

12.1 The Nature of Matter

Chemistry

Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction



Summarize your understanding of each paragraph.

Matter is the substance of which all material is made. That means objects which have mass. Ordinary matter is made of tiny particles called atoms.

Matter is the **Stuff Around You**. Matter is everything around you. Atoms and molecules are all composed of matter. Matter is anything that has mass and takes up space.

While “matter” has many definitions, a common definition is that it is any substance which has mass and occupies space. All physical objects are composed of matter, in the form of atoms, which are in turn composed of protons, neutrons, and electrons.

According to modern physics, matter consists of various types of particles, each with mass and size. The most familiar examples of material particles are the electron, the proton and the neutron. ... Matter can exist in several states, also called phases.

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.

Title of Passage.

In physics, mass is a property of a physical body. It is the measure of an object's resistance to acceleration (a change in its state of motion) when a net force is applied. It also determines the strength of its mutual gravitational attraction to other bodies. The basic SI unit of mass is the kilogram (kg). Mass is not the same as weight, even though mass is often determined by measuring the object's weight using a spring scale, rather than comparing it directly with known masses. An object on the Moon would weigh less than it does on Earth because of the lower gravity, but it would still have the same mass. Weight is a force, while mass is the property that (along with gravity) determines the strength of this force.

<https://en.wikipedia.org/wiki/Mass>

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.

About SI ...

The International System of Units (abbreviated SI from *systeme internationale*, the French version of the name) is a scientific method of expressing the magnitudes or quantities of important natural phenomena. There are seven base units in the system, from which other units are derived.



The ampere (A)
The ampere is the SI base unit of electrical current.



The candela (cd)
The candela is the SI base unit of luminous intensity.



The kelvin (K)
The kelvin is the SI base unit of thermodynamic temperature.



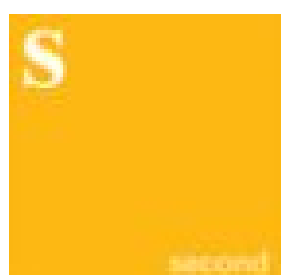
The kilogram (kg)
The kilogram is the SI base unit of mass.



The metre (m)
The metre is the SI base unit of length.



The mole (mol)
The mole is the SI base unit of amount of substance.



The second (s)
The second is the SI base unit of time.

Draw Illustration



Copy and Label the Illustration in the Space Provided

WHAT IS MATTER?

