

14.1 Cell Organization



Summarize main points from each video.

Video Title / topic _____

Video Title / topic _____

Video Title / topic _____

Topic Introduction



Summarize your understanding of each paragraph.

The word “cell” comes from a Latin word. Originally a Latin word was used. The Latin word was “cella.” The Latin word “cella” means “small room.” In English speaking countries, we translate the Latin word to English. We call them cells.

In the year 1665, a man named Robert Hooke discovered cells in cork. Later, he found them in living plant tissue. He found the cells by using a compound microscope. Robert Hooke used the Latin word cella to describe these “small rooms.”

Cells are the basic unit of all known living organisms. Cells are the basic unit of all known life. Cells are the basic structural, functional, and biological unit of life. A cell is the smallest unit of life that can independently replicate.

Cell biology is a branch of biology. Cell biology studies the structures and functions of cells. Cell biology focuses on the idea that the cell is the basic unit of life. Cell biology explains the structure, components and organization of cells. It studies how cells interact.

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.

The First Cell ...

There are several theories about the origin of small molecules that led to life on the early Earth. They may have been carried to Earth on meteorites, created at deep-sea vents, or synthesized by lightning in a reducing atmosphere.

There is not much experimental data defining what the first self-replicating forms were.

RNA is thought to be the earliest self-replicating molecule, as it is capable of both storing genetic information and catalyzing chemical reactions. But some other entity with the potential to self-replicate could have preceded RNA, such as clay or peptide nucleic acid.

[https://en.wikipedia.org/wiki/Cell_\(biology\)](https://en.wikipedia.org/wiki/Cell_(biology))

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.

You need to remember two words. You need to know how to spell both of these words. These words are probably new to you. You will learn more about both of these words later. For the moment though – make sure you know how to pronounce AND spell both of these words:

<u>Words</u>	<u>Pronunciation</u>			
Prokaryotic.	PRO	kari	ah	tik
Eukaryotic.	YOU	kari	ah	tik

All cells, whether prokaryotic or eukaryotic, have a membrane that envelops the cell, and regulates what moves in and out of the cell.

NOTE: The expression “selectively permeable” is used to describe this “regulation.” The membrane that surrounds the cell is selectively permeable.

Inside the membrane, the cytoplasm takes up most of the cell's volume. Many cells possess DNA. DNA is the hereditary material of genes.

Another important abbreviation to memorize is RNA. RNA contains information necessary to build various proteins such as enzymes.

Become familiar with these words, expressions, and abbreviations:

Prokaryotic

Eukaryotic

Membrane

Cytoplasm

DNA

RNA

Proteins

Enzymes

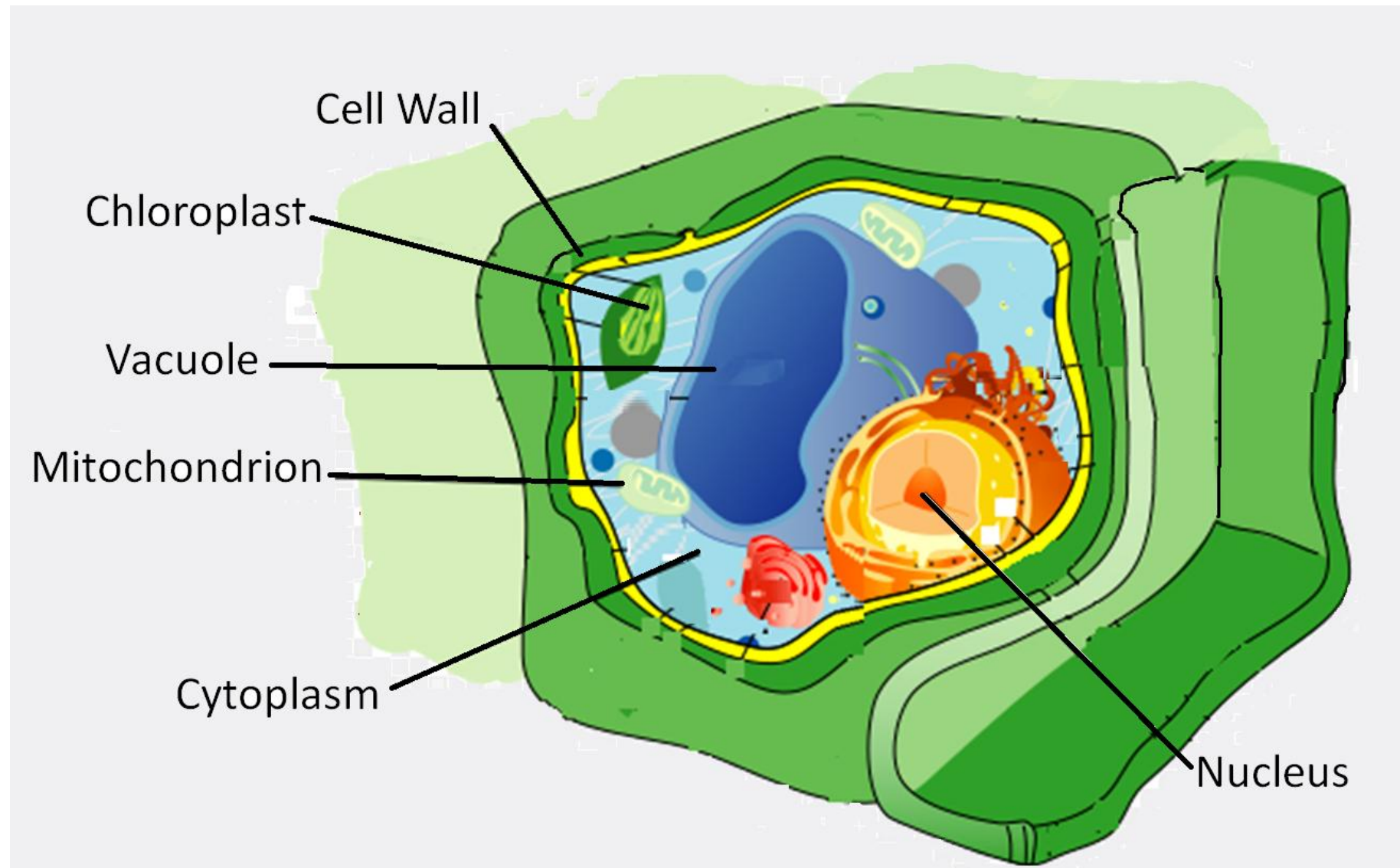
[https://en.wikipedia.org/wiki/Cell_\(biology\)](https://en.wikipedia.org/wiki/Cell_(biology))

