

Materials and the Earth

Lesson 4: Metamorphic Rocks

Science

Chemistry - Key Stage 3

Miss Willett



What have you learnt already?

- 1. What are the three types of weathering?**
- 2. Which type of rock do you find fossils in?**
- 3. What happens to more dense fluids?**



Properties of metamorphic rock

Igneous, sedimentary, or metamorphic?

Crystals

Irregular layers

Fossils

Colourful

Shiny

Porous



Properties of metamorphic rocks

Draw and label a diagram of a typical metamorphic rock



Metamorphic rock formation

Correct my mistakes!

Metamorphic rocks are made from sediment

Metamorphic rocks need high heat and low pressure

Rock has to melt to form metamorphic rocks



Metamorphic rocks: formation

Draw and label a diagram to show how metamorphic rocks are formed

Metamorphic rock is made from...

The conditions needed are high...



- 1. What happens when the metamorphic rock melts?**
- 2. How does extrusive rock form?**
- 3. How does intrusive rock form?**
- 4. What might happen if the intrusive rock is uplifted?**



- 1. What are small bits of rock called?**
- 2. Put the stages of making sedimentary rock in order**
- 3. How does rock get to the surface?**
- 4. What happens to the sedimentary rock next?**



The rock cycle

Put these steps into an order

Order	Step
1	Rock is weathered creating sediment
	Sedimentary rock is buried in the crust
	Sediment is transported by water and deposited on a river bed
	Forms metamorphic rock under high temperature and pressure
	The rock is uplifted and weathered forming more sediment
	Metamorphic rock is buried and melts, forming magma
	Sediment is compacted and cemented forming sedimentary rock
	Magma cools or erupts and cools, forming igneous rock



Bringing it all together..

Now imagine you are a piece of limestone.

Explain how you can become marble and then granite.

- I start off as _____ rock. I am weathered by...
- The sediment then...
- After that the sedimentary rock might be...
- This will form _____ and next....

KEYWORDS: acid rain, temperature, pressure, compact, deposit, cement, metamorphic, igneous, sedimentary, magma, lava, uplift



Bringing it all together..

