Rock Classification - Student Activity

It is important that Scientists trial their ideas to find what works and what doesn't. We are going to find out what characteristics are good for classifying rocks.

Classification means breaking things into groups with similar characteristics.

Materials per student
- 2 different kinds of rock.
- A hand lens to examine the rock

NOTE When using a hand lens or magnifying glass, **ALWAYS** keep the lens close to your eye and move the object you want to look up towards the lens. *NEVER MOVE THE LENS!*
Practise using the lens first.

Moistening the rock makes some features more obvious.

The rock above is basalt from a lava flow. The massive volcanic outpourings occurred 35 million years ago in North Melbourne. It looks uniform and grey to the naked eye. If however you wet it and use magnification, it can be seen to consist of many grey and black interlocking crystals. Small pockets of quartz crystals are due to chilled gassy bubbles released during the eruption.

Write down a description of your rocks below.

Rock A is

_____

_____

_____

Rock B is

_____

_____

_____
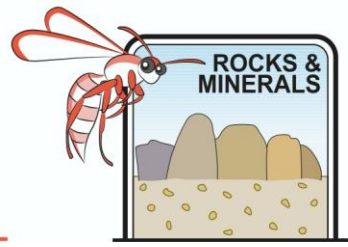
Rock Classification - Student Activity

Place all the rocks from your group together and compare (What is the same?) and contrast (What is different?).
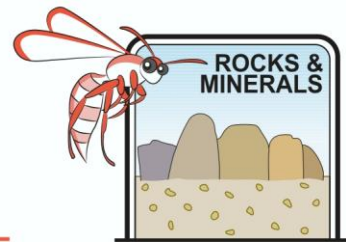
COMPARE	CONTRAST

Which descriptions should you use to classify rocks, compare or contrast? _____

Classification means breaking things into groups with similar characteristics.
Try and select the four best scientific groups into which we could classify our rocks.
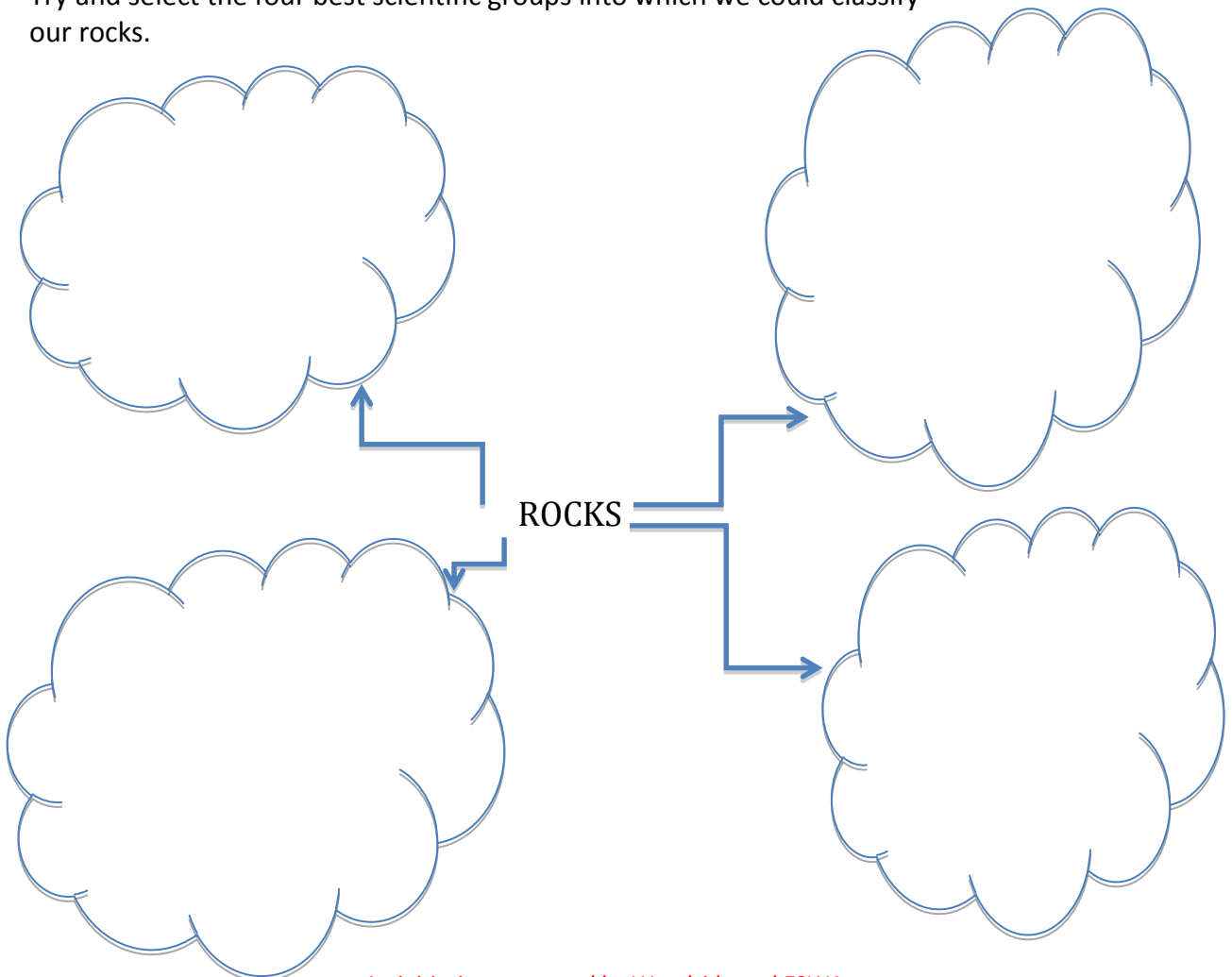
ROCKS

Rock Classification - Student Activity

What is good about this classification?   _____

_____

What doesn't work well?   _____

_____

Geologists first classify rocks into three groups according to their formation:

1. **Igneous (fire born) rocks**
   These have been formed from molten magma e.g. granite and basalt.

2. **Sedimentary rocks**
   These are assembled from broken bits of rock (clasts) and may contain remnants of living things e.g. sandstone and fossiliferous limestone.

3. **Metamorphic rocks**
   These are rocks which have been subjected to pressure and partially remelted. They retain some of their original sedimentary or igneous structures e.g. marble and schist.

Draw and describe the changes that happen to the raw egg as it is laid down (sedimentary rock), fried (metamorphic rock) and scrambled (igneous rock)

Using eggs as examples

Rock type	Drawing of egg	Changes to egg	Examples
Sedimentary rock (Laid down)		Fresh egg	1. Sandstone 2. Limestone 3.
Metamorphic rock (Pressure and heat)		Fried egg	1. Marble 2. 3.
Igneous rock (Reassembled)		Scrambled	1. Granite 2. 3.
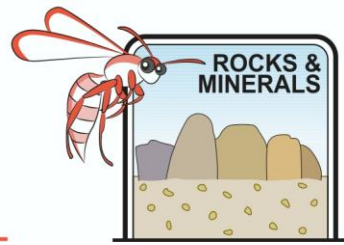
Did the composition of the egg change? _____

To which rock classification did your two rocks belong?

Rock A _____

Rock B _____