Draw Illustration

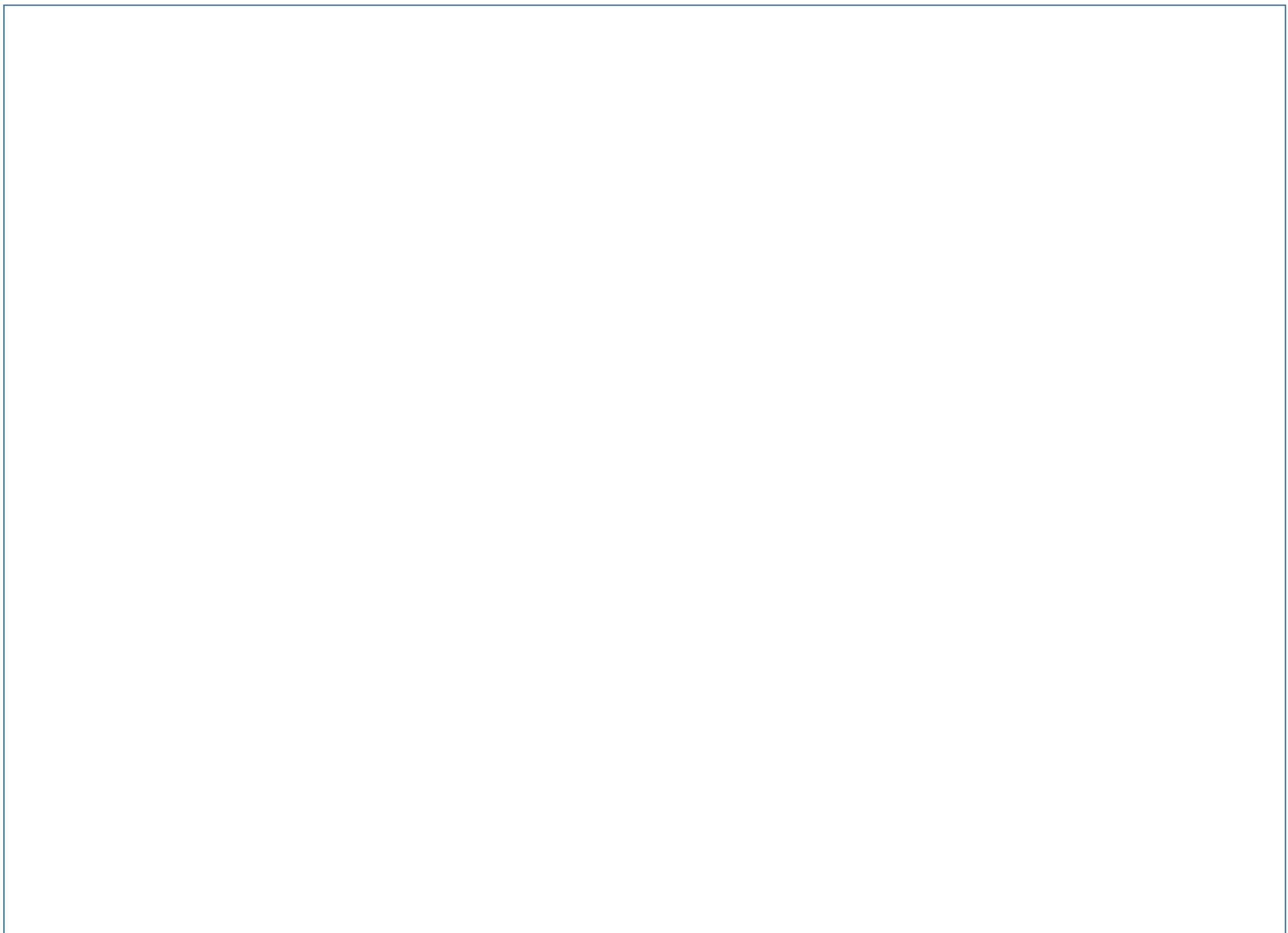


Copy and Label the Illustration in the Space Provided

Illustration



Adapted from [https://en.wikipedia.org/wiki/Cell_\(biology\)#/media/File:Plant_cell_structure-en.svg](https://en.wikipedia.org/wiki/Cell_(biology)#/media/File:Plant_cell_structure-en.svg)



