

# Weathering, Soil, Erosion, and Deposition

S6E5. Students will investigate the scientific view of how the earth's surface is formed.

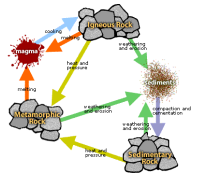
d. Describe processes that change rocks and the surface of the earth.

f. Explain the effects of physical processes (erosion, deposition, gravity) on geological features including oceans (composition, currents, and tides).

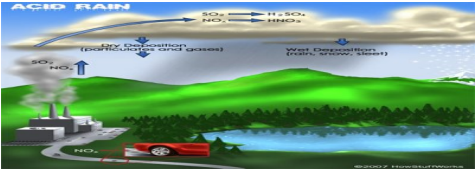









h: Describe soil as consisting of weathered rocks and decomposed organic material.



i: Explain the effects of human activity on the erosion of the earth's surface.

j. Describe methods for conserving natural resources such as water, soil, and air.



Must Know Vocab	My Picture Clue	Definition
rock cycle		a continuous series of events through which a rock is transformed from one type to another.
weathering		the breakdown of rock due to rain, wind, ice, sunlight, and plants.
erosion		the transport of fragments of rock by water, wind, ice, or gravity.
deposition		the process in which material is laid down
mechanical weathering (ex: water freezing or roots)		the process by which rocks break down into smaller pieces by physical means
abrasion		the grinding and wearing away of rock surfaces through the mechanical action of other rock or sand particles
ice wedging		mechanical weathering caused by the freezing and thawing of water that seeps into cracks in rocks
gravity		a force of attraction between objects that is due to their masses and that decreases as the distance between the objects increases
chemical weathering		the process by which rocks break down as a result of chemical reactions

Must Know Vocab	My Picture Clue	Definition
acid rain		precipitation that has a pH below normal and has an unusually high concentration of sulfuric or nitric acids, often as a result of chemical pollution of the air from sources such as automobile exhausts and the burning of fossil fuels
soil		a loose mixture of rock fragments and organic material that can support the growth of vegetation
(soil) horizons		the line where the sky and the Earth appear to meet; also a horizontal layer of soil that can be distinguished from the layers above and below it; also a boundary between two rock layers that have different physical properties
topsoil		the surface layer of the soil, which is usually richer in organic matter than the subsoil is
organic matter		is anything that contains carbon compounds that were formed by living organisms
bedrock		the layer of rock beneath soil
(soil) conservation		prevention of soil loss from erosion or reduced fertility caused by over usage, acidification, salinization or other chemical soil contamination
contour plowing		plowing along the contours of the land in order to minimize soil erosion.
terracing		To make or form (sloping land) into a number of level flat areas resembling a series of steps
no-till farming		A system for planting crops without plowing, using herbicides to control weeds and resulting in reduced soil erosion and the preservation of soil nutrients.

Must Know Vocab	My Picture Clue	Definition
Cover crop		<p>a crop planted to keep nutrients from leaching, soil from eroding, and land from weeding over, as during the winter.</p>
crop rotation		<p>the system of varying successive crops in a definite order on the same ground, especially to avoid depleting the soil and to control weeds, diseases, and pests.</p>

## Learning Targets:

1. I can understand the rock cycle. I can explain how rocks recycle. I can describe how one rock can become a different rock under the right conditions.
2. I can analyze soil composition and explain how soil is formed.
3. I can list the main layers/horizons of soil in order. I can identify that topsoil (horizon A) is more organic, darker, better for farming (more fertile) and holds more water.
4. I can describe how soil can be conserved. (ex: trees slow down the wind and hold in the soil)
5. I can explain the processes of weathering, erosion, and deposition. I can demonstrate how these processes change what the earth looks like.
6. I can compare and contrast chemical and mechanical/physical weathering..
7. I can describe the causes and effects of erosion (example: more erosion means more sediments in the water which makes it difficult for the fish to live). I can observe that more weathering and erosion of rocks means they will become smaller and rounder

