

15.1 Types of Models



Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction



Summarize your understanding of each paragraph.

Wikipedia describes over a dozen types of models. Among these are the 3D model, Physical Model, Computer model, Conceptual model, Mathematical model, Statistical model, and Surrogate model.

Perhaps among the easiest to initially grasp, is the Physical Model. A physical model is a smaller or larger physical copy of an object. The object being modeled may be small (for example, an atom) or large (for example, the Solar System).

Physical models allow visualization, from examining the model, of information about the thing the model represents. A model can be a physical object such as an architectural model of a building.

A conceptual model is a representation of a system, made of the composition of concepts which are used to help people know, understand, or simulate a subject the model represents.

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.

Solar System model

Solar System models, especially mechanical models, called orreries, that illustrate the relative positions and motions of the planets and moons in the Solar System have been built for centuries.

While they often showed relative sizes, these models were usually not built to scale. The enormous ratio of interplanetary distances to planetary diameters makes constructing a scale model of the Solar System a challenging task. As one example of the difficulty, the distance between the Earth and the Sun is almost 12,000 times the diameter of the Earth.

https://en.wikipedia.org/wiki/Solar_System_model

Re-write words you underlined

Using a complete sentence, summarize or rephrase the passage

Review for Recollection

Read the planet names as well as several other solar system orbiting bodies (listed approximately in sequential distance from the Sun).

