Mathematician Project

You are going to pick a mathematician and do a small research project on that person. You must create a small poster (1/2 size sheet of poster board). Everything needs to be in your OWN words, do not just copy it from a website. **No full sentences, just bulleted information.**

The project is due on May 22, 2020.
Absolutely no late projects will accepted. This is extra credit!

Archimedes
Pythagoras
Hypatia
Euclid
Fibonacci (Leonardo Pisola Bigollo)
Leonardo da Vinci
Renee Descartes
Pierre de Fermat
Blaise Pascal
Sir Isaac Newton
Gottfried Leibniz
Jacob Bernoulli
Daniel Bernoulli
Leonhard Euler
Maria Agnesi
Joseph-Louis Lagrange
Pierre-Simon Laplace
Augustin-Louis Cauchy
Charles Babbage
Johann Carl Friedrich Gauss
Ada Lovelace
George Stokes
Bernhard Riemann
Siméon Poisson
Sofia Kovalevskaya
Henri Poincaré
Peter Dirichlet
David Hilbert
Georg Cantor
Albert Einstein
Emmy Noether
Srinivasa Ramanujan
Mary Louise Cartwright
Grace Hooper
Kurt Gödel
Alan Turing
Alexandre Grothendieck
Andrew Wiles
Jean Baptiste Joseph Fourier

Criteria	Points	Score
A title	1	
Your name, class period, date, on the back bottom right corner	----	
A picture of the mathematician	5	
Date and place of birth	1	

Date of death (if they have passed)	1	
Where they lived during their life	2	
Three different contributions to math or science with two supporting details about the accomplishments	10	
Neatly done	----	
This sheet stapled to the corner with your name on it.	----	
Total	20	

Social Studies: One –Pager Final (Distance Learning)

Your Task: After reviewing all of the Ancient Civilizations we have studied, choose one civilization to represent with a One-Pager. The information should look like the cover of a magazine. The final result should look clean and artistic (colorful block letters, quality artwork, etc.). The page can be laid out however you choose but must include ALL of the following:

Think of…. G.R.A.P.E.S

1. The title of the civilization and a boarder.

2. Draw a mini map of the location and label the major parts.

3. The main people (2), achievements (2), theories or concepts (2).

4. Two statements/sentences copied directly from the internet that you found interesting.

5. Two questions you make up that are answered in this section.

6. At least 2 graphics (drawings, graphs, symbols, cartoons, Venn diagrams, graphic organizers, etc.)

7. A personal response/opinion - a comment, a connection, or an interpretation.

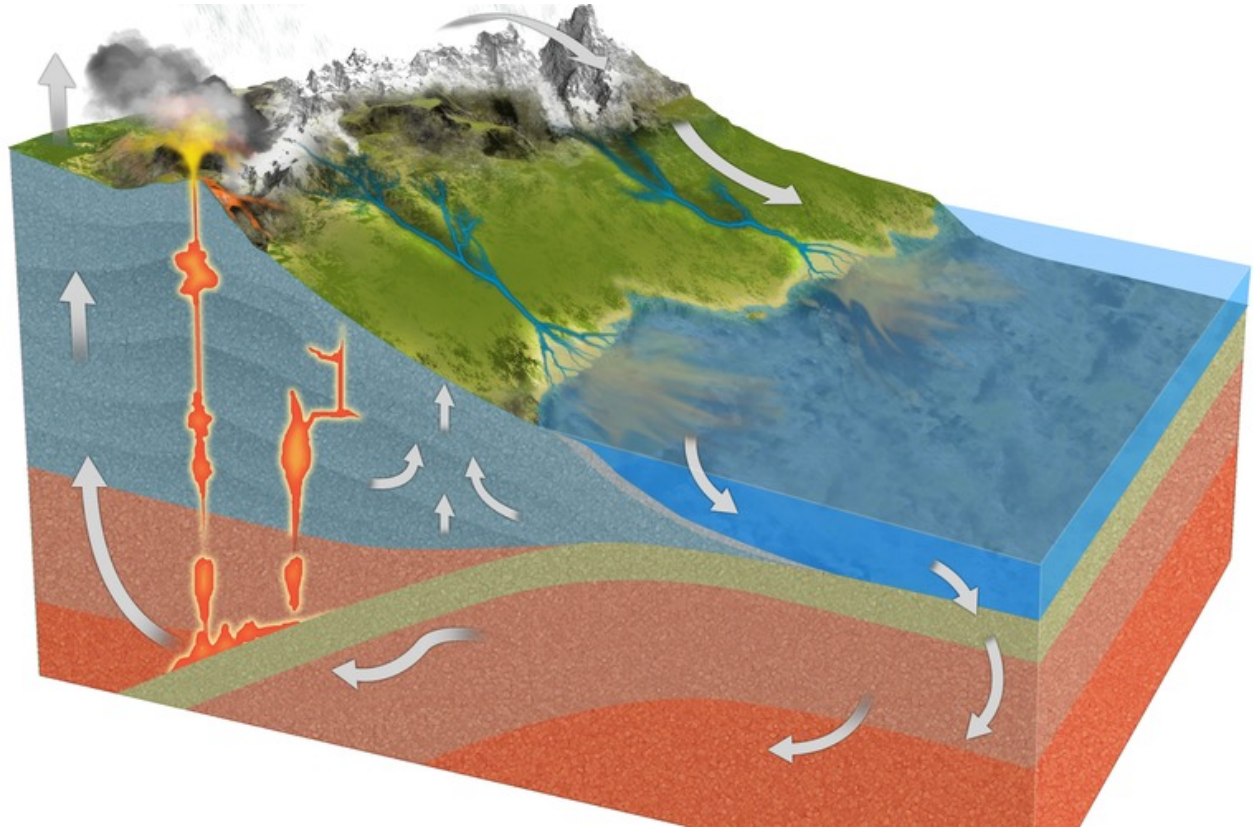
(This reminds me of… I feel that… This makes me think…)

8. Your name in the lower right corner.

9. When you are finished, number the parts… 1-8 of your paper using the numbers above. If you are missing any numbers, you are not finished!

Just add water: instant erosion

By National Geographic Society, adapted by Newsela staff on 03.05.20
Word Count **799**
Level **1050L**



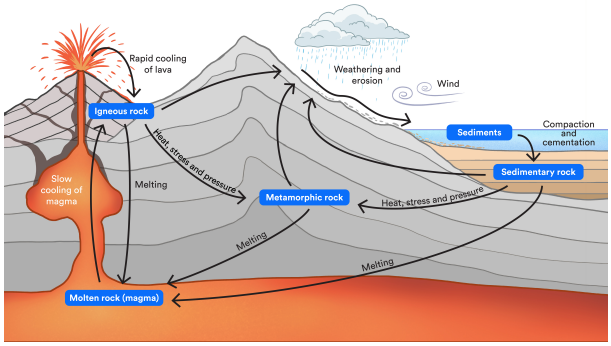
This illustration shows the rock cycle and erosion paths. (Left) volcanic activity forms new rock on Earth's surface as molten rock, or lava, rises from Earth's mantle (bottom). (Top right) Weathering and erosion wear down rock over thousands of years. Wind and water transport the eroded rock. Sediment is deposited at the mouths of rivers and on ocean beds. Layered ocean sediment returns to the mantle. Photo: Tim Brown/Science Source

Over long periods of time – millions and millions of years – all rocks play a part in Earth's recycling system. It's called the rock cycle.

Deep beneath the planet's cool crust, some rocks melt into the hot, liquid rock underground. It is called magma, and it moves around. Rocks that form directly from molten material are igneous rocks. When lava extrudes or pushes out of volcanoes onto Earth's surface, it solidifies. This forms extrusive igneous rocks, such as rhyolite or basalt. Magma that intrudes or pushes itself into layers and cracks of existing rocks underground forms intrusive igneous rocks, like granite.

Other rocks, however, do not melt completely in magma. They reach places beneath the crust with high temperatures and pressures. The old rocks transform into new metamorphic rocks.

Wind, rain, and other surface processes, together called erosion and weathering, slowly break down rocks of all types. Gravel, pebbles, and sand are called sediment. These tiny pieces of rock can fuse together into sedimentary rocks. Eventually, any of these kinds of rocks may end up back below the crust, melting once more to restart the cycle.



The only parts of the rock cycle that we can easily observe are the surface processes that break down rocks, called erosion, and that build up rocks, called deposition. Usually the events that change rocks on the surface of the Earth happen slowly, but sometimes it can occur in the blink of an eye.

