

# 37.1 Ocean Basins



Summarize main points from each video.

Video Title / topic \_\_\_\_\_

Video Title / topic \_\_\_\_\_

Video Title / topic \_\_\_\_\_

# Topic Introduction



**Summarize your understanding of each paragraph.**

A basin is a depression, or dip, in the Earth's surface. The major types of basins are river drainage basins, structural basins, and ocean basins. This topic deals with ocean basins – and a variety of geological features under the ocean surface.

Ocean basins are large geologic basins that are below sea level. Below the ocean surface there are several types of geological features such as the continental shelves, the deep ocean trenches, and undersea mountain ranges.

There are vast stretches of extremely flat areas of the ocean floor called the abyssal plains. These are covered in sediment. They appear to be featureless – just huge expanses of flatness with an assortment sediment and other debris.

In contrast to the flat abyssal plain are seamounts. These are essentially mountains underneath the ocean surface. A seamount does not reach to the water's surface – they are not an islands. Most were formed from now extinct volcanoes.

# 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.

## *Bottom of the Mariana Trench*

The Mariana Trench is a crescent-shaped trench in the Western Pacific, just east of the Mariana Islands near Guam.

Until recently, only two people have successfully made it to the bottom of Challenger Deep, the planet's deepest point at the southern end of the Mariana Trench.

In 1960, oceanographer Don Walsh was the first to successfully make it down to the trench. Walsh made it to almost 36,000 feet (11,000 m). Another oceanographer (Jacques Piccard) went with him.

The depth was measured with sound pulses sent through the ocean during a 2010 survey.

Summarized from Live Science article written by Yasemin Saplakoglu May 13, 2019

## *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.

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## **THE OCEAN PRODUCES MORE OXYGEN THAN THE AMAZONES.**

It is often thought that rainforests are the primary source of oxygen on the planet, but the truth is that rainforests are only responsible for 28% of the oxygen on earth while oceans are responsible for the 70%. It does not matter how far we live from the sea, from every ten breaths you take seven come from the ocean.

Have you ever seen a tree in the middle of the sea? No, right? That is because the Ocean does not need them, the phytoplankton has got it covered.

Phytoplankton is a microscopic plant, a component of the plankton, which spends its life being carried by oceanic currents. Basically, these tiny little organisms act in the same way as tree leaves do on land. Phytoplankton absorbs carbon dioxide and releases oxygen. We do not see them, so we tend to forget about them if we even know about them in the first place. They are one of the tiniest beings on the planet, but one of the most important to have around, keeping us alive.

## **THE OCEAN REGULATES THE EARTH CLIMATE.**

In many ways, the sea regulates our climate. It soaks up the heat and transports warm water from the equator to the poles, and cold water from the poles to the tropics. Without these currents, the weather would be extreme in some regions, and fewer places would be habitable.

It regulates rain and droughts. Holding 97% of the water of our planet, almost all rain that drops on land comes from the sea. The ocean absorbs CO<sub>2</sub>, to keep the carbon cycle, and accordingly temperatures on earth, in balance. It is like our global climate control system.

