

Why Study Rocks? – Teacher Notes

These are a few questions students might like to consider before starting the “Rocks and Minerals” activities. It might be interesting if students revisit these answers at the end of the unit.

1. Q. **Why study rocks at all?**

A. Rocks are important to the survival of this species. We even name human pre-history as the “Stone Age” followed by the Metal Ages (Bronze Age, Iron Age etc.). Studying and understanding rocks gave us the capacity to use them for art, architecture, cement, ceramics, currency, defence, energy for light/heat/cooking/moving/making (uranium, coal, gas, petroleum), farming (tools & fertilisers), fire (flint & pyrites), hunting (spears, bolas), jewellery, making metals, making monuments, metals, music (metals strings for some string instruments), painting (pigments), road surfaces, sport (curling), weapons. All living things depend on nutrients from soil which is weathered rock.

2. Q. **Don’t rocks last forever?**

A. Most rocks last considerably longer than humans but in geological time they get weathered down and recycled by the earth to form new rocks.

3. Q. **Have I ever eaten a rock?**

A. Oh yes! Try the “rocks for breakfast” worksheet for an answer to that.

4. Q. **How is gold made? I’d like to find some.**

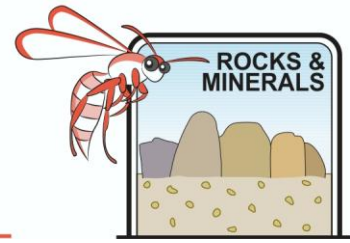
A. The gold we find on Earth was made by nuclear reactions in distant stars which exploded and the dust (including gold) spread out into space. Some of this dust stuck together to become our solar system including our own planet. It is that original amount of gold that we still have now. Earth processes move it about over geological time. Some places like Kalgoorlie have a relatively high concentration of gold whilst others like Albany have much less. You need to know what type of rocks to look in and how old they are.

5. Q. **Will we use up all the gold and there will be no more?**

A. The gold we use will just be recycled geologically slowly by Earth processes. Matter can neither be created nor destroyed however if we are not careful in the future it may not be found in economically useful quantities.

6. Q. **What use could I possibly have for learning to classify rocks?**

A. Rocks are classified according to their history. This history gives them certain useful characteristics. You will be able to know which rock suits which purpose. You won’t prospect for gold in coastal limestone or use it to make a doorstep or gravestone and you won’t buy shares in an oil company prospecting near Kalgoorlie!



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7. Q. **Why is it particularly important that people in Western Australia should know a bit about rocks?**

A. A very large amount of this state's income depends on agriculture and the minerals and resources industry. How development is managed will directly affect everyone either in their pocket or by access to local infrastructure (location of hospitals, schools, parks, beaches and roads). Knowledge supports intelligent decision making. We are responsible for helping plan our own futures.

8. Q. **Most minerals such as gold, nickel and copper lie in igneous and metamorphic rocks. Why should we bother learning about sedimentary rocks?**

A. Hydrocarbons (oil, gas and coal) are found in sedimentary rocks. Although our petroleum reserves are depleting, the five main sedimentary basins in Western Australia contain huge as yet undeveloped reserves of "tight gas". This is a possible resource for this state's future.

On the map below, indicate where you would find economic deposits of:

