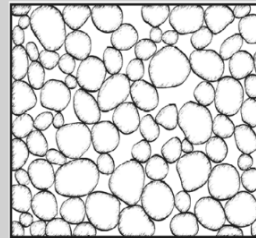


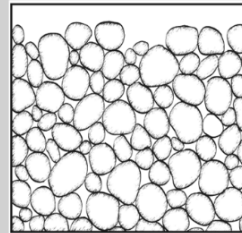
Formation of sandstone

1. Sand is carried by wind or water until it is deposited in a basin.
If animals are present they may leave tracks in the sand.



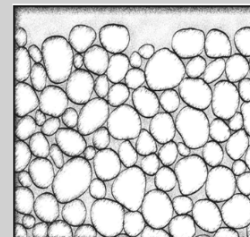
Sand—loosely packed soon after deposition

2 Over a long period of time the sand is compacted, pushed together due to the weight of sediments on top of it.



Sand—compacted long after deposition

3 A chemical matrix glues individual grains together. A process called lithification. This forms the rock we call sandstone.



Sand—surrounded by cementing mixture



What do you know about the shale from the Grand Canyon?

Wentworth SCALE OF ROCK PARTICLE SIZES

CLASSIFICATION	PARTICLE SIZE (DIAMETER)
Boulder	Above 256 mm
Cobble	64–256 mm
Pebble	4–64 mm
Gravel (or granule)	2–4 mm
Very coarse sand	1–2 mm
Coarse sand	0.5–1 mm
Medium sand	0.25–0.5 mm
Fine sand	0.125–0.25 mm
Very fine sand	0.062–0.125 mm
Silt	0.004–0.062 mm
Clay	Less than 0.004 mm



Learning target:

I can use tools to analyze sand samples.

The shale from the Grand Canyon is not porous, (water does not soak through) contains fossils of plants and has flaky layers.

How do you think this might have been formed?



Formation of Shale

Clay and silt size particles are deposited in areas of slow moving water.

Leaves and other remains of plants and animals may get buried in the mud.

Over time, the pressure of overlying sediments may squeeze the water out of the mud, and forms shale. Young shales are known as mudstone.

Copy these notes!



Learning
target:

Shale recipe

6 rounded spoons of powdered clay
1 rounded spoons of plaster of paris
50ml of water



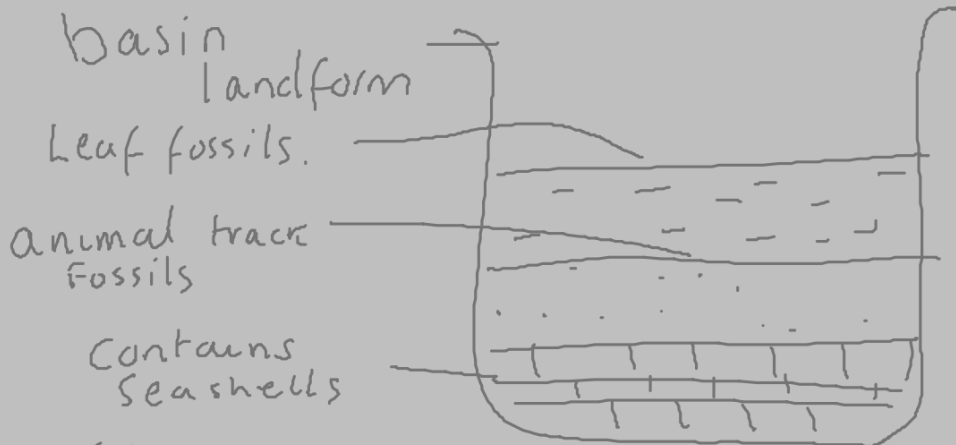
Learning
target:

I can model the formation of shale.

• [FOSSweb Shale Formation](#)

–Login: TFMS

–Password: Student

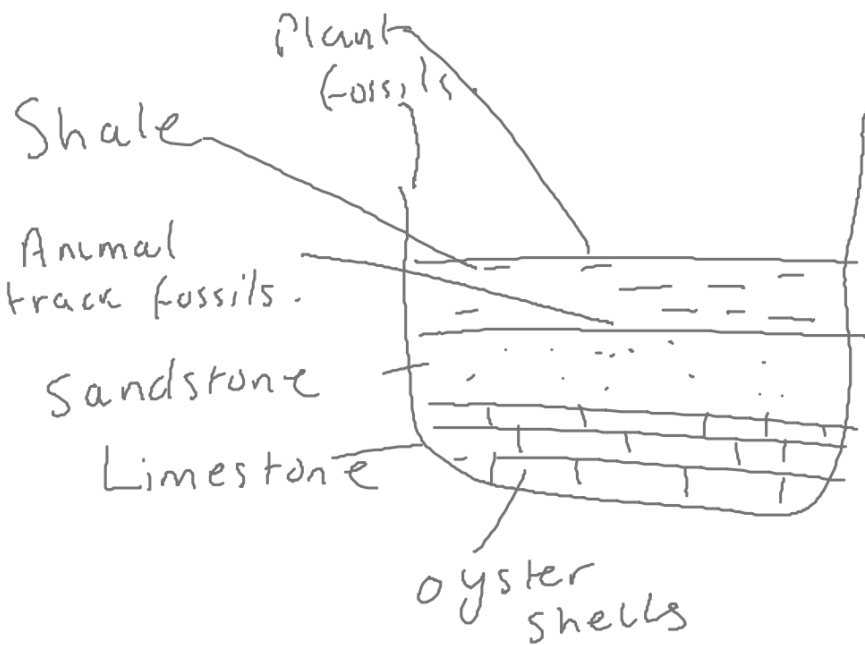


Key

Limestone	
Sandstone
Shale	==



- FOSSweb Shale Formation
- Login: TFMS
- Password: Student



Limestone	+
sandstone	:::
shale	- - -