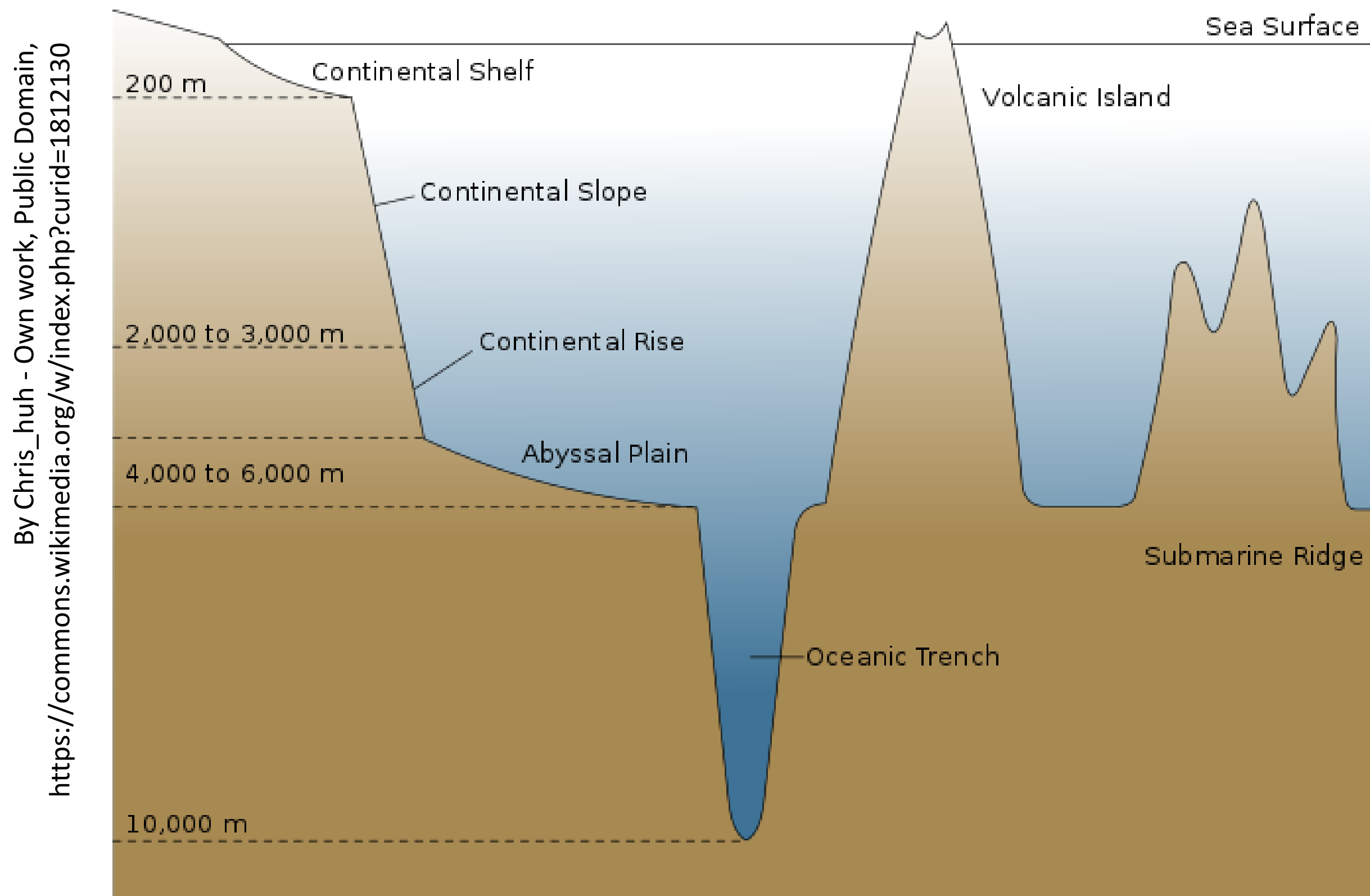
Half of all the oxygen on Earth is produced by phytoplankton — microalgae growing in the upper few meters of the ocean (the Photic zone).

Approximately a quarter is made by kelp and other marine macro-plants and a quarter is made by all terrestrial sources.

