

**Created by:** Michelle Crane, 2014

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**Grade Level: 6**

**Time Frame:** Two 45 minute periods

**Learning Outcomes:**

Upon completion of this lesson, students will be able to:

1. Identify and describe examples of landforms, and
2. Explain the processes which created the landforms.

**Connection to the Curriculum:** This lesson is intended to be used in a 6<sup>th</sup> grade World Cultures class. As written, it is meant to provide an introduction to basic landforms using generic examples. However, the lesson can be modified easily to be used to introduce important landforms within any particular region.

**TEKS Strand(s) Objective(s):**

(6) Geography. The student understands that geographical patterns result from physical environmental processes. The student is expected to:

- (A) describe and explain the effects of physical environmental processes such as erosion, ocean currents, and earthquakes on Earth's surface;

**Materials:**

For Student Use:	
Computer Lab	One computer per student. See references for a list of suggested websites.
Paper	
For Teacher Use:	
How to Create a Landform Power Point	
Computer with projector	

**References:**

Earth Science and Remote Sensing Unit, NASA-Johnson Space Center. (n.d.). *Earth Landscapes*.

Retrieved July 13, 2014, from Earth from Space: <http://earth.jsc.nasa.gov/sseop/efs/land.htm>

National Geographic. (n.d.). *Encyclopedia*. Retrieved July 13, 2014, from National Geographic

Education: [http://education.nationalgeographic.com/education/encyclopedia/?ar\\_a=1](http://education.nationalgeographic.com/education/encyclopedia/?ar_a=1)

Pidwirny, M. (2006). *Models of Landform Development*. Retrieved July 13, 2014, from Fundamentals of Physical Geography, 2nd Edition: <http://www.physicalgeography.net/fundamentals/10q.html>

**Strategies:** This lesson has students using graphic organizers to organize their information. First, students will use a Vocabulary Square/Modified Frayer Model in order to identify, describe and explain their landforms. Then, students will use a graphic organizer to classify their landforms.

**Questions:**

Identify examples of landforms.  
Describe landforms.  
Explain how landforms are created.

**Procedures to conduct the lesson:**

Starting the Lesson: 5 minutes

Display the first slide of the “How to Create a Landform” Power Point. Ask students to write a brief description of the landform they see in the photo. Then, have them attempt to explain how they believe the landform was created.

**The Lesson:**

*Asking Geographic Questions:* Day One: 15 minutes

How are landforms created?

Explain to the students that they will be exploring different landforms in order to determine how landforms are created. When they have finished the lesson, they will be able to answer the question- How are landforms created?

Present the remaining slides of the Power Point to introduce the students to the processes which create landforms. Have the students take notes, so they will have the information to refer back to while they complete the lesson. Stop once you reach the Vocabulary Square slide.

*Acquiring Geographic Information:* Day One: 5 minutes

Provide the students with the following list of landforms:

- Alluvial fan
- Arch
- Barrier Island
- Caldera
- Canyon
- Delta
- Dune
- Fjord – one of the websites used as a resource spells this fiord
- Mesa
- Moraine
- Mountain
- Plateau
- Trench
- Valley
- Volcano

Divide the students into groups of 3. Have each group divide the list so that each group member investigates 5 landforms. Provide them with the two websites listed under resources as a place for them to begin searching for their information.

***Organizing Geographic Information: Day One: Remainder of the period***

While the students are looking up the information on each landform, they will organize their information into a Vocabulary Square. The Vocabulary Square presented in the Power Point is a modified example of a Frayer Model Vocabulary Graphic Organizer. The students can create the square electronically or draw their own on a sheet of paper. Students will write the definition of the landform in the top left hand corner of the square. Then, they will write how the landform was created in the top right. Have them leave the bottom left corner blank for now. Finally, they will find a picture of the landform and paste it into the bottom right hand corner. (NOTE: If they are drawing their Vocabulary Square on their own paper, they can draw a sketch of the landform.)

**Day Two: 10 minutes**

Once each group member has completed their landforms, the group will meet together to discuss their landforms. The group will decide if each landform is the result of a constructive force or a destructive force. They will record this in the bottom left hand corner of each Vocabulary Square.

