

# Grouping Rocks

# Aim

- I can group rocks based on their properties.
- I can make systematic and careful observations.

# Success Criteria

- I can name the different types of rocks.
- I can identify features of different rocks.
- I can group rocks by specific criteria.
  
- I can handle and examine rocks carefully.
- I can use a systematic approach to recognise similar features of different rocks.

# Types of Rocks



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

## Igneous



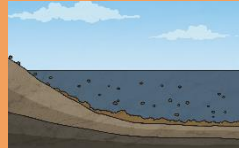
Formed from magma or lava.



## Sedimentary



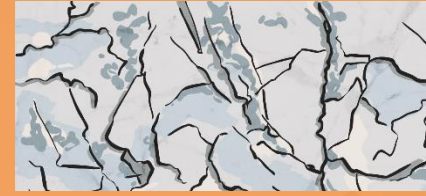
Formed under the sea as a result of sedimentation,



compaction and cementation.



## Metamorphic



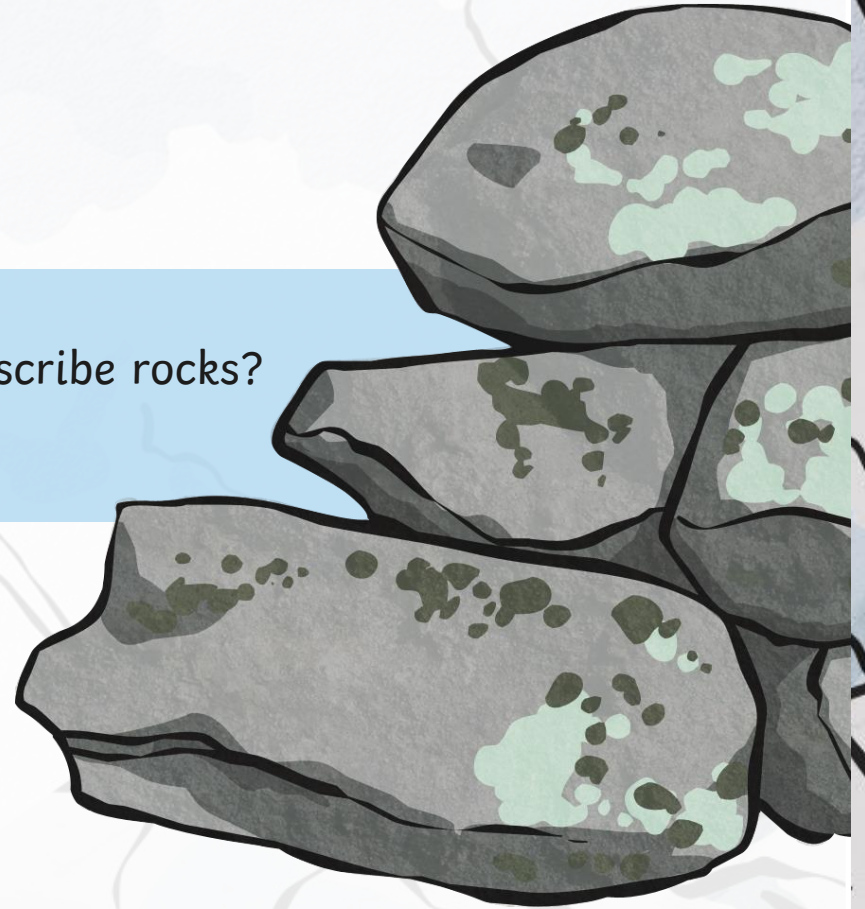
Metamorphic rocks are igneous or sedimentary or rocks that change chemically due to proximity to magma, huge pressure from burial or changes in tectonic plates.



# Describing Rocks



What adjectives would you use to describe rocks?  
Write down three suggestions.

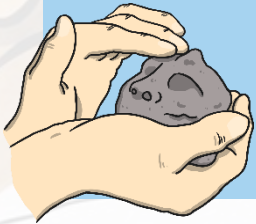


# Properties of Rocks

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.