Extreme Conditions Accelerate Erosion

Landslides can move quickly – faster than a person can walk – and destroy everything in their paths. Before landslides begin, monitoring equipment can detect deep, rumbling, low-frequency vibrations. The grumbles are the sounds of rocks, mud, and other sediments sliding and scraping against each other. There are many types of landslides, but they all involve large amounts of moving rocks. As the sliding material moves, for example from the top of a mountain to a valley below, rocks are transported and crushed into smaller pieces. This sped-up breakdown is called accelerated erosion because it happens so quickly.

Extreme weather can cause accelerated erosion, too. Major storms, such as hurricanes, tropical storms, and nor'easters, can be all too familiar to people living near coastlines. Large storms cause massive coastal erosion through wind and storm surges. These surges trap sediments in rising water and then wash them to new locations where they are deposited. These erosional processes make beaches narrower and flatter. This increases the likelihood of more erosion during future storms.

Tsunamis are another source of accelerated erosion. These are devastating, fast-moving ocean waves caused by quick changes in the seafloor from an earthquake. They both deposit and remove sediment.

There are other rapid surface processes that are not always natural. Humans have a huge impact on the environment, including rocks and sediment. We dig and form artificial lakes, cover wetlands with concrete and blast mountains to pieces to make mines or tunnels. All of these localized actions erode, or break down, the land and thus contribute to the rock cycle.

Climate Change Also Significant

Erosion is not all about dramatic landslides or tsunamis. Even normal weather, such as moderate rain or snow, erodes rocks over a long period of time. However, that process may be starting to speed up. With the dramatic rise in global temperatures over the last century, the precipitation cycles of rain, ice, and snow are changing. Heavy rain is becoming more frequent in many regions of the world.

Of course, water does not just erode rocks; it helps form them, too. Water moves sediments into lakes and oceans, and when that body of water evaporates, it leaves behind deposits of salts, like

sodium chloride. This can be seen in Death Valley National Park, California. There you find huge fields of salt deposits from ancient lakes.

Calcium carbonate is present in seawater. It precipitates out of seawater and becomes a solid with the help of living organisms, such as shellfish and corals. These animals have relatively brief lifespans. But their skeletons stay in the ocean and become part of the rock cycle. The calcium carbonate shells and corals break down into smaller and smaller pieces, becoming part of the sediment on the seafloor. While minerals precipitate, the top layers of ocean sediment (including calcium carbonate) compress older, deeper layers. This creates new rock.

This compressive process can happen on land, too, when enough layers build up. Mud, sand, and all other types of sediment are slowly compacted, becoming rocks. Geologists call this lithification. Eventually, those slabs of lithified sediments are buried underground, where they are subject to heat and pressure, and thus the cycle begins again.

Quiz

1 Which two of the following sentences from the article include central ideas of the article?

1. *Over long periods of time – millions and millions of years – all rocks play a part in Earth's recycling system.*
2. *Magma that intrudes or pushes itself into layers and cracks of existing rocks underground forms intrusive igneous rocks, like granite.*
3. *The only parts of the rock cycle that we can easily observe are the surface processes that break down rocks, called erosion, and that build up rocks, called deposition.*
4. *There are many types of landslides, but they all involve large amounts of moving rocks.*

(A) 1 and 3

(B) 1 and 4

(C) 2 and 3

(D) 2 and 4

2 Which statement would be MOST important to include in a summary of the article?

(A) Water erodes surface rocks through normal rainfall and severe storms.

(B) Skeletons of marine organisms remain in the ocean to become part of the rock cycle.

(C) Humans contribute to the rock cycle through actions that create artificial erosion of rock formations.

(D) Erosion and deposition are usually gradual processes but can be observed through extreme weather events.

3 Why is water important to the rock cycle?

(A) It can erode and help form rocks.

(B) It cools the Earth’s crust as rocks form.

(C) It adds pressure to rocks forming beneath the surface.

(D) It causes accelerated erosion through extreme weather.

4 How does normal weather, moderate rain or snow, affect the rock cycle?

(A) It will help solidify molten material.

(B) It will erode rocks over long periods of time.

(C) It will affect temperatures beneath the Earth’s crust.

(D) It will contribute to rapid surface processes that cause erosion.

