant oxygen in our atmosphere about 1.6 to 1.8 billion years ago, the Pilbara was a vast sea where weathered volcanic rock rich in iron was deposited in a silica rich sea. This created a massive pile of iron rich sedimentary rocks. Very much more recently (geologically) these rocks were uplifted and weathered during a climate period when silica was dissolved leaving rocks further enriched in iron. Modern life depends on steel. Developing second and third world countries are moving from agricultural economies to industrial ones. Steel is necessary for building infrastructure and transport. Iron ore from our Pilbara is particularly rich and relatively easy to mine. Australia is a politically stable and dependable exporter.

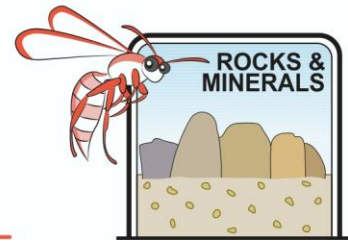


Mt Whaleback in the Pilbara

4. Where do the molecules that make my body come from?

Our bodies are made of chemicals. We get the ones we need to grow, repair and respire from the food we eat and the air we breathe. The plants and animals get their nutrients from soil. Soil is weathered rock. We get every molecule in our body from rocks. (The rocks that make our planet were formed of a mass of cosmic dust that coalesced about 4.5 billion years ago. We ARE truly "star stuff").

Rock Cycle Relevance – Teacher Notes



5. We no longer bang stones together to make fire or use flints to hunt animals. Why should a present day Western Australian need to know about rocks and sediments?

Since all we are and all we make is sourced from rocks knowledge of how to use these resources in a sustainable fashion is essential.

These questions are all explained by “The Rock Cycle”.