Matter: *A substance that has mass and volume (takes up space).*

<http://slideplayer.com>

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

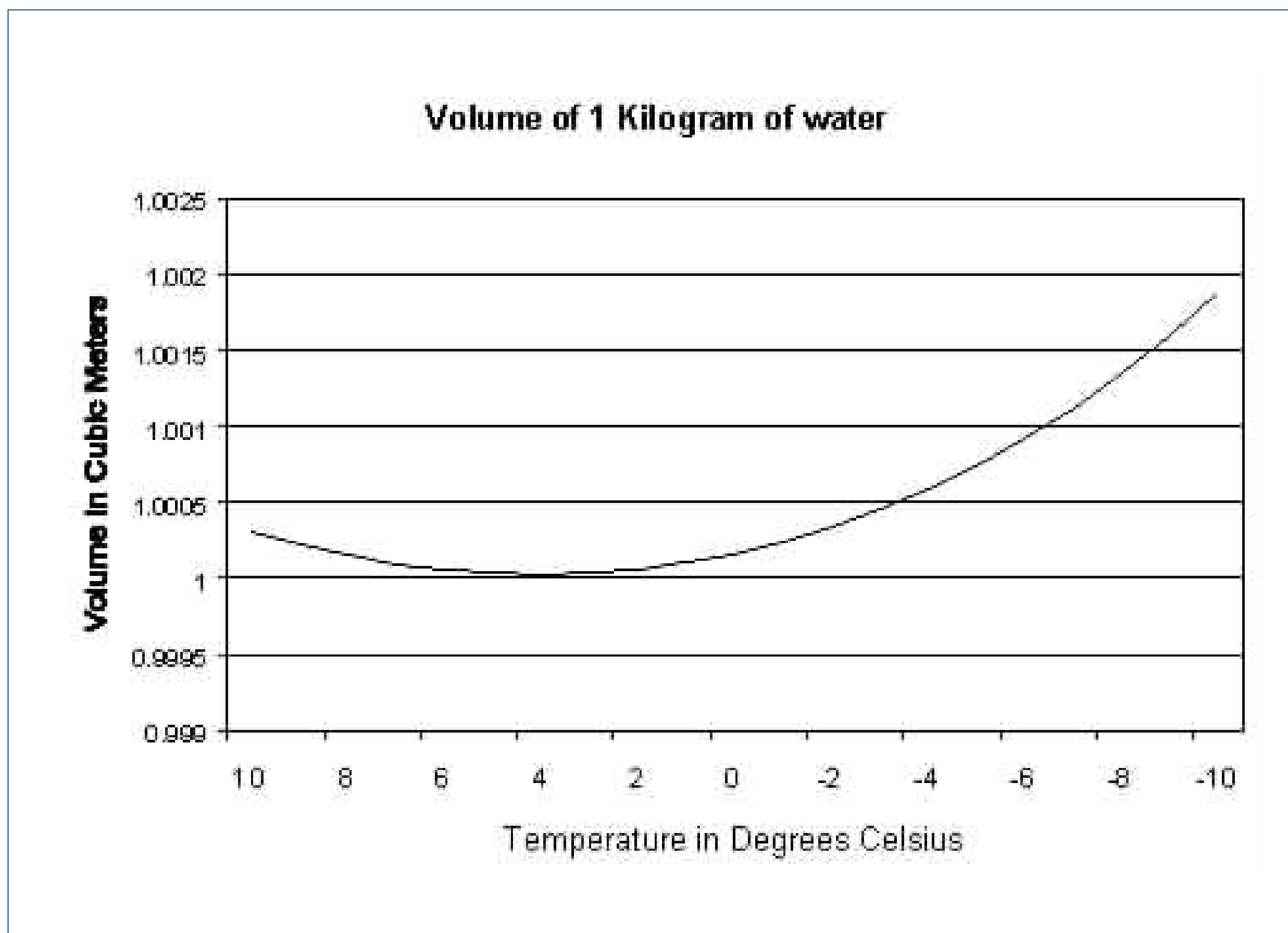
If applicable,

What does the X-axis represent _____

What does the Y-axis imply _____

Summarize what this graph represents or conveys

<http://www.madsci.org>



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?

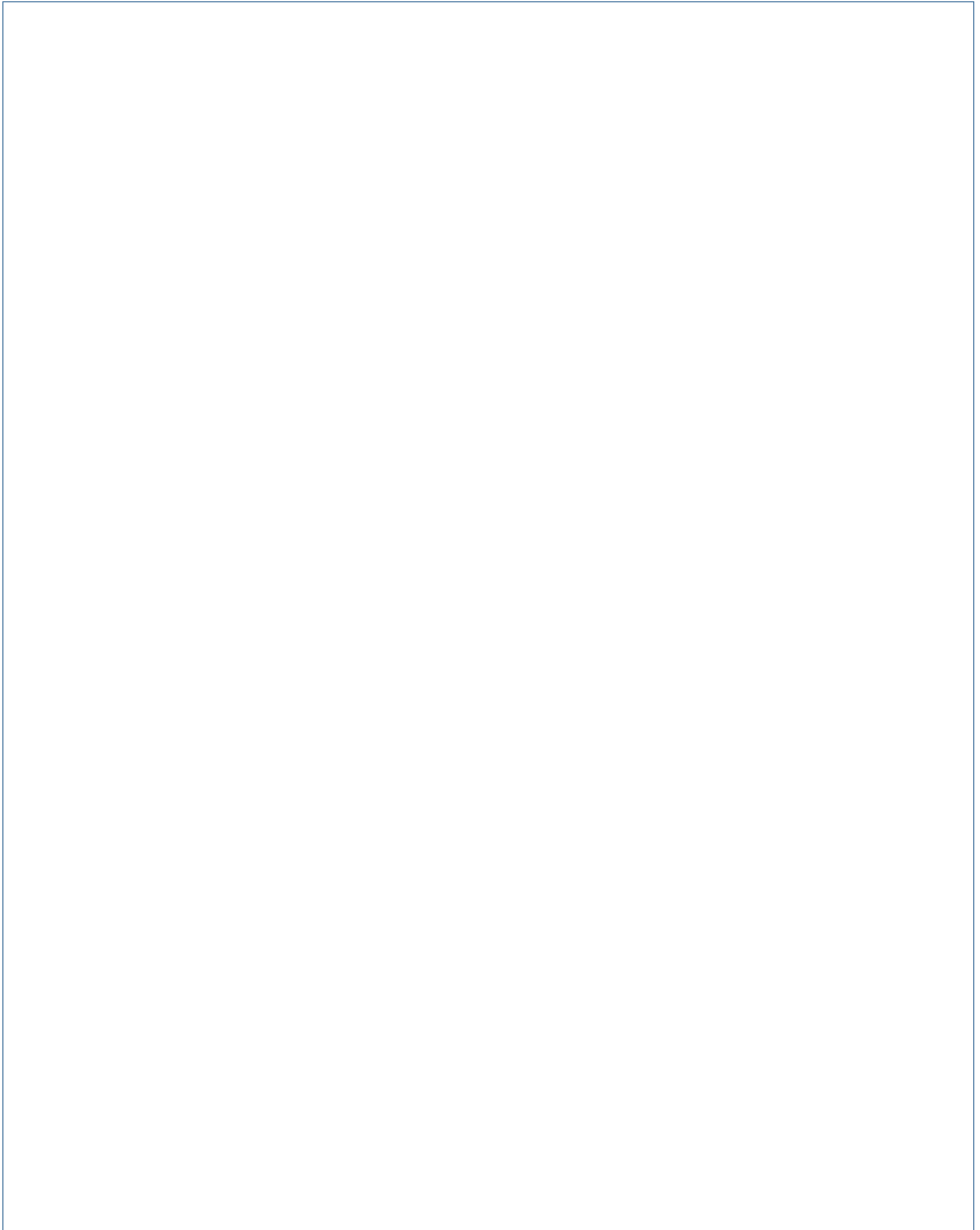
Q5. How does this topic connect to other science topics or math?

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.