

15.1.21

T: Can I find properties of rocks?

Remember the different types of rocks?

What are the three types of rocks? What causes them to be different?

Igneous



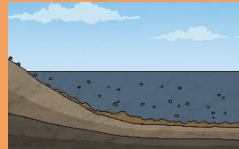
Formed from magma or lava.



Sedimentary



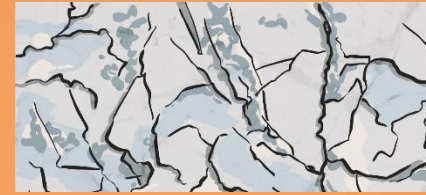
Formed under the sea as a result of sedimentation,



compaction and cementation.



Metamorphic



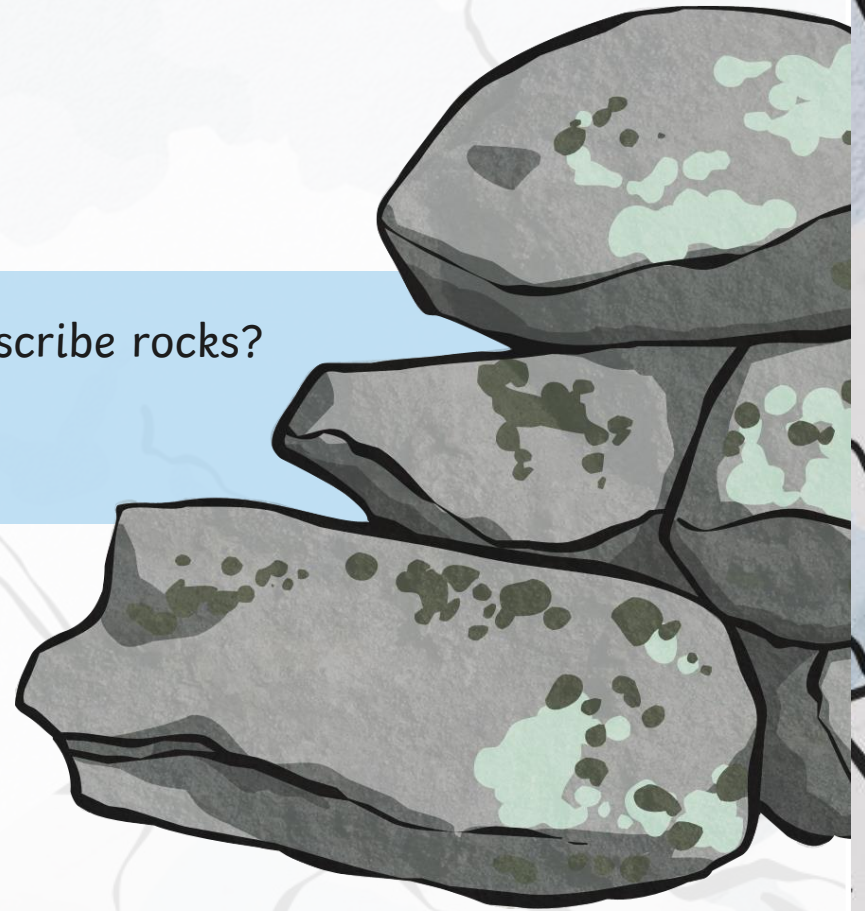
Metamorphic rocks are igneous or sedimentary or rocks that change chemically due to proximity to magma, huge pressure from burial or changes in tectonic plates.



Describing Rocks

What adjectives would you use to describe rocks?

Can you think of 3 different words?



Properties of Rocks

The following are a list of common properties of rocks:

Hard or Soft

Some rocks, like granite, are incredibly hard and can only be cut or split with specialist tools. On the other hand, clay is soft and can be easily moulded.



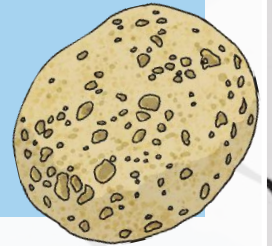
Durable

Rocks that are durable are more resistant to weathering (being eroded – that is broken down – by rain and wind). More durable rocks, such as marble, have been chosen to create buildings and for outside use for this reason.



Permeable or Impermeable

If a rock is permeable, for example pumice, this means it allows water to pass through it. Rocks that are impermeable do not allow water to pass through.



Density

Density measures how 'bulky' the rock is (how tightly packed the molecules are), not how heavy. Density can be checked by testing the buoyancy (whether they float in water) of rocks. High density rocks sink whereas low density rocks float.



These 2 pages below are saved separately on the website so you can make them bigger. If you find this tricky, complete the chopping board and the engagement ring.

Characteristics of Rocks

POS - compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
NAG - pupils should explore different kinds of rocks and soils, including those in the local environment; observe rocks, including those used in buildings and gravestones
WS - pupils should use straightforward scientific evidence to answer questions or to support their findings



Different rocks are selected by people to do different jobs. Not all rocks can do the same job. A rock is chosen to do a job because of its **characteristics** (properties). Ray begins discussing different rocks and outlines what they could be used for.



Chalk is a soft rock. It leaves a clear white mark when dragged along hard surfaces.



Granite is a very hard and attractive rock. It can be polished to a smooth, shiny finish.



Slate is an impermeable (waterproof) rock that forms long, flat sheets when broken. Water runs off it.



Sandstone is useful in construction and is abundant. This rock can be easily cut and shaped into blocks. It has been used by builders since the Ancient Egyptians. This rock is permeable and erodes quite easily.











Limestone is useful in construction. It is abundant, and is easy to cut and shape. Limestone is a hard rock that takes a long time to erode, even when walked on.



Diamond is the hardest rock and is difficult to break or scratch. It is clear, shiny and attractive, and is very expensive to buy.



Write the name of the rock you think is being used in the picture and explain why you think that rock was chosen. What are the properties of the rock that make it good for doing that particular job?

Chopping board		Fireplace	
	Rock: Reason:		Rock: Reason:
Roof		Pavement	
	Rock: Reason:		Rock: Reason:
Monument		Wall	
	Rock: Reason:		Rock: Reason:
Art and drawing		Engagement ring	
	Rock: Reason:		Rock: Reason:

You can draw the table in your book to show what you have learned. For each picture, decide which rock has been chosen and why its properties make it good for that job.

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Hi I'm Roy!



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Roy begins discussing different rocks and outlines what they could be used for.



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Challenge:

This is a pumice stone.



As you have seen on these slides, it is a permeable rock. What do you think will happen if you placed it into water? Write a prediction, then see if you can research this on the internet with an adult.