

Introduction

Essential Question: How do the processes of weathering, erosion, and deposition interact to change our landscape over time?

Weathering, erosion, and deposition are all around us every day and most of us don't even know it! It can have an effect on our lives and the decisions we make. It is important for all of us to understand how weathering, erosion, and deposition work so that we may make informed decisions.

You will be choosing a role to assume for this project. You will be working in pairs **or** on your own to complete the project.

You will have until your presentation date (either April 18 or 22) at home to work on this project. Good planning will make all the difference!

Task

Your goal is to inform the general public as to how our landscape has changed and continues to change over time. Without your information people may make poor decisions when it comes to things like what types of rock to use when they create a statue, where to move, or places to build their homes!

You must make them understand the following about how our landscape has changed:

- The causes of the disappearance of the mountains.
- How the causes are making the mountains disappear
- Where the mountains have gone and what has been created from them.

Remember the four agents of erosion we concentrated on are:

- Gravity (Mass Movement)
- Ice (Glaciers)
- Water (Moving)
- Wind

Process

First things first....decide with whom you will work - **yourself or a partner?**

- Please note - this is YOUR choice - **choose wisely!!** Sometimes your BFF isn't your BWP (Best Work Partner)!
- Keep in mind that this project will be due at the end of a week, if you CANNOT find enough time to work with another student and if you don't finish - your grade will suffer!
- DO NOT feel pressured to say yes to someone because they ask you to partner with them. Especially, if you're a student who knows you always put forth your best effort and now a student who you think does not always put forth his/her best effort wants to be your BWP!!

One last thing before you get started...Make sure to give credit to the site(s) you find and take information, pictures, and graphs!

There are many ways to go about informing the general public. You or you and your partner will choose how you will inform the people based on your own interests. The following is a list of roles you may choose from:

- Realtor
- Lawyer
- Documentary Film Maker

If you have a role in mind that is not on the list, please speak with your teacher to create a new role!

Realtor

You are the premier realtor of the insanely rich and have been hired by Mrs. E. Rose Un to find the perfect spot for her to build her new 15,000 square foot mansion! The catch...she does not believe that weathering, erosion, and deposition (WED) change the Earth's surface!! It's your job to teach her about WED, so that she may make an informed decision about where to build her oversized mansion.

First, you must do some investigating about the forces that cause WED on the Earth's surface. Your job is to prove to her that WED does happen! To do so you need to (**required elements**):

- Show her examples of the landscape caused by the four agents of erosion.
- Describe how they have worn down (eroded) the Earth's surface.
- Describe how and where they deposited (built up) the sediment.
- Make a list of the erosion features that each agent creates and briefly describe each one.
- Make a list of the deposition features that each agent creates and briefly describe each one.
- Explain to her why she should not build her house near the examples you choose and find a good spot for her new mansion and explain why you choose that spot.

Regardless of how you chose to present your presentation should have:

- An introduction that identifies the four agents of erosion.
- Each agent of erosion should have **its own area** for the picture and description of how they have worn down, made deposits, and why she should not build her house in that spot.
- Each agent of erosion should have **its own area** for the list and description of the erosion and deposition features created.
- **One area** for the spot you have found along with the explanation of why the spot was chosen, as it relates to WED.

Here is a template for a presentation you may follow.

(Title Slide)

Location, Location, Location...

Realtors: (your name(s) here)
Client Issue: (describe what you are trying to prove here)


The Main Characters: Agents of Erosion
(list the 4 agents of erosion)



(Agent of Erosion) (4 slides, one for each agent!)

- How does this agent erode the land?
- Where does the material go?
- Why should she not build her house here?

(Include a picture of an example of the agent of erosion)

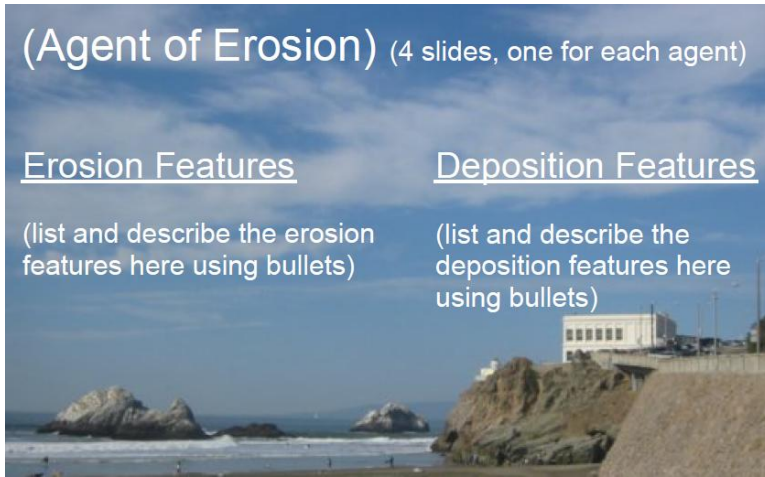


<http://fruitfly.files.wordpress.com/2008/11/delicate-arch-arches-national-park-utah.jpg>

Give credit!