Interpret a Graph



Write the title of the graph _____

Circle the type of chart this represents

Bar Chart Line Chart Pie Chart Other

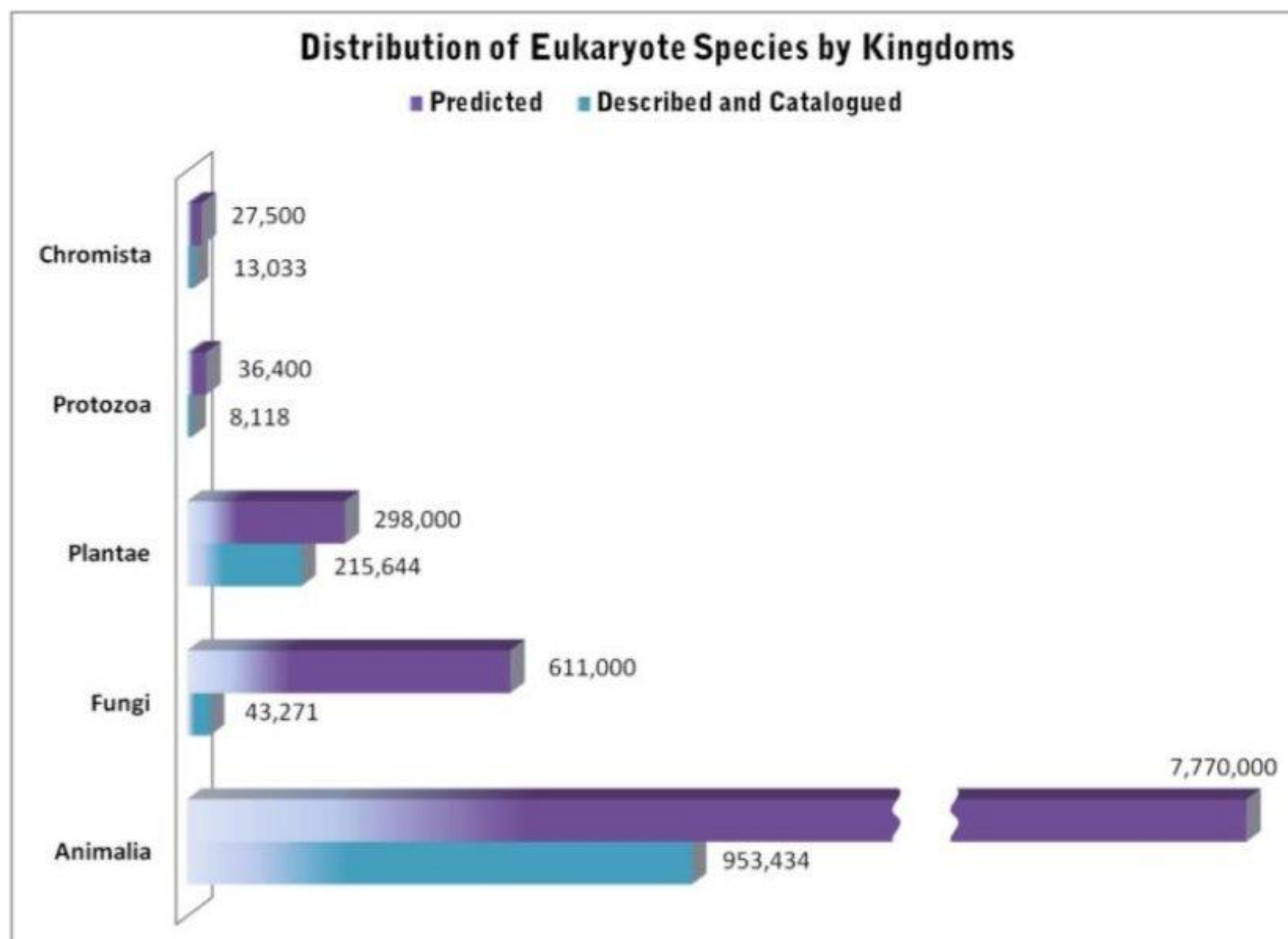
If applicable,

What does the X-axis represent _____

What does the Y-axis imply _____

Summarize what this graph represents or conveys