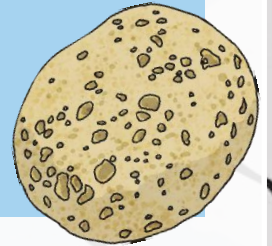
## Durable

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.



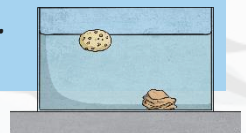
## Permeable or Impermeable

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

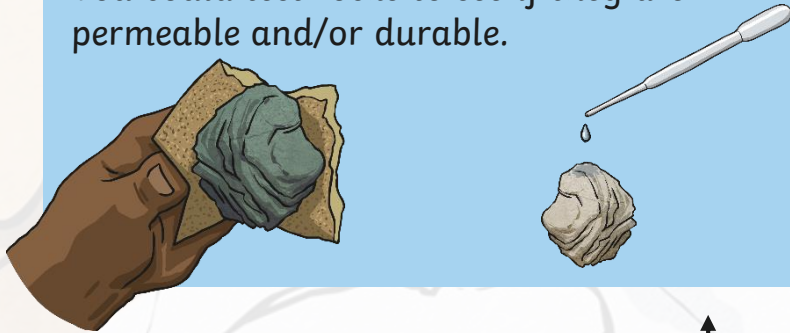
Density measures how 'bulky' the rock is (how tightly packed the molecules are), not how heavy. Density can be checked by testing the buoyancy (whether they float in water) of rocks. High density rocks sink whereas low density rocks float.



# Carousel of activities you could try:

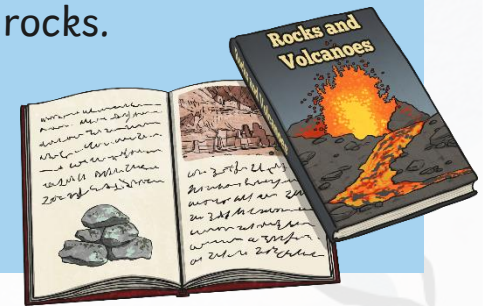
## Permeability and Durability Group

You could test rocks to see if they are permeable and/or durable.



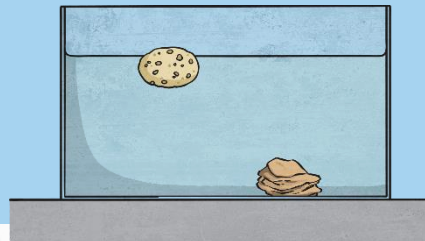
## Books Group

You could use books to find out about the properties of rocks.

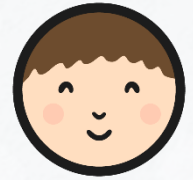


## Density Group

You could be test the buoyancy of different rocks to find out how dense they are.



# Grouping Rocks



Record your observations and take notes on your Properties of Rocks Activity Sheet.

## Properties of Rocks

Do each activity in turn and add your notes or record your observations on the following table.

Name of Rock	Type of Rock <small>Is it igneous, sedimentary or metamorphic?</small>	Permeable <small>Does it allow water to pass through?</small>	Durable <small>Is it hard wearing?</small>	Density <small>Is it high density or low density?</small>

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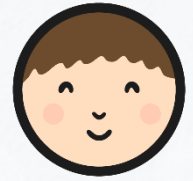
## Properties of Rocks

Do each activity in turn and add your notes or record your observations on the following table.

Name of Rock	Permeable <small>Does it allow water to pass through?</small>	Durable <small>Is it hard wearing?</small>	Density <small>Is it high density (sinks) or low density (floats)?</small>	Hard or Soft

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# Grouping Rocks





You will now use the notes you have taken on the Properties of Rocks Activity Sheet to group rocks based on their properties.



Grouping Rocks	
<p>Using your notes from the Properties of Rocks Activity Sheet, group the rocks based on two properties of your choice. Remember to label the boxes first and then add in the names of the rocks.</p>	

**Questions:**  
Name one rock that was:  
Permeable: \_\_\_\_\_  
Impermeable: \_\_\_\_\_  
High density: \_\_\_\_\_  
Low density: \_\_\_\_\_  
Durable: \_\_\_\_\_  
Not durable: \_\_\_\_\_

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