(Agent of Erosion) (4 slides, one for each agent)

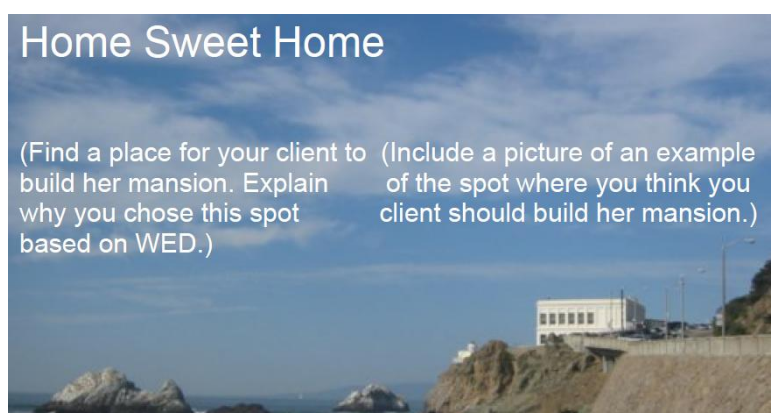
<h3><u>Erosion Features</u></h3> <p>(list and describe the erosion features here using bullets)</p>	<h3><u>Deposition Features</u></h3> <p>(list and describe the deposition features here using bullets)</p>
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Home Sweet Home

(Find a place for your client to build her mansion. Explain why you chose this spot based on WED.)

(Include a picture of an example of the spot where you think you client should build her mansion.)



Lawyer

Emergency calls have been coming in from all over the country about mountains slowly disappearing and you and your partner are geological criminal investigators who have been assigned to the case. In your investigation you will have to determine:

- Who or what are the culprits?
- How are they making the mountains disappear?
- Where did the mountains go?

To bring this case to trial, the judge wants you to create a visual Powerpoint, Keynote, Glogster, Prezi, or Animoto presentation to present your evidence to the jury.

First, you must do some investigating about the forces that cause weathering, erosion, and deposition (WED) on the Earth's surface. Your job is to (**required elements**):

- Identify the four agents of erosion.
- Describe how they wear down (erode) the Earth's surface.
- Describe how and where they deposit (build up) the sediment.
- Make a list of the erosion features that each agent creates and briefly describe each one.
- Make a list of the deposition features that each agent creates and briefly describe each one.
- Explain the judge's ruling and explain why she chose to rule that way with accurate details and pictures.

Regardless of how you chose to present your presentation should have:

- An introduction that identifies the four agents of erosion.
- Each agent of erosion should have **its own area** for the picture and description of how they have worn down, made deposits, and why she should not build her house in that spot.
- Each agent of erosion should have **its own area** for the list and description of the erosion and deposition features created.
- **One area** for the explanation of the judge's ruling and explain why she chose to rule that way with accurate details and pictures, as it relates to WED.

Here is a template for a presentation you may follow.

Case of the Disappearing Mountains


Attorneys: (your name(s) here)
Case Description: (describe what you are trying to prove here)

The Defendents: Agents of Erosion
(list the 4 agents of erosion)

(Agent of Erosion) (4 slides, one for each agent!)

(Include a picture of an example of the agent of erosion)

- How does this agent erode the land and what erosion features are left behind?
- Where does the material go and what deposition features are created?



<http://fruitfully.files.wordpress.com/2008/11/delicate-arch-arches-national-park-utah.jpg>

Give credit!

(Agent of Erosion) (4 slides, one for each agent)

<h3><u>Erosion Features</u></h3> <p>(lists and describe the erosion features here using bullets)</p>	<h3><u>Deposition Features</u></h3> <p>(list and describe the deposition features here using bullets)</p>
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The Verdict

What did the judge decide?
Explain what her ruling was and why she chose to rule that way. Be sure to include pictures to support her ruling.

Documentary Film Maker

You work for National Geographic and have been traveling the world for the past 5 years documenting extreme examples of weathering, erosion, and deposition (WED). You are creating a short, informative documentary for middle school-aged kids to help them understand WED.

Throughout your travels you have learned much about the forces that cause WED on the Earth's surface. Your job is to teach through a documentary (required elements):

- The four agents of erosion.
- How they wear down (erode) the Earth's surface.
- How and where they deposit (build up) the sediment.
- The erosion features that each agent creates and briefly describe each one.
- The deposition features that each agent creates and briefly describe each one.

Resources

Below you will find resources you may use to help you complete your project. You are **NOT** limited to only these resources, this is just a place to start!