<https://www.sciencedaily.com/releases/2011/08/110823180459.htm>



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?

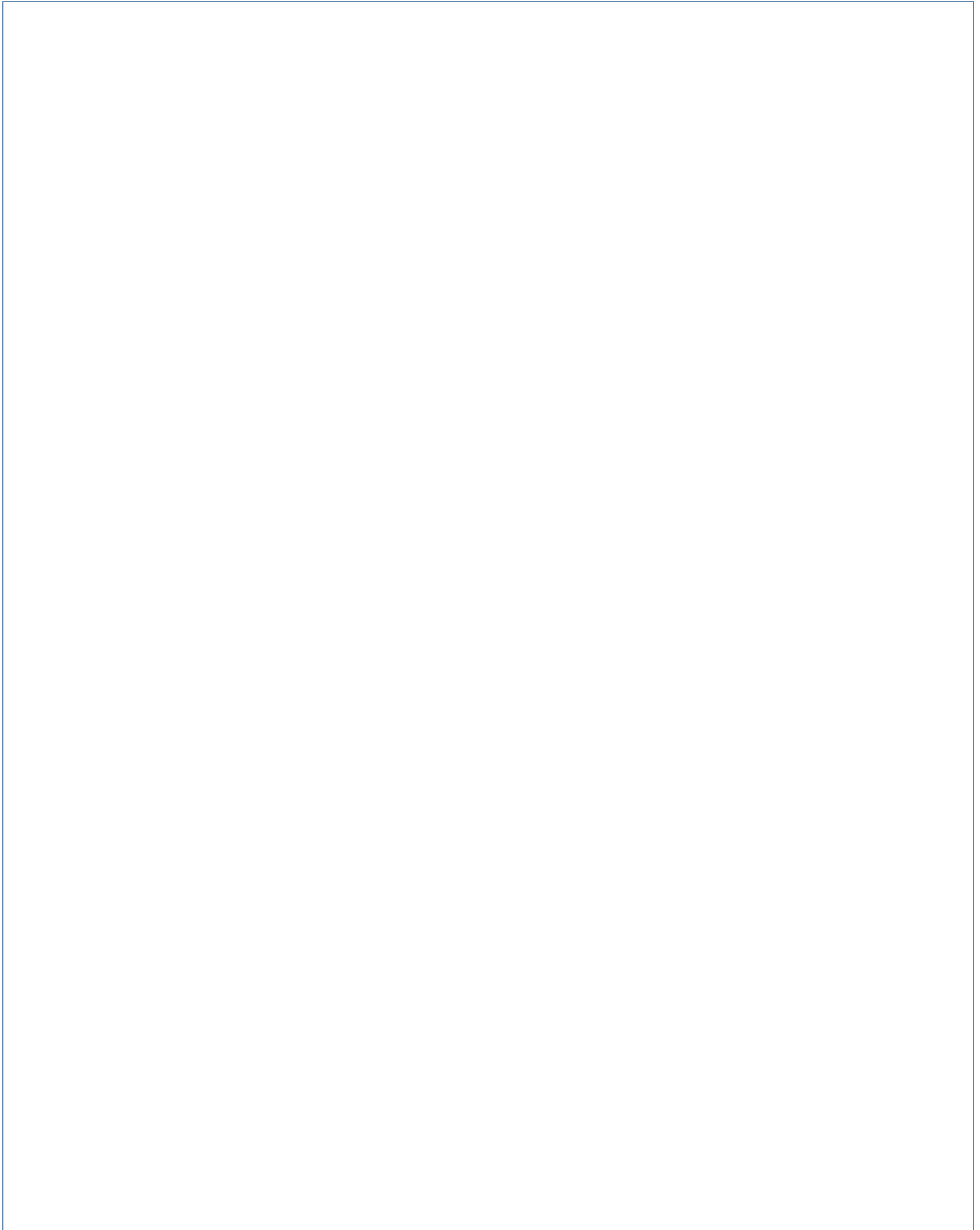
Q5. How does this topic connect to other science topics or math?

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.