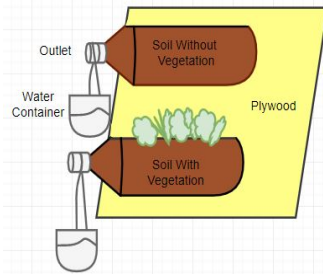




Essential Question(s): How does human use of land affect the soil?

Objective:	Materials/Resources	Essential Vocabulary
<p>LS2.B: Cycles of Matter and Energy Transfer in Ecosystems - Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. (5-LS2-1)</p>	<ul style="list-style-type: none"> • apple • knife • empty water bottles • string, • Soil³ • small plants or grass • leaf litter • water source • Soil Erosion Note Sheet • Ways to Decrease Soil Erosion 	<ul style="list-style-type: none"> • erosion • conservation
Learning Experience		
<p>Background Information: Erosion is a natural process that moves sediment from one place to another. The number one erosional agent is water. Erosion is increased by human interaction. One of the best ways to stop or slow erosion is to plant vegetation.</p>	<p>Engage: Activating Strategy: The Apple as Planet Earth</p> <ul style="list-style-type: none"> • As teacher shows the video, pause and cut an apple for the student to see. • Allow students time to complete the The Apple as Planet Earth Graphic Organizer. <p>This activity shows how much of the surface of the Earth and soil can be used to grow food for humans and animals. What will happen if this is polluted.</p> <p>Alternate Video: Soil Erosion Lesson for Kids</p> <p>Explore: Activities: Soil Conservation Whole Class Demo or small group investigation. This demonstration shows how bare soil will erode quicker than soil that is covered in leaf litter and soil that has vegetation planted. Watch the Erosion and Soil video of this activity.</p>	

Student Misconceptions:



- Cut the side off 3 water bottles.
- Lay the bottle on its side and fill 1/2 full with Soil³ Compost. The soil level should be below the mouth of the bottle.
- Leave the soil in the first bottle bare. Cover the soil in the second bottle with leaf litter. Plant small flowers or grass in the soil of the third bottle.
- Cut the bottoms off three water bottles. Punch two holes on opposite sides. Tie a string through the holes. These will hang on the openings to catch water.
- Pour the same amount of water in each bottle. Observe the water that collects in the cups.

Explain: Results: Human Activities Affect Soil

Students use the graphic organizer to research the different techniques used to decrease the amount of soil erosion.

Possible resources: [Video](#) and Soil Erosion Note Sheet

Elaborate: Extending: Save our Soil PSA (Public Service Announcement)

- Students pick one of the Soil Conservation Techniques from the previous activity and prepare a Public Service Announcement.
- [Example of PSA](#)

Evaluate: Summarizing Strategy: Change My Mind!

Teacher will present the following statement. The students will create an argument with supporting evidence to change the teacher's mind.

Statement:

This year, I think I should plant all of my land with corn. I love corn and want to grow as much corn as possible.

Differentiation Strategies

Virtual Connections	STEAM Opportunities
Erosion Song	<ul style="list-style-type: none"> • Have you ever had a big wave wash away a sand castle you had been working on? Design and create a way to protect your next sand castle from being washed away.

Assessment(s) Options:

Teacher Reflection: (Next steps?)

Resources:

<https://www.youtube.com/watch?v=mA78nPn41F4&feature=youtu.be>

<https://www.soils.org/files/sssaiys/apple-as-world-soil.pdf>

https://www.youtube.com/watch?v=Hy_PqKsv9mY

<https://www.youtube.com/watch?v=qNTOq1uEObc>

https://www.classzone.com/science_book/mls_grade7_FL/248_252.pdf