Soil Permeability

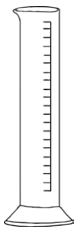
Question: What is the permeability of different types of soils?

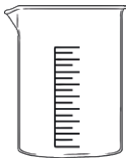
Prediction: I predict that _____ soil will be the most permeable and _____ soil will be the least permeable. I think this because _____

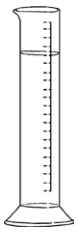
_____

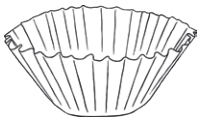
Equipment:

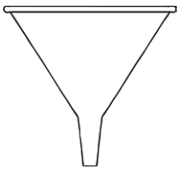
Samples of soil 

Measuring cylinders 

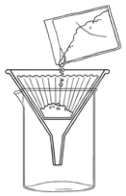
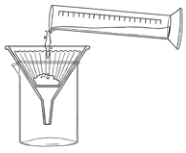
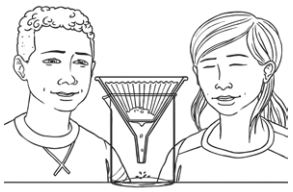
Beakers 

Water 

Coffee Filter Papers 

Funnels 

Method:
Repeat the instruction with each soil sample you are testing.

1. Place the funnel in the measuring container.	
2. Insert a coffee filter into the funnel.	
3. Add the soil sample to the lined funnel.	
4. Pour 300ml of water into the soil.	
5. Observe the water filtering through.	
6. After 5 minutes check how much water has collected in the measuring container and record this in the table below.	

Observational Record:

Type of Soil	Initial Observation (Describe what happened straight after you added the water).	Further Observation (Describe what has happened after 5 minutes including how much water has collected in the measuring container).	Permeability Use your initial observations and further observations for all of the soils to help you rank them from the most permeable to the least permeable (with the most permeable being given the number 1).

Adult Guidance

Investigating Soil Permeability

Types of Soils

There are hundreds of different types of soil in the world! This lesson will focus on the 6 main types of soils found both in the UK and the world in general. All of them are formed from a type of sedimentary rock.

However, it needs to be noted that all types of rocks will break up and form part of soil. Igneous rocks such as granite and basalt form part of soil near volcanoes. This soil is known to be highly fertile and is used to grow a variety of different types of plants. This is the reason why many choose to live and farm near volcanoes despite the dangers.

Oral Presentation:

The main points that should be in the success criteria should involve:

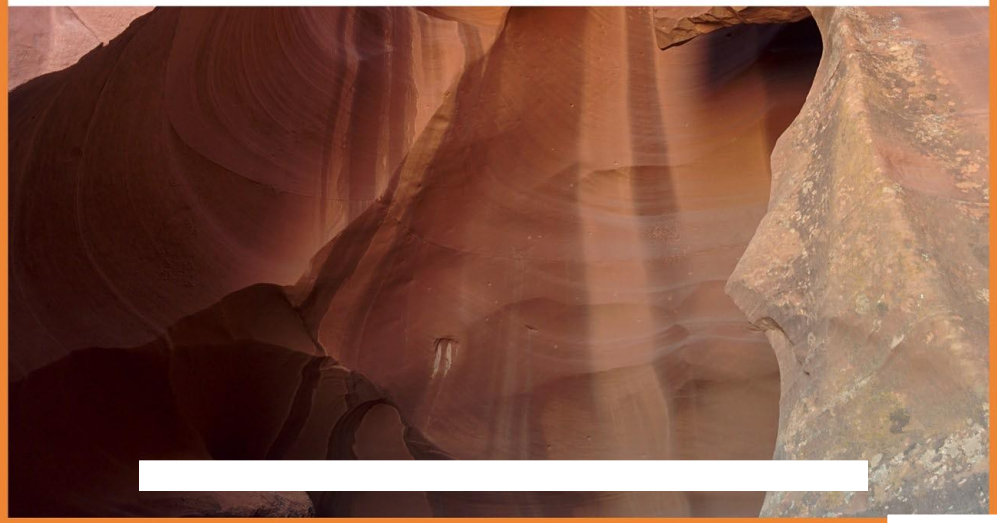
- Speaking clearly and loudly enough for others to hear.
- Using appropriate scientific vocabulary.
- Presenting specific information – how much water collected in measuring containers for the different types of soils.
- All children in the group should present.
- They need to stay focused on the question of permeability.

Chalk

Clay Soil

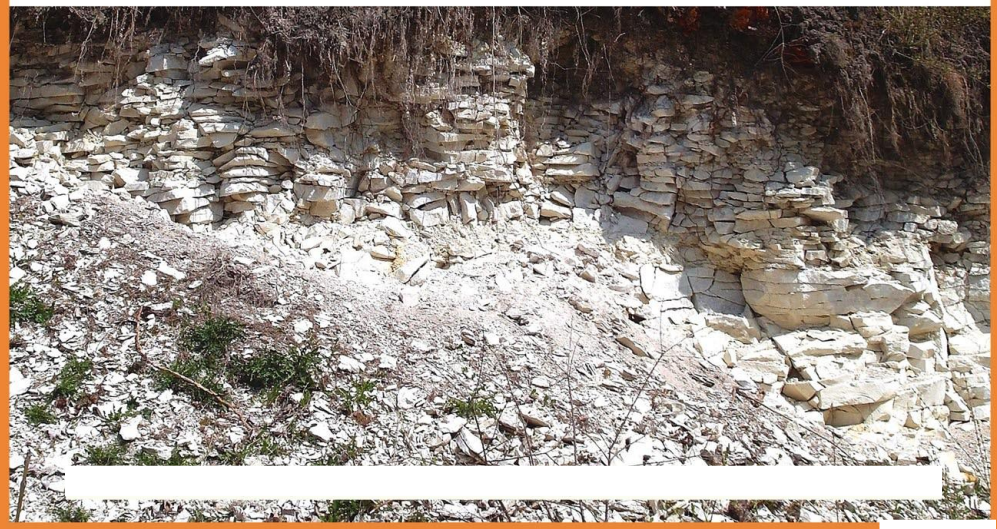
Peaty Soil

Sandstone



Peat

Chalky Soil



Loamy Soil

Siltstone

Clay

Sandy Soil

Silty Soil

Clay, Sandstone and Siltstone