# Draw Illustration



Copy and Label the Illustration in the Space Provided



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 \_\_\_\_\_

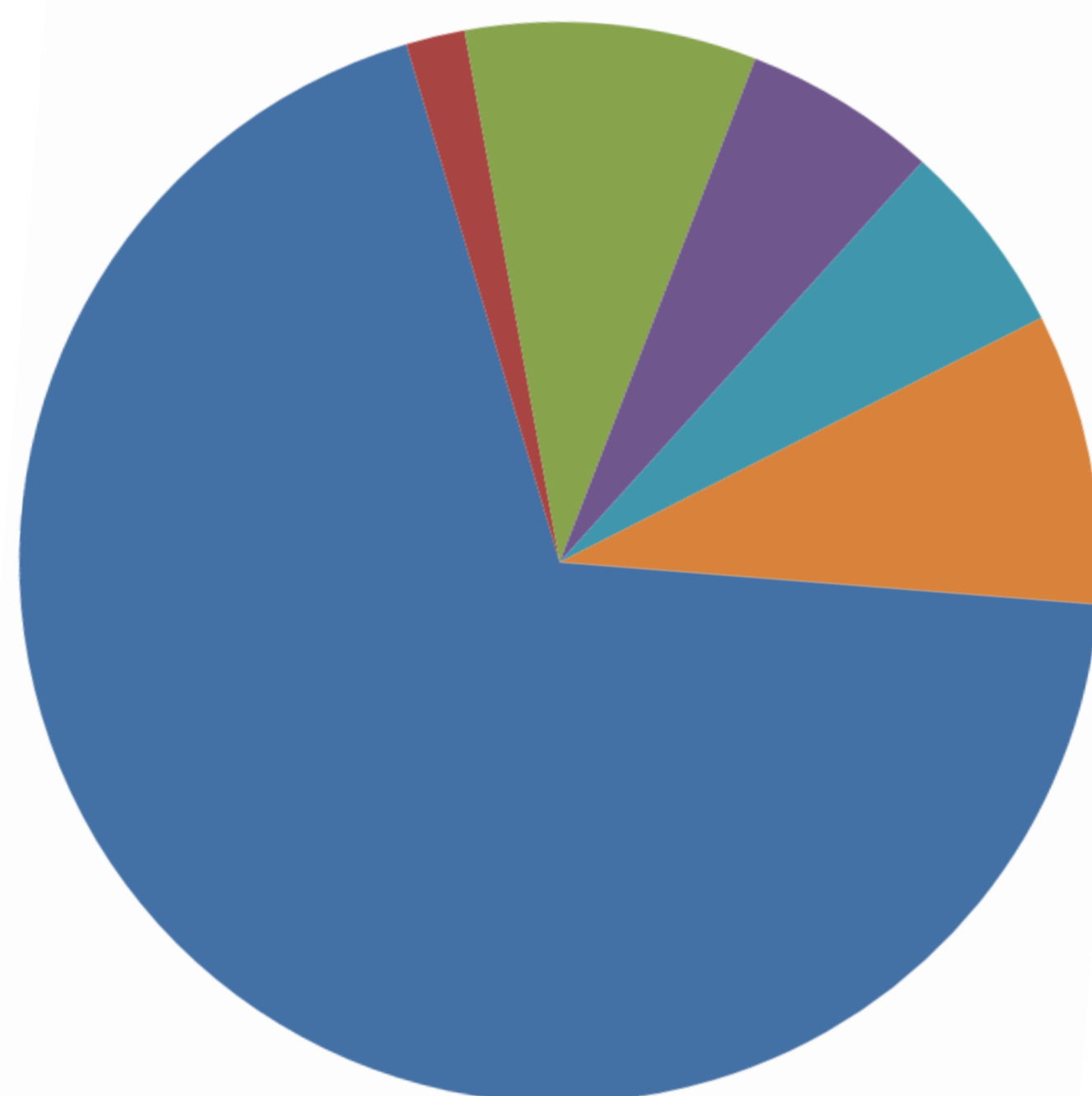
What does the Y-axis imply \_\_\_\_\_

Summarize what this graph represents or conveys

\_\_\_\_\_

<https://honeycuttscience.com/earth-37/>

**Earth's Surface Area**



-  Saltwater/Oceans
-  Fresh water
-  Farming land
-  Mountains
-  Snow covered
-  Other land

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# 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?**