How the National Weather Service affects our lives

By National Geographic Society, adapted by Newsela staff on 05.04.20
Word Count **452**
Level **960L**

Lightning strikes near a weather radar dome at the National Weather Service in Norman, Oklahoma. The National Weather Service (NWS) is the federal agency responsible for monitoring weather conditions across the United States. Photo: Chris Kridler/Getty Image

People depend on weather forecasts every day. We rely on accurate predictions of sunny skies, chilly winds or torrential rains to help us plan.

The National Weather Service (NWS) is responsible for giving us this constant, important information. The NWS is a federal agency that monitors weather conditions across the United States. It is the nation's official source for weather forecast information.

The NWS is located in Silver Spring, Maryland. It is located alongside its parent agency, the National Oceanic and Atmospheric Administration. The NWS issues as many as 1.5 million forecasts per year.

The NWS issues heat warnings, thunderstorm and tornado warnings. It issues these warnings to meteorologists, or weather forecasters. Local TV news, radio stations and sites on the internet and

smartphone apps also use NWS forecasts.

Forecasting Can Be Very Specific

The NWS has nearly 5,000 employees and it operates around the clock. Meteorologists and other scientists and staff work to keep you, your family and your community informed at all times.

NWS also watches for developing weather conditions. Predictions of serious approaching weather can save lives. For example, in May 2013, the National Weather Service anticipated severe weather in Oklahoma, five days before an extremely powerful tornado hit the city of Moore. The NWS's predictions got more accurate: A half an hour before it touched down, a tornado warning was issued. Even though 24 people were killed and hundreds were injured, the warning likely prevented many more deaths and injuries.

Watching and forecasting weather is a big job. The NWS has 122 separate weather forecast offices. They are located in all regions of the continental United States. The NWS also has offices in Alaska, Hawaii and the U.S.-affiliated Pacific Islands. Each office focuses on the weather in its surrounding 20 to 50 counties. The NWS forecasters also live where you do and are familiar with your region's weather patterns. That makes accurate forecasts more likely.

Pinpointing Weather From The Mountains To The Seas

The NWS also gives special forecasts for recreation spots such as mountain summits, lakes and beaches. It has observation stations and webcams close by to show the weather in real-time. But these areas can be tricky. Approaching winds, storms or heat might interact with the geography of higher elevations or waterways to create unusual weather conditions.

NWS also has "mountain point forecasts." Hikers can use these forecasts to check winds, temperatures and precipitation at the tops of high mountains. The agency also has "marine point forecasts." These forecasts notify communities near lakes, rivers and along coasts. They warn people about winds, rip currents, wave heights and flow rates.

No matter the occasion or the weather, the National Weather Service has us covered.

Quiz

1 Which sentence from the article would be MOST important to include in a summary of the article?

(A) The NWS is a federal agency that monitors weather conditions across the United States.

(B) It is located alongside its parent agency, the National Oceanic and Atmospheric Administration.

(C) The NWS has 122 separate weather forecast offices.

(D) They warn people about winds, rip currents, wave heights and flow rates.

2 Read the following sentence from the article.

> *Local TV news, radio stations and sites on the internet and smartphone apps also use NWS forecasts.*

How does this detail develop the article's CENTRAL idea?

(A) It introduces the idea that smartphone apps have the most accurate NWS information.

(B) It illustrates that it is easier for the public to get weather forecasts from the NWS today.

(C) It explores the difference between getting NWS weather forecasts from TV news or the internet.

(D) It emphasizes that the weather sources most people use rely on the work of the NWS.

3 What is the MOST likely reason the author included information about the National Weather Service's predictions about storms and tornadoes in Oklahoma?

(A) to highlight a location in the country that is in need of more NWS stations to monitor the weather

(B) to elaborate on the statement that NWS meteorologists can save lives by watching developing conditions

(C) to demonstrate the danger of tornadoes even when people have warnings from sources like the NWS

(D) to argue that forecasting the weather can be stressful for the experts working around the clock at the NWS

4 How does the author build understanding of the effort by the NWS to predict the weather all around the country?

(A) The author highlights problems that have occurred with maintaining NWS equipment in some areas, then includes evidence about what some states are doing to help with this.

(B) The author compares the difficulty of making accurate predictions in mountains and marine areas, then explains how tourists can help the NWS improve its forecasts.

(C) The author provides specific information about the number and locations of weather forecast offices, then explains what the NWS does to be alert for weather in recreation areas.

(D) The author describes the specific number of forecasts that the NWS makes every year, then includes evidence that many people make their plans based on these predictions.