

18.1 Types of rock



Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction



Summarize your understanding of each paragraph.

There are three major types of rock, sedimentary, metamorphic, and igneous. They are all identified by their texture, streak, and location, among other factors..

There is no agreed number of specific types of rocks. Any unique combination of chemical composition, mineralogy, grain size, texture, or other distinguishing characteristics can describe rock types.

The rock cycle is a basic concept in geology that describes the time-consuming transitions through geologic time among the three main rock types: sedimentary, metamorphic, and igneous.

Due to the driving forces of the rock cycle, plate tectonics and the water cycle, rocks do not remain in equilibrium and are forced to change as they encounter new environments.

Read/Summarize Text



1. Read the passage.
2. Underline key expressions in each sentence.
3. Re-write each word (or expression) you underlined.
4. Summarize the passage.

Rocks and Minerals.

There are three types of rocks. They are all formed in different ways by nature. Just like minerals, rocks are solid and naturally forming. In fact, all rocks are made from two or more minerals. There are three different types of rocks, and all three form in different ways.

- **Igneous** rocks are created when magma cools and hardens.
- **Sedimentary** rocks form from the build-up of materials like the remains of plants or animals, minerals, and eroded fragments (pieces) of other rocks.
- **Metamorphic** rocks start out as igneous or sedimentary rocks, but then they are transformed by extreme pressure or heat.

<https://www.coolkidfacts.com/rocks-and-minerals/>.

Re-write words you underlined

Using a complete sentence, summarize or rephrase the passage

Read Text for Comprehension

Read this article for deeper understanding. No summary is required, although you may want to circle, underline, or mark key ideas and words.

Igneous Rocks

Igneous rocks are formed from lava or magma. Magma is molten rock that is underground and lava is molten rock that erupts out on the surface. The two main types of igneous rocks are plutonic rocks and volcanic rocks. Plutonic rocks are formed when magma cools and solidifies underground. Volcanic rocks are formed from lava that flows on the surface of the Earth and other planets and then cools and solidifies.

The texture of an igneous rock depends on the size of the crystals in the rock. This tells us if the rock is plutonic or volcanic. When magma cools underground, it cools very slowly and when lava cools above ground, it cools quickly. When magma and lava cool, mineral crystals start to form in the molten rock. Plutonic rocks, which cool slowly underground, have large crystals because the crystals had enough time to grow to a large size. Volcanic rocks, which cool quickly above ground, have small crystals because the crystals did not have enough time to grow very large.

The type of igneous rock is also dependent on its composition (the elements that are present). There are many different compositions of magma and lava. Fortunately, most igneous rocks are one of three basic compositions:

- Felsic igneous rocks contain relatively high amounts of silicon, sodium, aluminum, potassium (Si, Na, Al, and K) and relatively low amounts of iron, magnesium, and calcium (Fe, Mg, Ca).
- Mafic rocks contain relatively low amounts of silicon, sodium, aluminum, potassium (Si, Na, Al, and K) and relatively high amounts of iron, magnesium, and calcium (Fe, Mg, Ca).
- Intermediate rocks are what their name sounds like. Their composition is in-between mafic and felsic rocks.

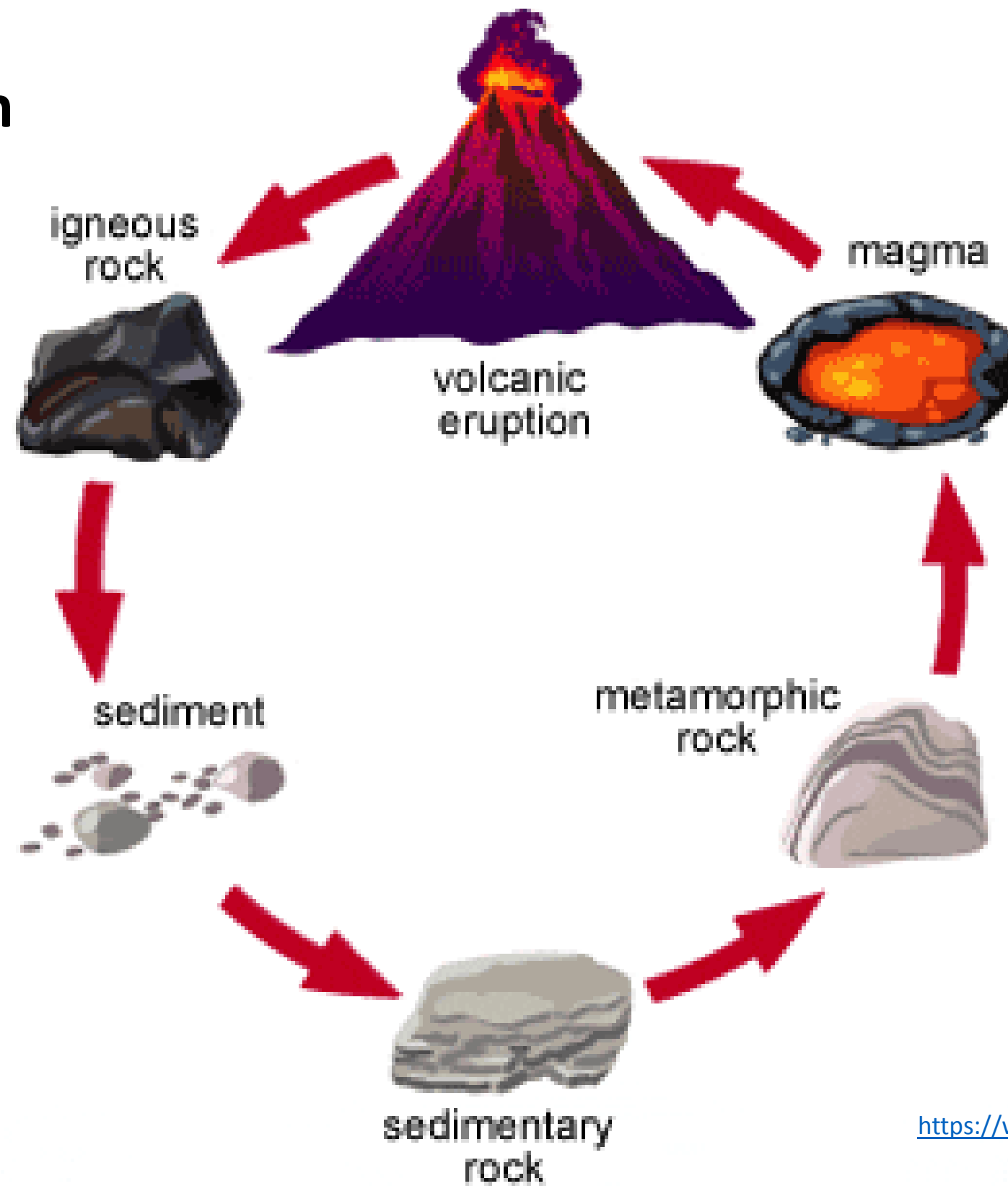
The different elements present in the different igneous compositions will form different minerals. Rocks with high amounts of iron (Fe) tend to form minerals that are dark in color (such as olivine and pyroxene). As result, mafic rocks tend to be dark in color and felsic rocks tend to be lighter in color. An example of a mafic rock is basalt, the black rock that forms from lava flows in places like Hawaii. An example of a felsic rock is granite, the light colored rocks that we find in places like the Sierra Nevada mountains in California.

Draw Illustration



Copy and Label the Illustration in the Space Provided

Illustration



Draw (Copy) the Illustration Here

Interpret a Graph



Write the title of the graph _____

Circle the type of chart this represents

Bar Chart Line Chart Pie Chart Other

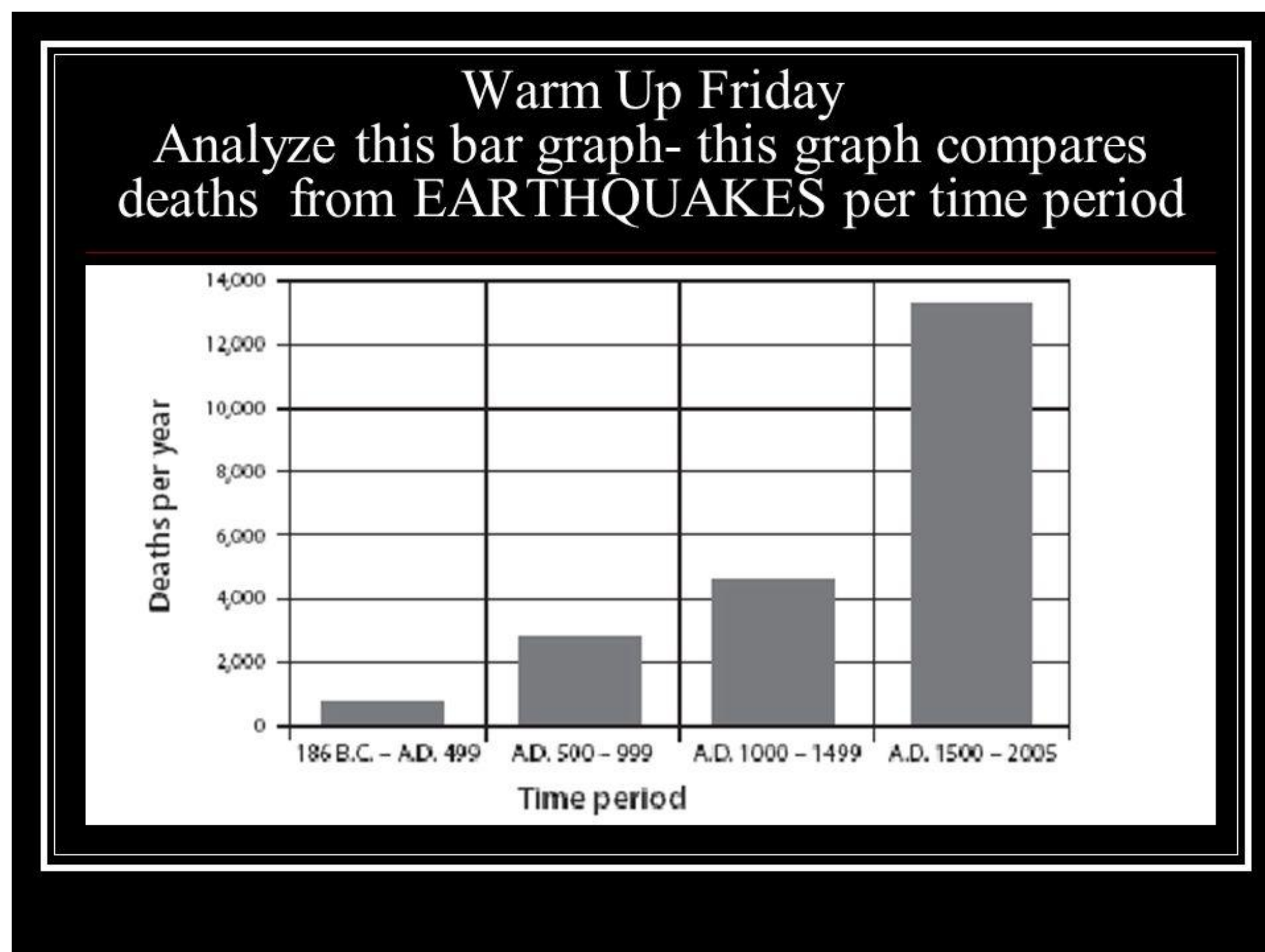
If applicable,

What does the X-axis represent _____

What does the Y-axis imply _____

Summarize what this graph represents or conveys

[Hester Williamson](#) © 2017 SlidePlayer.com Inc.



Show-Off Your Smarts!



Instructions

- Complete as an individual or small group.
- Discuss your ideas/answers/responses in a small group.
- Select one person to present your responses to the class.

Q1. How can this information be applied to a young-person's life?

Q2. How does this information apply to (or impact) communities?

Q3. When do scientists need to apply this information? How?

Q4. How would a person from 100 years ago view this information?

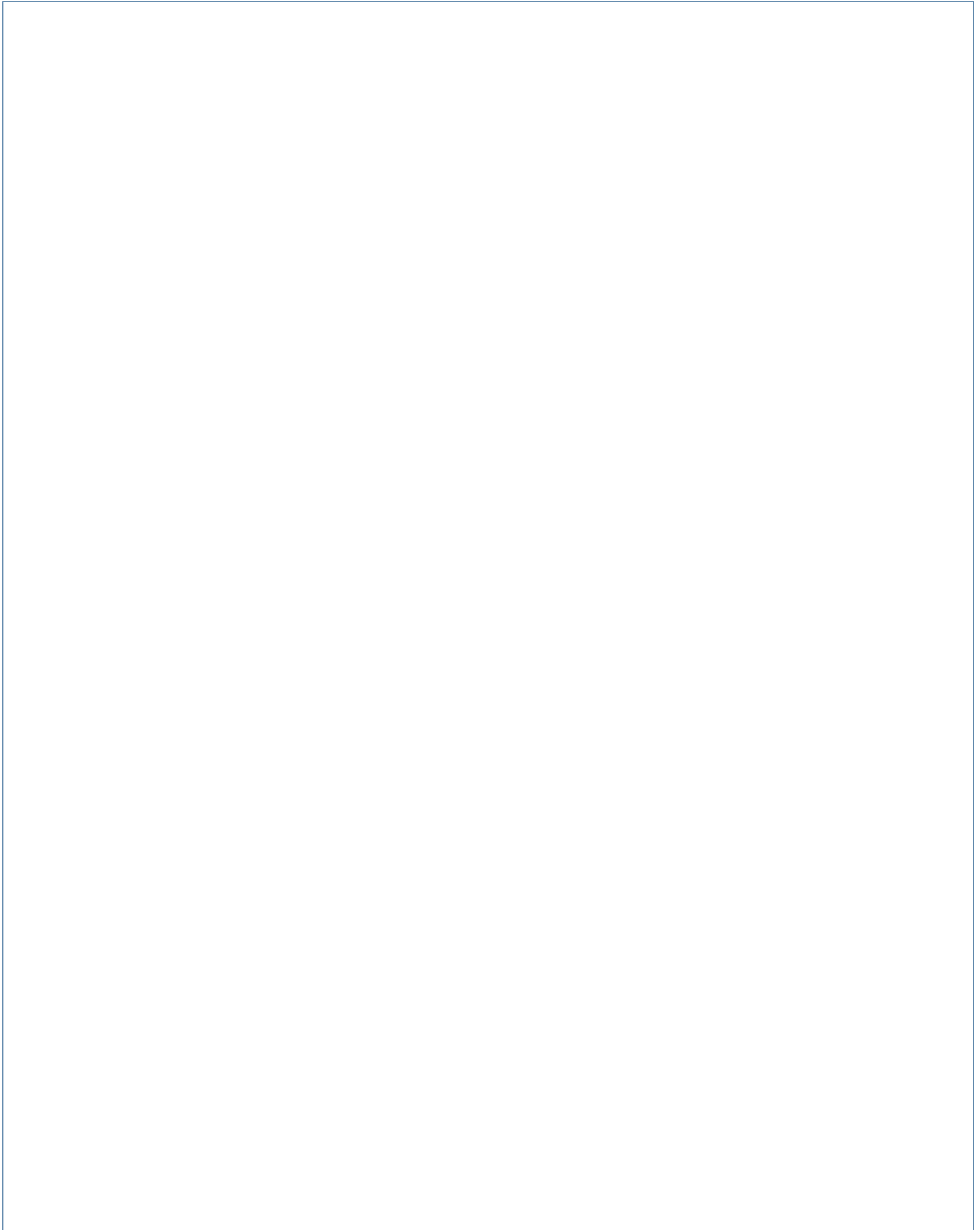
Q5. How does this topic connect to other science topics or math?

Write down at least three words introduced or covered by this topic.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Make a Poster

In the space provided here, create/draw a poster which conveys the concepts you have learned on this topic.

A large, empty rectangular box with a thin blue border, intended for the student to create a poster. The box occupies most of the page below the instructions.