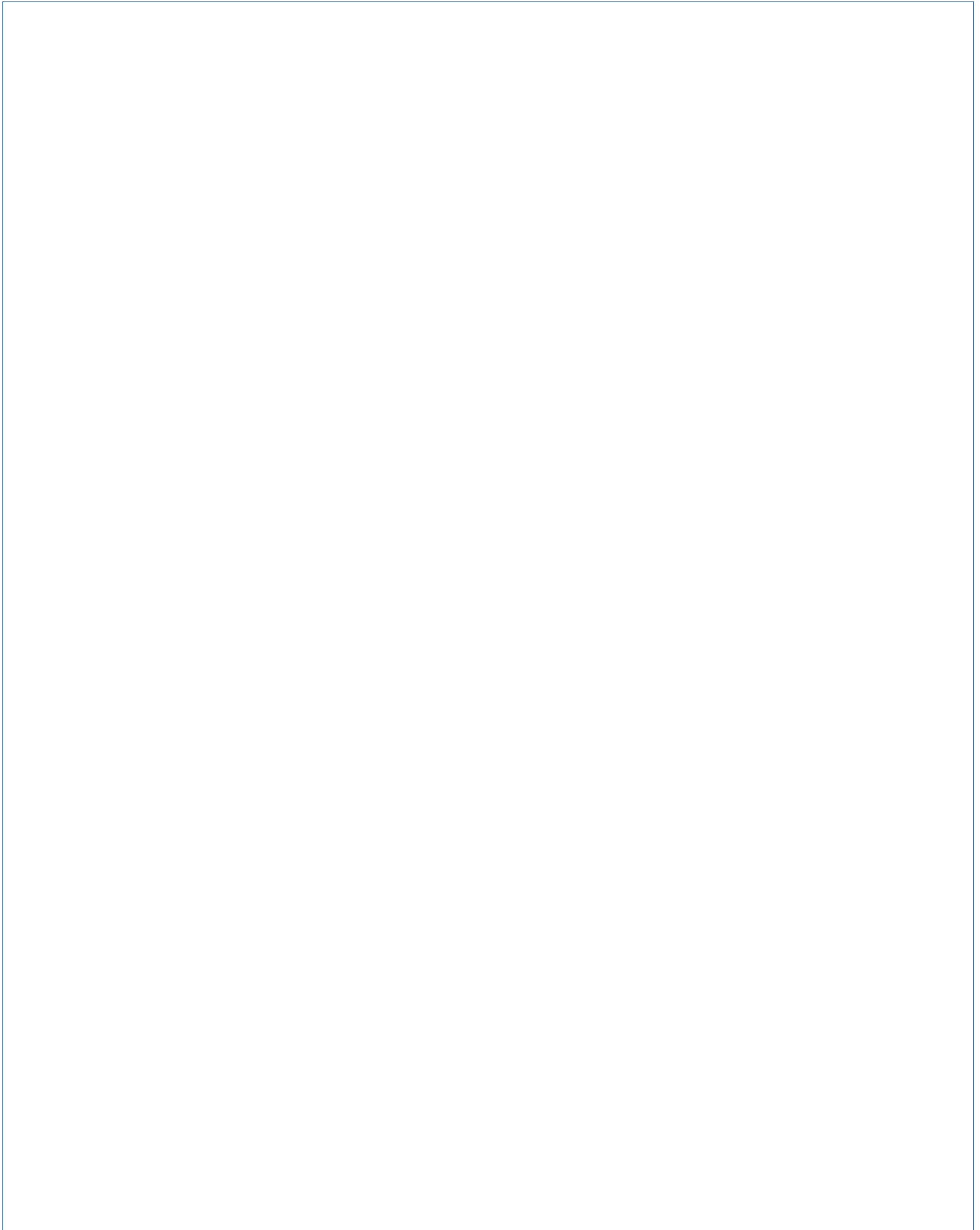
**Q5. How does this topic connect to other science topics or math?**

*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.