***Analyzing Geographic Information: Day Two: 15 minutes***

Display the final slide of the Power Point. Have the students create their own organizer electronically or on their own paper. As a group, they will review their landforms and decide what type of constructive or destructive forces created each landform and list them under the appropriate column on their organizer. If they students have created their Vocabulary Squares on their own paper, they can physically arrange their squares into a large group graphic organizer before drawing their own, smaller one.

***Answering Geographic Questions: Day Two: Remainder of period***

Have each individual student look at his/her own graphic organizer. Have them write a paragraph explaining the forces which create the landforms they studied.

**Modification:**

In order to modify this lesson for use in a regional unit, simply select (or have the students select) a specific example of each type of landform from the region. While they are completing their Vocabulary Squares, have them list the specific example in the bottom right hand corner with the illustration. Once they have created their graphic organizer using their Vocabulary Squares, they can draw a sketch map of the region and sketch in their landforms.

**Evaluation/Assessment:**

	<b>Not There Yet</b>	<b>Satisfactory</b>	<b>Clearly Outstanding</b>
<b>Content</b>	<p><b>1 Point</b></p> <ul style="list-style-type: none"> <li>▪ Information in Vocabulary Square is largely inaccurate or incomplete.</li> <li>▪ Landforms are not accurately placed in Graphic Organizer.</li> <li>▪ Written answer does not accurately answer the Geographic Question or is missing or incomplete.</li> <li>▪ Written answer does not utilize appropriate vocabulary.</li> <li>▪ Written answer is difficult to read due to spelling and/or grammar errors.</li> </ul>	<p><b>2 Points</b></p> <ul style="list-style-type: none"> <li>▪ Information in Vocabulary Squares is complete and mostly accurate.</li> <li>▪ Most landforms are organized appropriately in the Graphic Organizer.</li> <li>▪ Written answer accurately describes the forces which create landforms and provides some examples and description.</li> <li>▪ Written answer correctly utilizes appropriate vocabulary.</li> <li>▪ Written answer is generally free from spelling or grammar errors.</li> </ul>	<p><b>3 Points</b></p> <ul style="list-style-type: none"> <li>▪ Information in Vocabulary Squares is thorough and accurate.</li> <li>▪ All landforms are organized appropriately in the Graphic Organizer.</li> <li>▪ Written answer thoroughly explains the forces which create landforms and provides concrete examples with descriptions.</li> <li>▪ Written answer demonstrates mastery of appropriate vocabulary.</li> <li>▪ Written answer is largely free from spelling or grammar errors.</li> </ul>
<b>Appearance</b>	<p><b>0.75 Points</b></p> <ul style="list-style-type: none"> <li>▪ Vocabulary Square is difficult to read and is not organized correctly.</li> <li>▪ Graphic Organizer is difficult to read and is not organized correctly.</li> <li>▪ Illustrations are unclear or missing.</li> </ul>	<p><b>1.25 Points</b></p> <ul style="list-style-type: none"> <li>▪ Vocabulary Square is clear and legible.</li> <li>▪ Graphic Organizer is clear and legible.</li> <li>▪ Illustrations are mostly clear and present.</li> </ul>	<p><b>2 Points</b></p> <ul style="list-style-type: none"> <li>▪ Vocabulary Square is clear, legible and attractively drawn.</li> <li>▪ Graphic Organizer is clear, legible and attractively drawn.</li> <li>▪ Illustrations are clear and enhance the presentation.</li> </ul>

# How to Create a Landform

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# Warm Up





# Constructive Forces

- Constructive forces build landforms.
- They include:
  - Plate tectonics
  - Deposition



# Plate Tectonics

- Earth's plates are constantly moving.
  - As the plates move, they spread apart, collide or slide past each other.
  - Folding and Faulting are a result of these movements and create landforms such as:
    - Mountains
    - Trenches
    - Volcanoes
- Landforms can also be created when magma solidifies within or outside of the Earth's crust.



