# Assignment Summary

For this assignment, you will research a specific geologic era. Based upon your research, you will create a timeline that highlights the major geologic periods within that era and important geologic events that define each period.

Background Information

How old is Earth?Scientists estimate the age of Earth to be about 4.6 billion years. In those 4.6 billion years, many events have left their mark on the planet. Evidence of the past is contained in the rocks that form Earth’s crust. Rocks, layered like a giant stack of pancakes, record the history of Earth from the birth of the planet to today. Geologists use fossils of plants and animals to reconstruct ancient environments. They also measure the absolute age of rock layers using radiometric dating techniques. Geologic time is broken into eons, eras, periods, and epochs.

Materials

* Adding machine paper roll
* Colored pencils
* Meter stick
* Internet access
* Scissors, tape, or glue sticks (optional)

# Assignment Instructions

For this project, you are expected to submit three products:

1. A completed timeline for one geologic era containing each period in the era along with characteristic events for each period.
2. An alphabetical list of Internet and printed resources you used to create the timeline.
3. A key designed to help interpret the timeline (as needed).

**Step 1: Prepare for the project.**

1. Read through the guide before you begin so you know the expectations for this project.
2. If anything is not clear to you, be sure to ask your teacher.

**Step 2: Research a geologic era.**

1. Research the major geologic eras. Each era, after the Proterozoic, contains several periods. Select a geologic era to model using adding machine paper. Be sure to make a list of the resources you used to gather your information.
   1. Research the geologic era you selected in greater depth. What makes it unique from other eras?
   2. Research each geologic period within the era. What makes each period unique from others in the same era?
   3. Make a list of each period, epoch, and age and the start and end dates of each.
   4. Make a list of significant events and their dates for each period, including the presence of certain organisms.

**Step 3: Create a timeline of your era.**

1. Measure the adding machine paper for your timeline. Use the scale of 1 inch equals 2 million years. So, if you are researching the Mesozoic era, you would cut a strip of paper that is 93 inches long (because the Mesozoic Era is 185 million years long).
2. Roll out your paper. You may wish to tape each end to the floor so it doesn’t roll up.
3. Use a meter stick to draw one continuous line about 2 centimeters from the top across the length of your entire strip.
4. Add a vertical line at the beginning and ending of your strip of paper. Add the years for the start and end of your era in the 2 centimeters above the line you drew.
5. Using a meter stick, measure each period within your era and mark it on your timeline with vertical lines. Remember, 1 inch equals 2 million years. Write the years above each vertical line you draw. Be sure to label the periods on your timeline.
6. Repeat step e for the epochs in each period. Be sure to label the epochs on your timeline.
7. Repeat step e for the ages in each epoch. Be sure to write the ages on your timeline under epoch labels.
8. Refer to your list of events that occur within each period. Add these events to the timeline based on their dates. Use a combination of text and drawings to show significant characteristics of each geologic period within your era.
9. Create a key for your timeline, if necessary.

**Step 4: Evaluate your project using this checklist.**

If you can check each box below, you are ready to submit your project.

* Did you thoroughly research the era and each of the periods within the era?
* Did you make a list of significant events that characterize the era and each period within the era?
* Does your timeline show the periods and epochs in order?
* Does your timeline have the proper labels?
* Does your timeline show significant events in the era using a combination of text and drawings?
* Did you create a key for your timeline (only if needed)?
* Did you keep a complete and accurate record of your resources?

**Step 5: Revise and submit your project.**

1. If you were unable to check off all the requirements on the checklist, go back and make sure that your project is complete.
2. Turn in your timeline, key, and list of resources to your teacher. Be sure to put your name on products not submitted through the virtual classroom.
3. Congratulations! You have completed your project.