Weathering & Erosion

- <http://www.regentsprep.org/Regents/earthsci/units/weathering/index.cfm>
- http://www.geography4kids.com/files/land_erosion.html
- <http://facstaff.gpc.edu/~pgore/geology/geo101/weather.htm>
- http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/mass_movement_weathering/outline.html

Gravity

- <http://landslides.usgs.gov/>
- <http://www.nwgeoscience.com/kelso/photos/index.html>
- <http://www.fema.gov/hazard/landslide/index.shtm>
- http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/mass_movement_weathering/mass_movement_1.html

Ice

- <http://www.homepage.montana.edu/~geol445/hyperglac/eroprocl/>
- <http://nsidc.org/glaciers/questions/land.html>
- <http://pubs.usgs.gov/gip/capecod/>
- <http://www.physicalgeography.net/fundamentals/10af.html>

Wind

- <http://uregina.ca/~sauchyn/geog221/wind.html>
- <http://www.weru.ksu.edu/vids/>
- <http://www.environment.ualberta.ca/SoilPosters/wind.cfm>

Moving Water

- <http://www.nrcs.usda.gov/technical/ECS/agronomy/photos.html>
- <http://www.waterencyclopedia.com/En-Ge/Erosion-and-Sedimentation.html>
- http://www.uwsp.edu/geo/faculty/ritter/geog101/textbook/mass_movement_weathering/water_erosion.html

Google Earth Examples

- Arches are natural structures that are formed from weathering and erosions. Famous examples of arches are Delicate Arch in Arches National Park, Utah and the sea arches found at Etretat on the Northern Coast of France, or the Es Pontas arch off the coast of Mallorca, Spain.
- Hoodoos are tall thin spires of rock that protrude from the bottom of arid basins and badlands. A famous example of hoodoos is the Hoodoos Amphitheater at Bryce Canyon National Park, Utah.
- Badlands are a type of arid terrain where softer sedimentary rocks and clay-rich soils have been extensively eroded by wind and water. Badlands National Park in South Dakota and the Putangirua Pinnacles in New Zealand are examples.
- Canyons are carved from the landscape by a river. Most canyons were formed by a process of long-time erosion from a plateau level. A famous example of a canyon is the Grand Canyon in Arizona and Kings Canyon in the Northern Territory of Australia.
- Inselbergs are isolated hills that rise from the ground. They are typically igneous formations that have been uncovered through the erosion of the overburden. Two famous Inselbergs are Stone Mountain in Georgia and Ayers Rock in Australia.
- Mesas are elevated areas of land with a flat top and sides that are usually steep cliffs. Beautiful examples of mesa exist in the Painted Desert, Arizona.

Evaluation

The rubric that will be used to calculate your earned grade is below. Your teacher will review it once in-class, it is your responsibility to check your project against the rubric before submitting it to your teacher!

You will have the opportunity to self-evaluate & reflect on your project. **Please note that if you do not complete the self-evaluation & reflection, 10 points will be deducted from your final grade for the project.**

	Mountain 1	Boulder 2	Pebble 3	Sand 4
Attractiveness	The project is distractingly messy or poorly designed. It is not attractive	The project is acceptably attractive though it may be a bit messy.	The project is attractive in terms of design, layout, and neatness.	The project is exceptionally attractive in terms of design, layout, and neatness.
Content – Accuracy	Very few or no accurate facts are included in the project.	Some accurate facts are included in the project.	Many accurate facts are included in the project.	An abundance of accurate facts are included in the project.
Content - Explanation	Content is not explained fully and has no detail.	Content is explained somewhat and has a little detail.	Content is explained and has a good amount of detail.	Content is explained fully and with great detail .
Required Elements	More required elements were missing from the project than were included in the project.	Some required elements were missing from the project.	Most required elements were included in the project.	All required elements were included in the project.
Use of Time	Did not use time to focus on the project because it was done very poorly. Appears to have put little or no effort into the project.	Used some time well to focus on getting the project done because it was completed. Appears to have put some effort into the project.	Used most of the time well to focus on getting the project done because it was completed as instructed. Appears to have put a good amount of effort into the project.	Used time well to focus on getting the project done because it was completed as instructed AND included additional information. Appears to have put a GREAT deal of effort into the project.

Self-Evaluation

Name:

Hour:

1. How hard did you work on this project *Be Honest

	1	2	3	4	5	
I did everything I could to make this a GREAT project.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I goofed off most of the time and didn't put much effort into the project

2. What score would you give yourself on the project. * Refer to the rubric on the "Evaluation" paper.

	Mountain	Boulder	Pebble	Sand
Attractiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content - Accuracy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content - Explanation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Required Elements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of Class Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Which of the following best describes what you believe to be your ability level using technology to learn? *

	1	2	3	4	5	
I have a strong foundation of knowledge and can teach others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I really struggle with technology and need a lot of help.

4. Please choose the statement that most closely matches what you think:

I enjoyed working on this project at home.

I didn't mind working on this project at home

I hated working on this project at home

5. How do you think this project could be improved?

(Turn over)

6. Please use the following space to leave your teacher a suggestion for a future project using technology.

7. How well did you and your partner work together? *

	1	2	3	4	5	
GREAT! She/He is my BWP!	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	HORRIBLE - we'll never work together again!

8. Provide any other comments about how you and your partner worked together.

Conclusion

Bravo! You've successfully completed your tasks! You have discovered weathering and erosion affects you and everyone on this planet. You've educated your clients and the general public on the facts about WED, so they might make informed decisions!

Job well done!!

Education comes from within; you get it by struggle and effort and thought.
~Napoleon Hill