Mercury

Mercury-asteroids

Venus

Venus-asteroids

Earth

Moon

Mars

Deimos

Phobos

Asteroids

Jupiter

Io

Europa

Ganymede

Callisto

Saturn

Rings of Saturn

Mimas

Enceladus

Rhea

Titan

Hyperion

Iapetus

Uranus

Miranda

Ariel

Umbriel

Titania

Oberon

Neptune

Proteus

Triton

Nereid

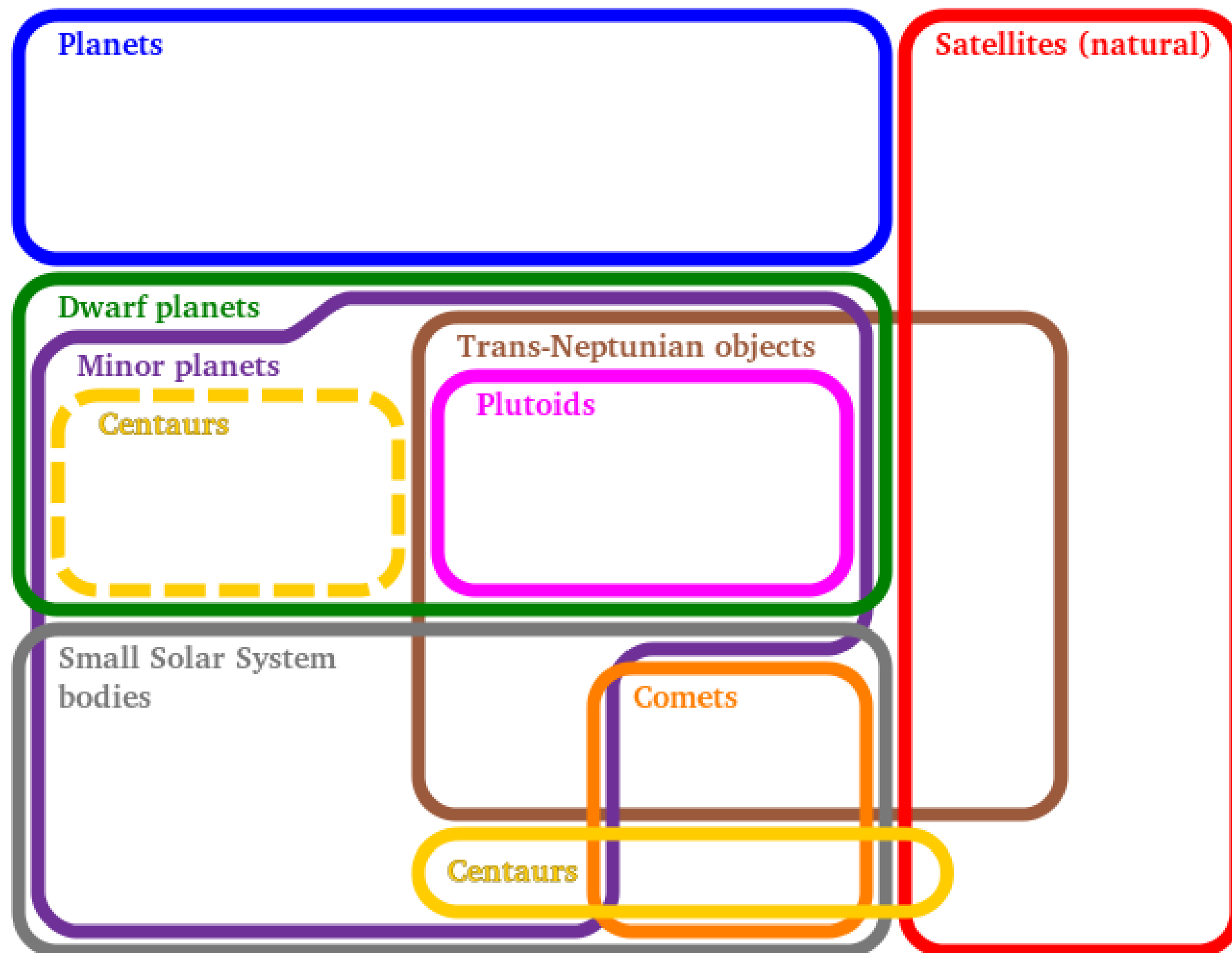
Centaur

Damocloids

Draw Illustration



Copy and Label the Illustration in the Space Provided



https://en.wikipedia.org/wiki/File:Euler_diagram_of_solar_system_bodies.svg

Draw (Copy) the Illustration Here

Blank space for drawing the illustration.

