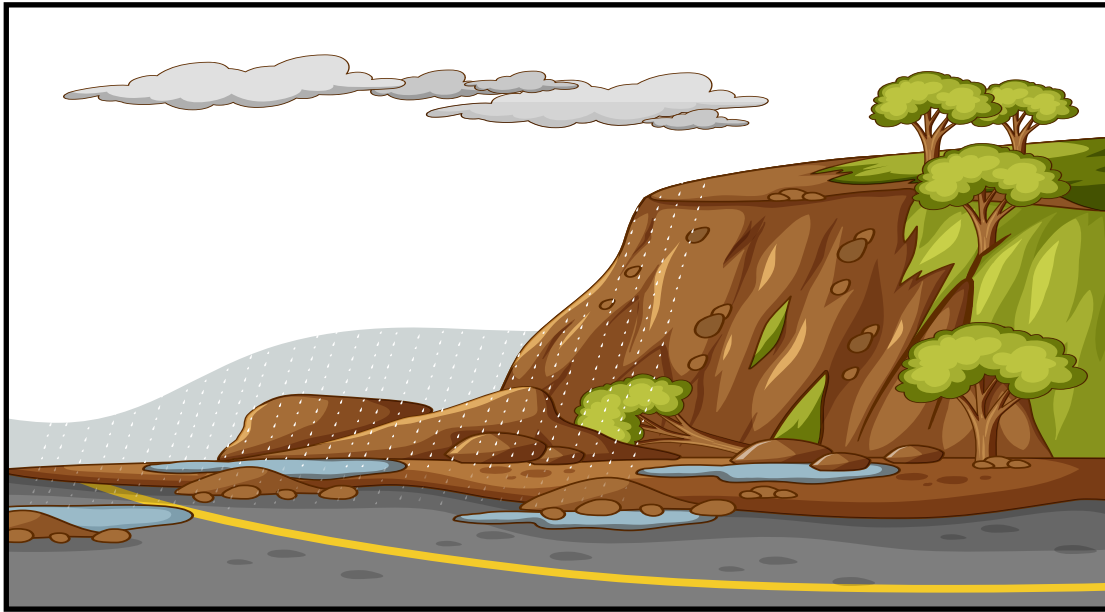


Soil Erosion



Erosion - Erosion is the process by which the surface of the earth is worn away and transported by natural forces such as wind, water, and glacier.

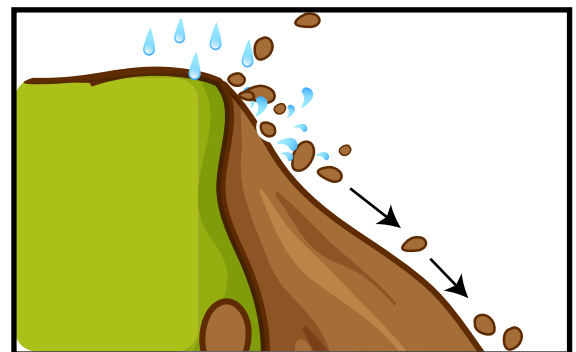
Mechanism:



Detachment

▪ The dislodgment of soil particles from the soil mass at a particular location on the soil surface by the erosive forces of rainfall and surface flow of water.

Detaching Agent: Rain drops, channel flow and wind



Transportation

-The soil is transported from one place to another.

Transporting Agent: Flowing water and wind

Causes of Soil Erosion



Water Erosion -

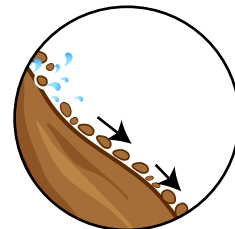
This is the removal of the topsoil material by water. The process may be natural or accelerated by human activity. For example, too much rain can lead to floods, and flood washes away the topsoil.

Types of Water Erosion

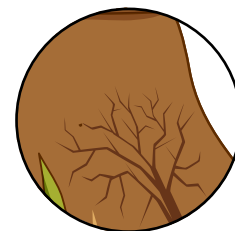
Splash Erosion - It occurs when raindrops hit bare soil. The explosive impact breaks up soil aggregates so that individual soil particles are splashed onto the soil surface.



Sheet Erosion - The removal of soil in thin layers by raindrop impact and shallow surface flow.



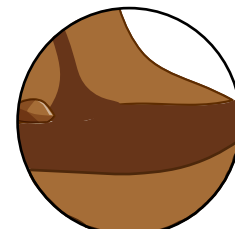
Rill Erosion - They develop when surface water concentrates in depressions or low points through enclosures and erodes the soil.



Gully Erosion - Occurs when smaller water flows concentrate and cut a channel through the soil.



Stream Bank Erosion - Occurs when surface water moves into and through dispersive subsoils.