# Deposition

- Deposition occurs when small particles of rocks and minerals are deposited after they have been eroded or weathered away from their original source.
  - As the particles accumulate, they create landforms such as:
    - Dunes
    - Barrier islands
    - Deltas



# Destructive Forces

- Even as landforms are being created, they are being acted upon by forces which will shape them and eventually wear them away. They include:
  - Weathering
  - Erosion



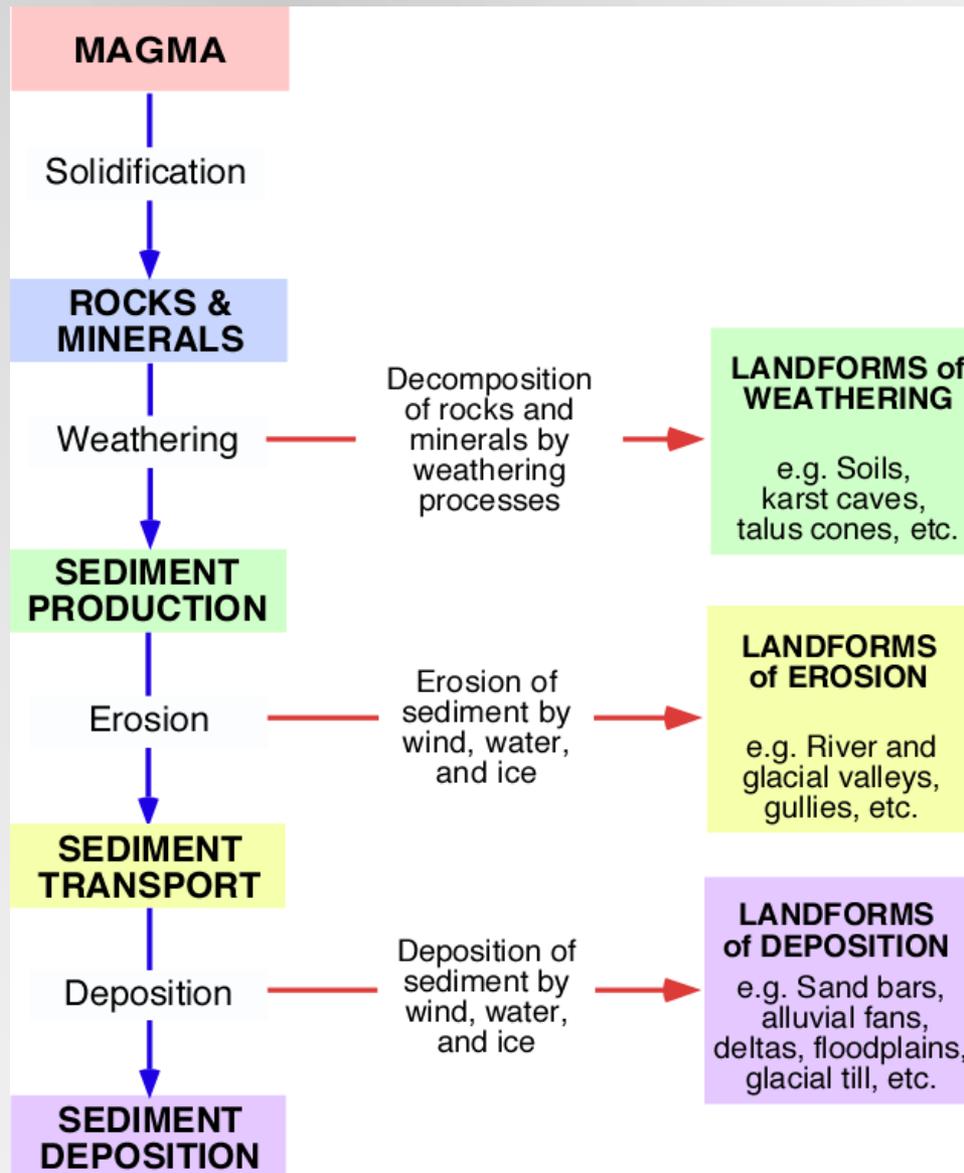
# Weathering

- Over time, rocks and minerals decompose.
  - They can either break into smaller pieces, which is Physical Weathering
    - Water and ice play a crucial role in breaking rocks.
    - Frost wedging is an example – rain falls into cracks in the rocks. When the water freezes, it expands, making the cracks wider and eventually breaking the rock.
  - Or, they can be changed by chemical reactions, such as dissolving or rusting. This is called Chemical Weathering.
- Examples of landforms created by weathering are:
  - Canyons



# Erosion

- Once rocks have been weathered and broken into smaller pieces, wind, water and ice carry those pieces away to form new landforms.
- Examples of landforms shaped by erosion are:
  - River valleys
  - Glacial valleys
  - Kettle lakes
  - Coastal cliffs



Definition

Explanation

Word

Constructive  
or Destructive

Illustration