Interpret a Graph



Write the title of the graph _____

Circle the type of chart this represents

Bar Chart Line Chart Pie Chart Other

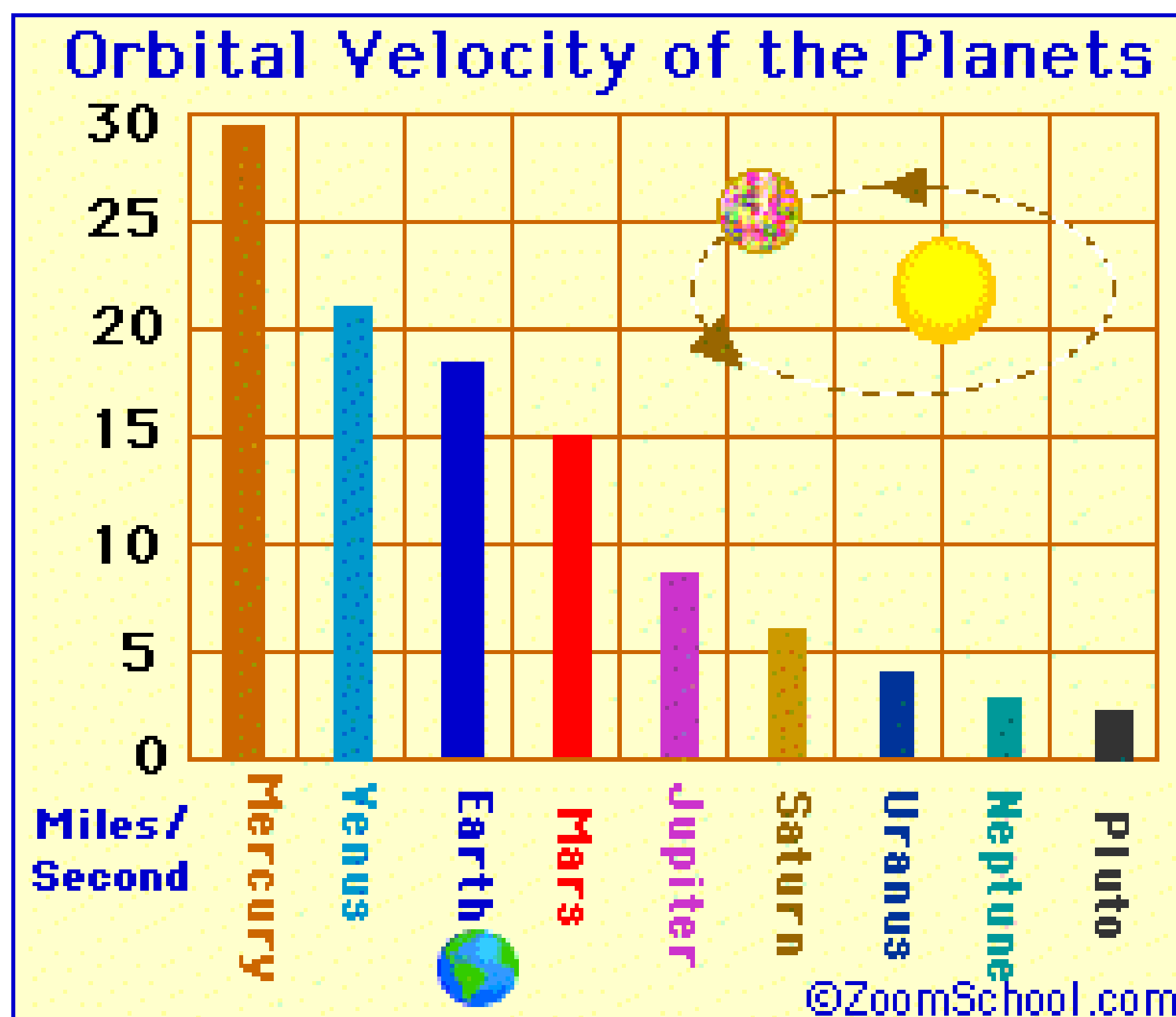
If applicable,

What does the X-axis represent _____

What does the Y-axis imply _____

Summarize what this graph represents or conveys

<http://www.enchantedlearning.com/subjects/astronomy/planets/>



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?

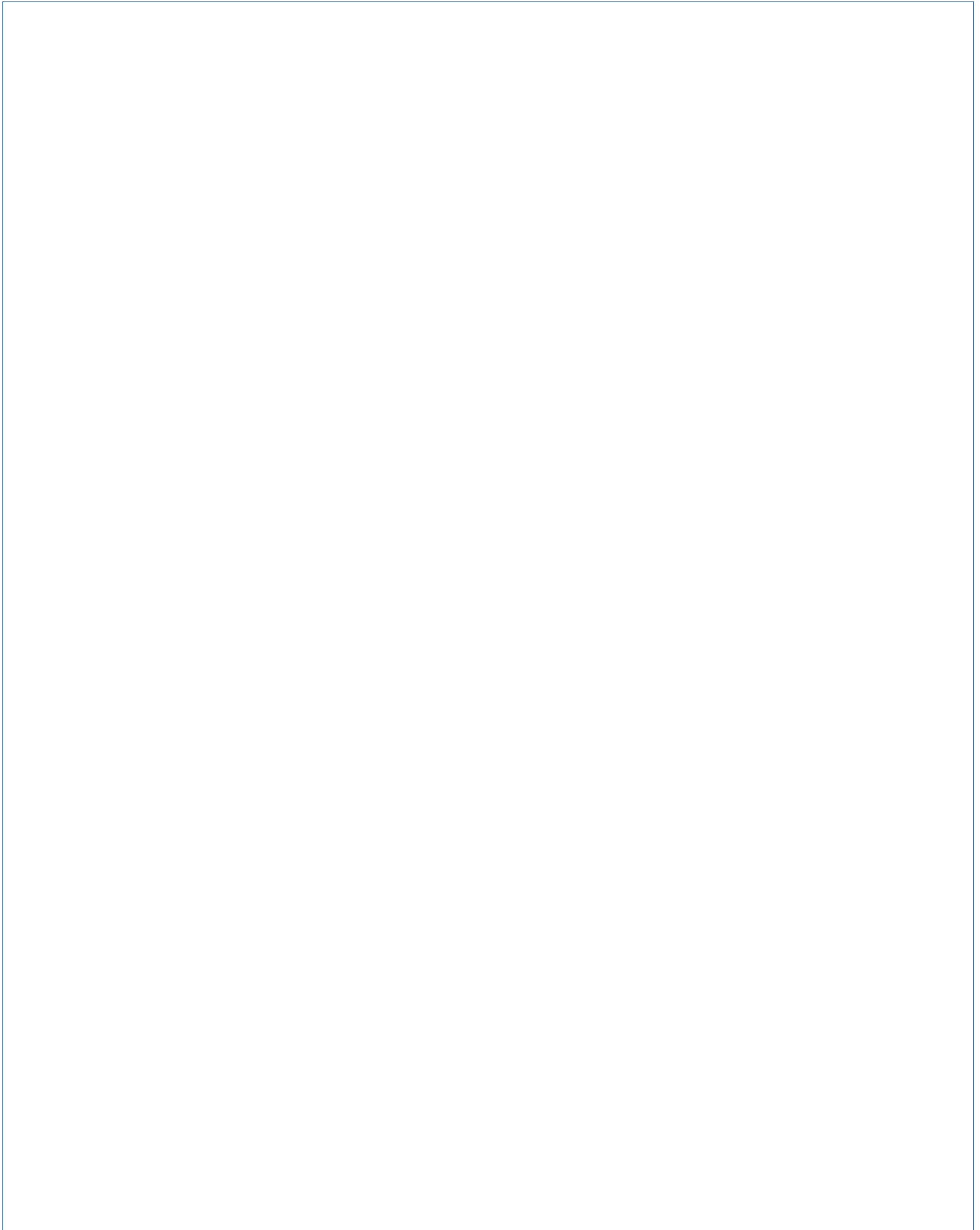
Q5. How does this topic connect to other science topics or math?

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.