Causes of Soil Erosion



Wind Erosion -

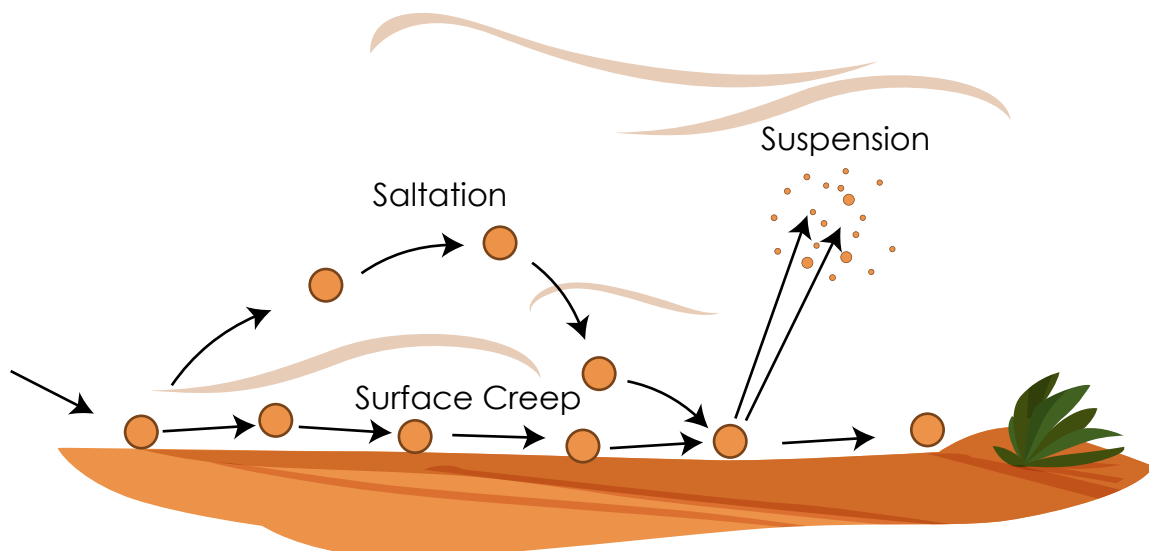
Wind Erosion is the natural process of transportation and deposition of soil by the wind.

Types of Wind Erosion

Surface Creep - The rolling and sliding of larger soil particles along the ground surface.

Saltation - Movement of particles by a series of short bounces along the surface of the ground, and dislodging additional particles with each impact.

Suspension - Fine particles are moved parallel to the surface and upward into the atmosphere by strong winds



