

15.1 The Periodic Table

Physical
Science

Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction



Summarize your understanding of each paragraph.

The periodic table of elements displays all of the known elements in the universe and their defining attributes.

There are 118 elements that have been identified, of which the first 94 occur naturally on Earth. The remaining 24 are synthetic elements.

When different elements are chemically combined, with the atoms held together by chemical bonds, they form chemical compounds. Only a minority of elements are found uncombined as relatively pure minerals.

Common native elements are copper, silver, gold, carbon (as coal, graphite, or diamonds), and sulfur. All but a few of the most inert elements, such as noble gases and noble metals, are usually found on Earth in chemically combined form, as chemical compounds.

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.

Where can I find pure elements around my house?

1

Q. My chemistry teacher is having us put together an "Element Collection" and I want to be able to make a good one. I've already got carbon from burning sugar, and my teacher said that aluminum foil is pure aluminum. He also said gold-plated or silver plated objects count as gold or silver. But he said that you can't bring him a cup of water and say "Here's pure hydrogen mixed with pure oxygen." Any suggestions of easy to find pure elements?

2

A. A piece of iron, not steel; A neon lamp; A piece of copper; A piece of zinc; A thermometer containing mercury; A piece of lead (the metal, not graphite from a pencil).

<https://answers.yahoo.com>

Re-write words you underlined

3

Using a complete sentence, summarize or rephrase the passage

4

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.

History of the Periodic Table

The periodic table is an arrangement of the chemical elements and are organized on the basis of their atomic numbers, electron configurations and recurring chemical properties. Elements are presented in order of increasing atomic number. The standard form of the table consists of a grid of elements, with rows called periods and columns called groups

The history of the periodic table reflects over a century of growth in the understanding of chemical properties. The most important event in its history occurred in 1869, when the table was published by Dmitri Mendeleev, who built upon earlier discoveries by scientists such as Antoine-Laurent de Lavoisier and John Newlands, but who is nevertheless generally given sole credit for its development.

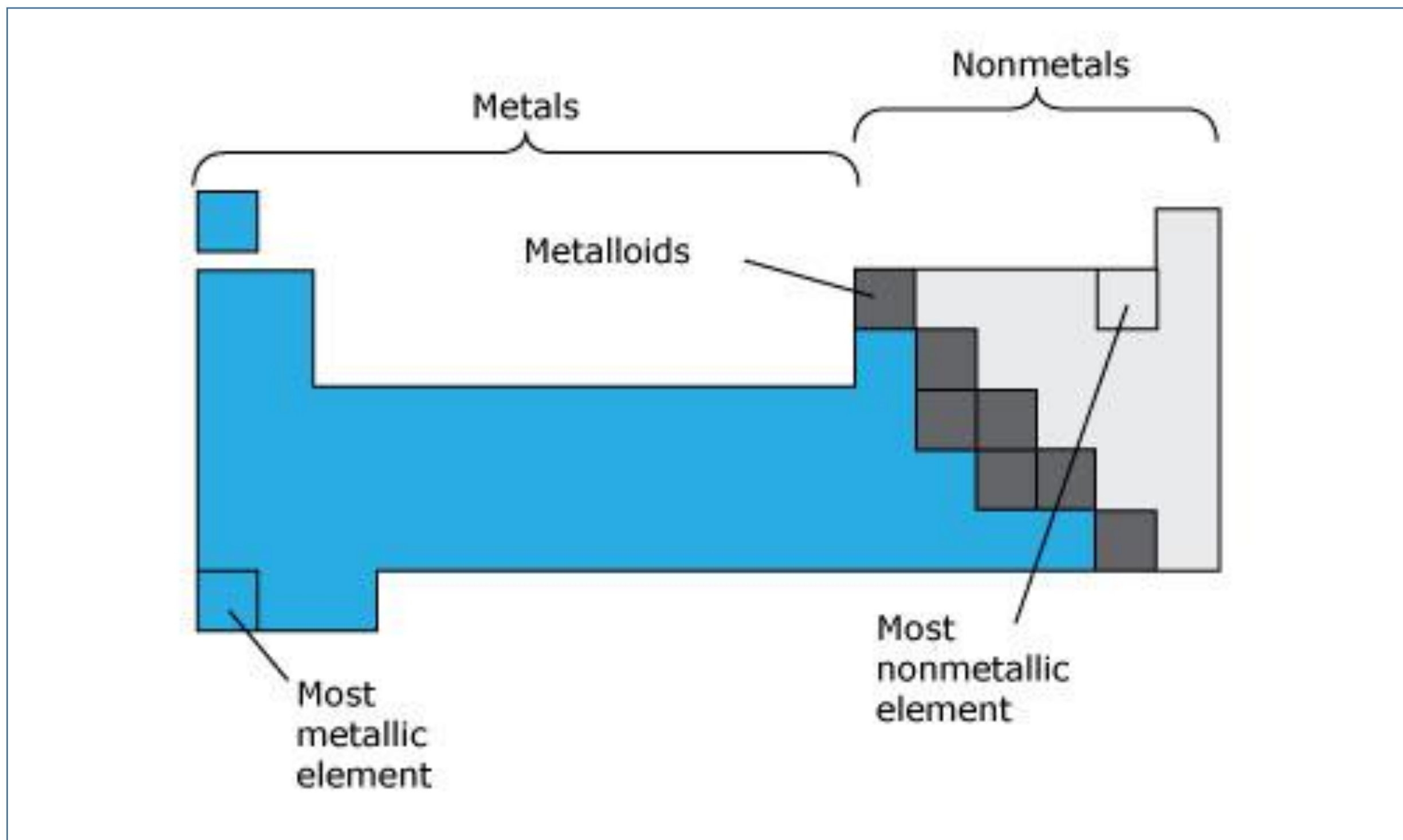
The Russian chemist Dmitri Mendeleev was the first scientist to make a periodic table similar to the one used today. Mendeleev arranged the elements by atomic mass, corresponding to relative molar mass. Mendeleev stated that:

- The elements, if arranged according to their atomic mass, exhibit an apparent periodicity of properties.
- The elements which are the most widely diffused have small atomic weights.
- The magnitude of the atomic weight determines the character of the element, just as the magnitude of the molecule determines the character of a compound body.
- Certain characteristic properties of elements can be foretold from their atomic masses.

Draw Illustration



Copy and Label the Illustration in the Space Provided



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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 _____

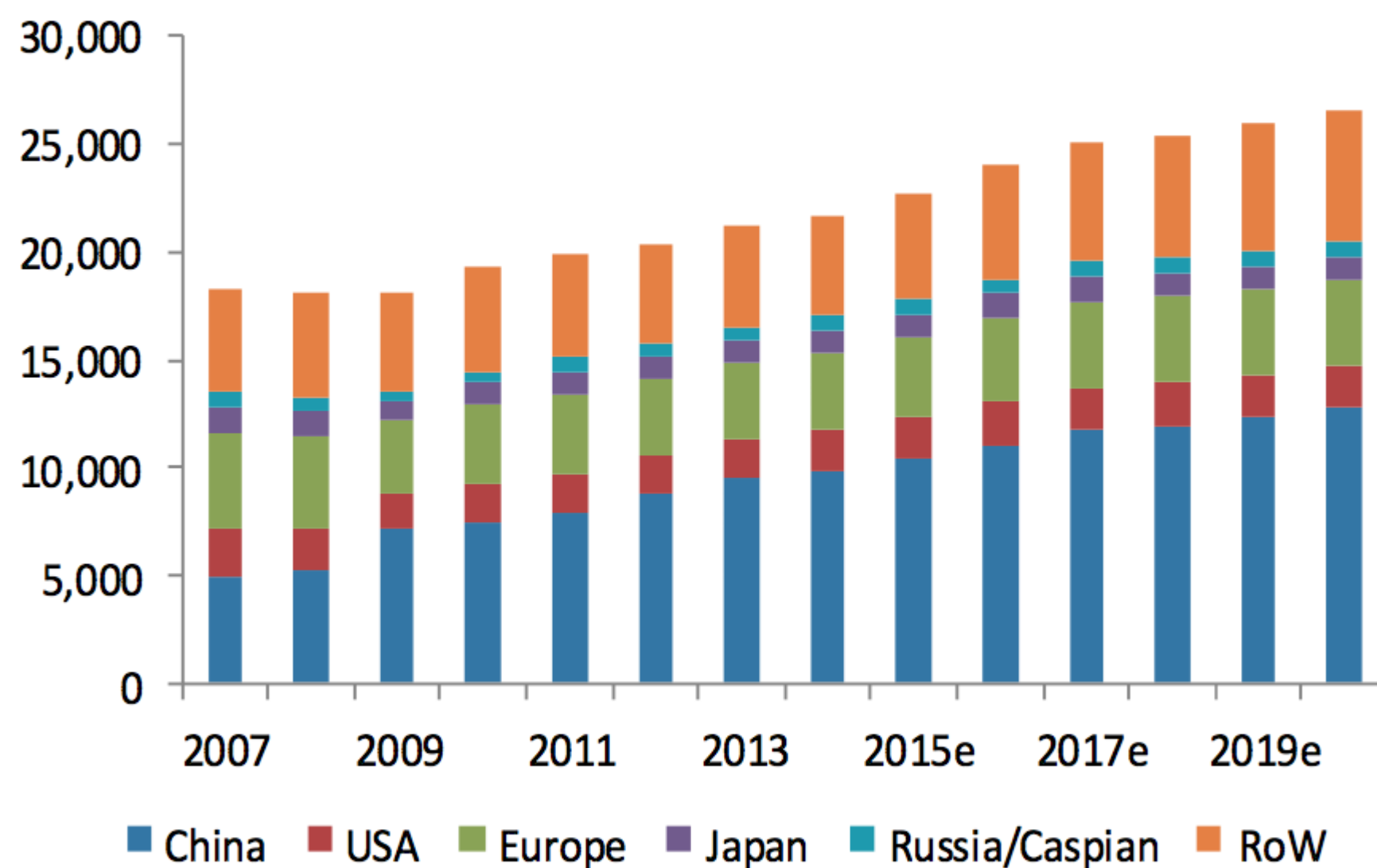
What does the Y-axis imply _____

Summarize what this graph represents or conveys

<http://www.businessinsider.com>

Copper Demand by Region

(Global refined demand, MT/year)



Source: WMBH, Morgan Stanley Commodity Research estimates

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?

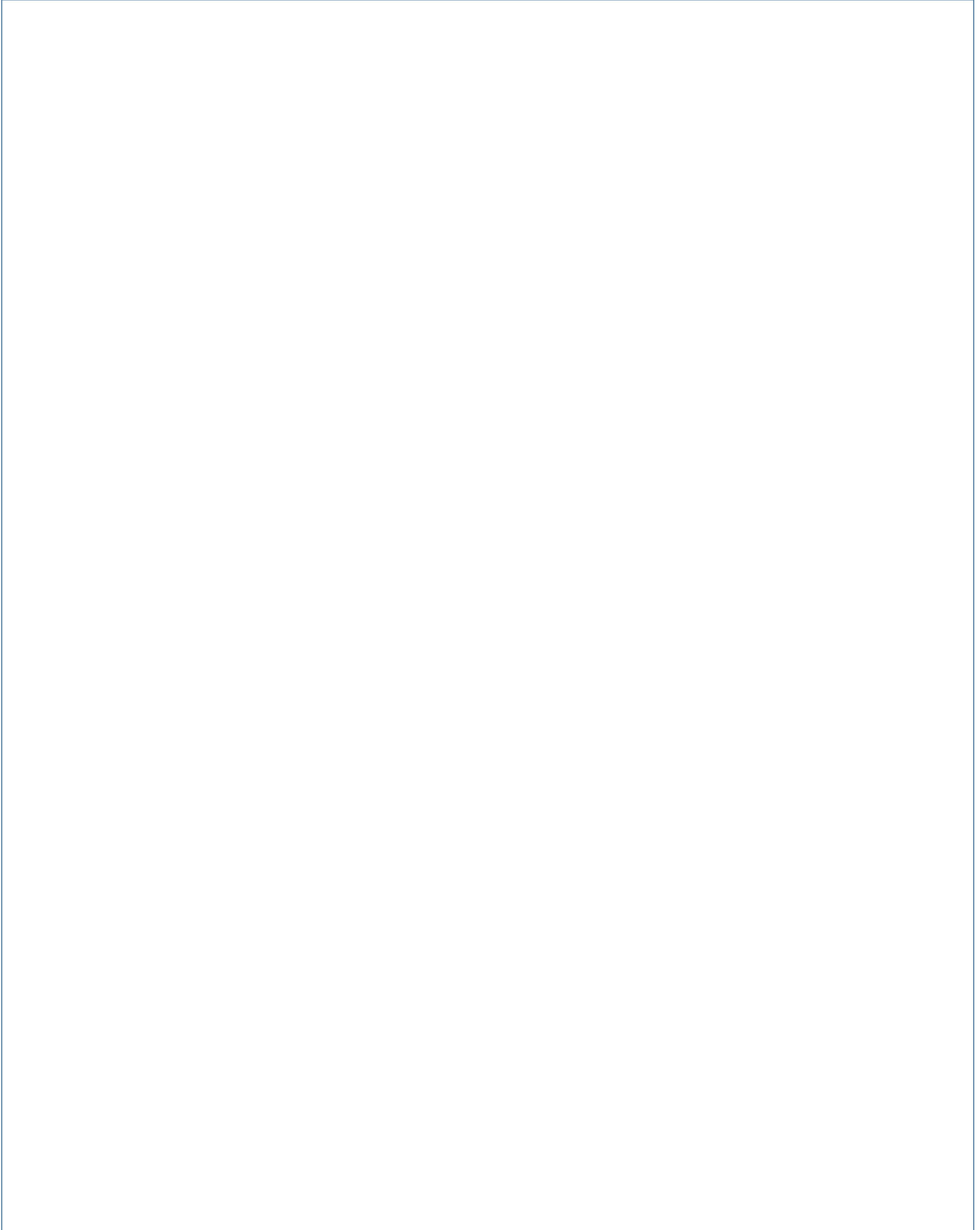
Q5. How does this topic connect to other science topics or math?

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 students to create a poster. The box occupies the majority of the page below the instructions.