Causes of Soil Erosion

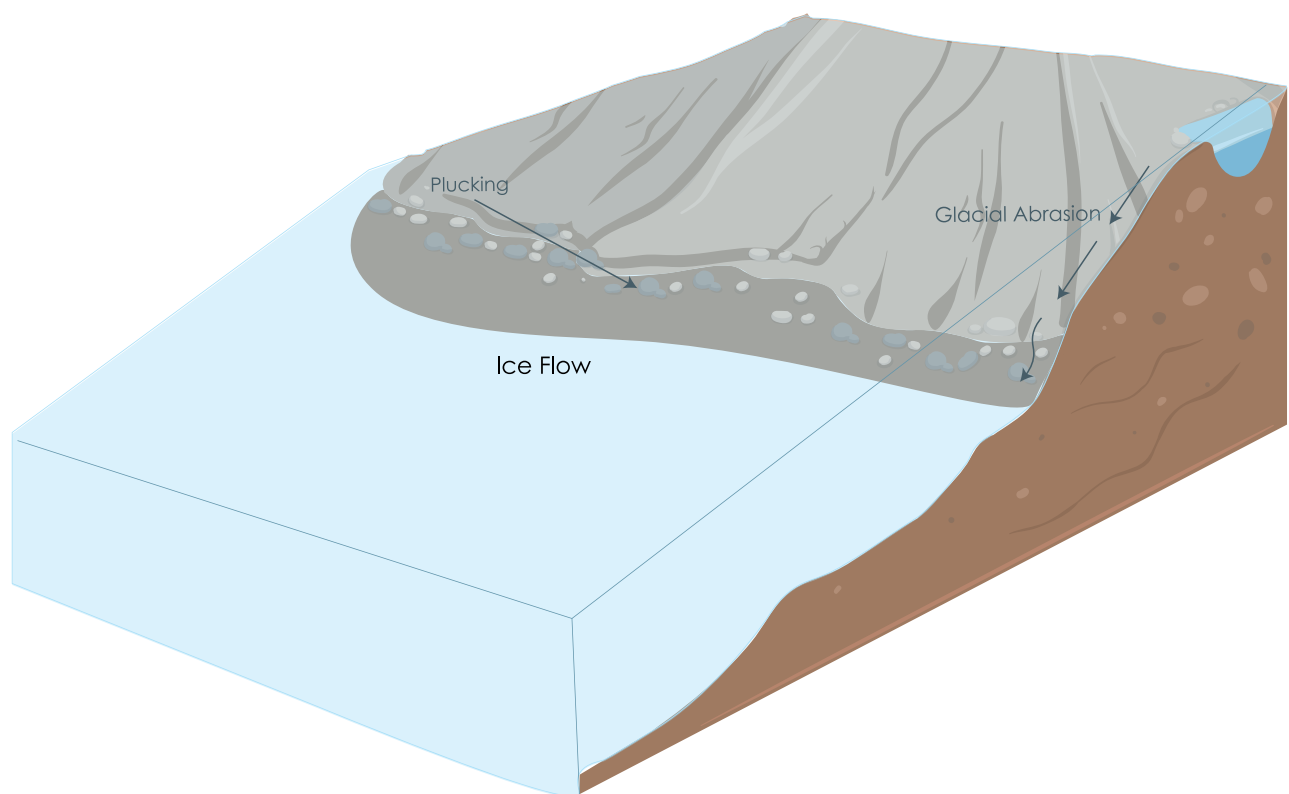
Glacial Erosion -

The processes that occur directly in association with the movement of glacial ice over its bed, such as abrasion, quarrying, and physical and chemical erosion by subglacial meltwater, as well as from the fluvial and mass wasting processes that are enhanced or modified by glaciation.

Types of Glacial Erosion

Plucking - The process by which rocks and other sediments are picked up by a glacier.

Abrasion - The process in which a glacier scrapes underlying rock.



Effects of Soil Erosion

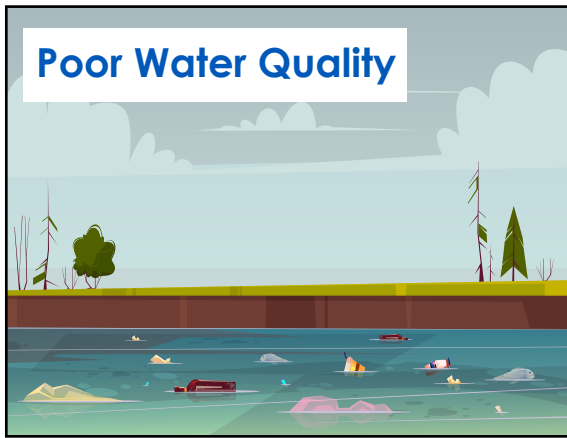
Pollution



Deforestation



Poor Water Quality



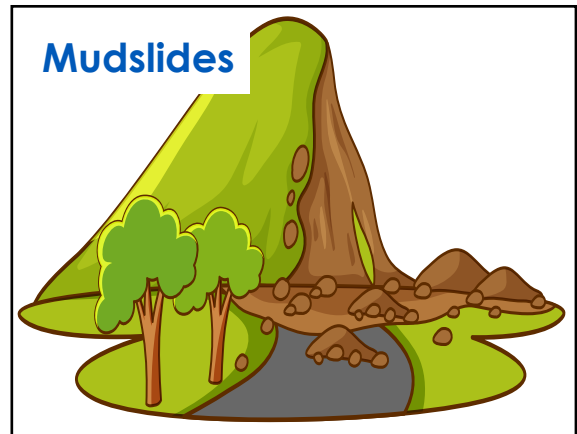
Soil Degradation



Flooding



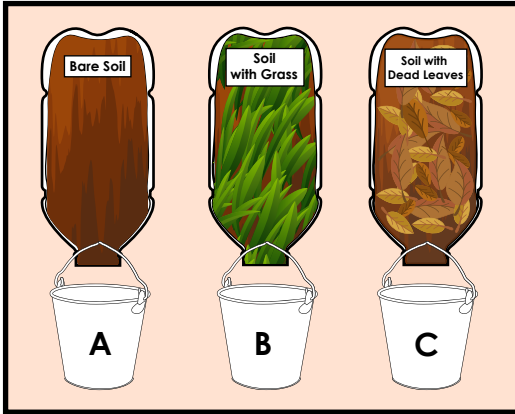
Mudslides



Structural Problems



Soil Erosion Experiment and Observation



Direction: Look at the samples in each bottle. Each bottle has the same soil with different vegetation. Use what you know about soil erosion to answer the questions.

Guess:

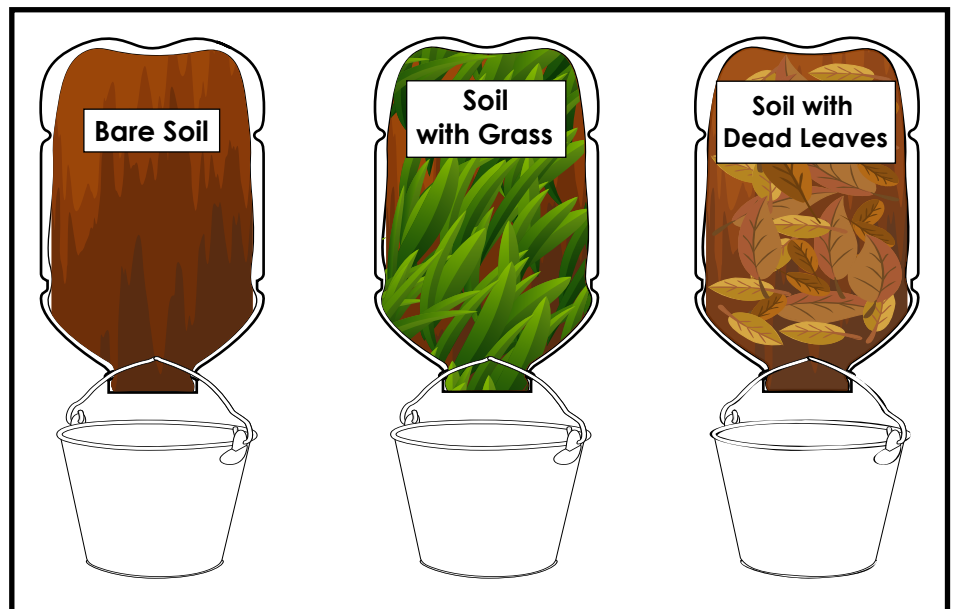
1. What do you think is the bottle that will have the most amount of soil erosion?

2. What do you think is the bottle that will have the least amount of soil erosion?

Explore : Watch what will happen if we pour water into every bottle and it comes out into the cup.

Test with Experiment:

3. Show what happens after we pour water into every bottle.



Conclusion:

4. Which bottle has the Least amount of soil erosion?

5. Explain the reason why?

Erosion Word Search



Erosion

Soil

Detachment

Transport

Water

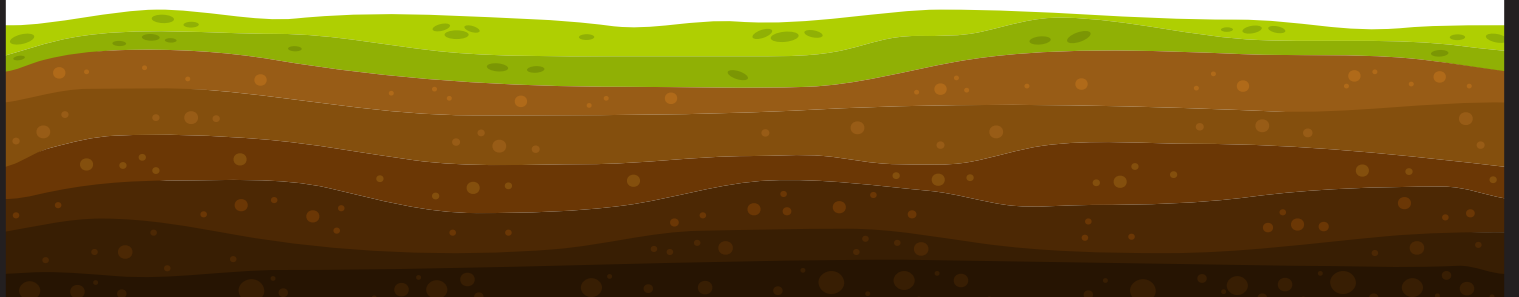
Wind

Glacier

Pollution

Floods

E	R	O	S	I	O	N	G	G	P
W	A	K	O	E	G	R	W	A	O
I	A	E	I	K	E	S	A	E	L
N	O	D	L	I	G	F	T	T	L
D	S	U	C	B	R	L	E	S	U
T	R	A	N	S	P	O	R	T	T
S	L	I	F	G	O	O	B	L	I
G	G	G	S	M	F	D	B	F	O
R	T	P	H	G	A	S	O	F	N
D	E	T	A	C	H	M	E	N	T



Soil Erosion Vocabulary

1. _____ is the process by which the surface of the earth is worn away and transported by natural forces such as wind, water, and glacier.
2. _____ is the processes that occur directly in association with the movement of glacial ice over its bed.
3. _____ the removal of the topsoil material by water.
4. _____ the natural process of transportation and deposition of soil by the wind.
5. _____ it occurs when raindrops hit bare soil.
6. _____ Fine particles are moved parallel to the surface and upward into the atmosphere by strong winds.
7. _____ The rolling and sliding of larger soil particles along the ground surface.
8. _____ The dislodgment of soil particles from the soil mass at a particular location on the soil surface by the erosive forces of rainfall and surface flow of water.

