

When do you think the microscope was invented?



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1590's!

This opened up a whole new world of discovery.



Micro means "very small" and scope means "an instrument for viewing."

Robert Hooke studied a piece of cork using a microscope he built himself. He notices row after row of empty, box-like spaces.

Because he thought the spaces looked like tiny rooms, he called them cells, a word that means "small rooms."



How does the definition of "living things" of traditional First Nations and Metis peoples differ from scientists's definition of "living things?"

Different Worldviews

Holistic Worldview: First Nations and Metis peoples believe everything on Earth has Spirit flowing through it and therefore everything is considered to be alive. They may believe that everything is connected by spirit, so spirit is at the center of life. Therefore they understand the world through observing what is present, not through trying to break objects down into smaller parts.

Reductionist Worldview: Scientists break down complex structures into smaller parts in order to better understand how the parts work together to produce the whole.

Scientists define living things in 7 characteristics.

Living Things:

7 Characteristics

Living Things:

7 Characteristics

acronym: Mrs. Nerg

Must be made up of one or more cells.

Reproduce: make more of their own kind

Sensitivity: ability to respond to stimuli in their environment

Nutrition: require energy to live

Excrete: get rid of waste

Respire: breathe

Growth and development

Must be made up of one or more cells.

All living things are made of cells Some are made up of a single cell, but most are too small to see without a microscope.

Multicellular:

What do you think these two words mean?

Unicellular:

Must be made up of one or more cells.

All living things are made of cells Some are made up of a single cell, but most are too small to see without a microscope.

Multicellular: more than one cell

example: plants and animals

Unicellular: one cell

example: diatoms (a type of algae, largest are about the width of a human hair)

We will learn more about unicellular organisms after seeing them under a microscope.

The Cell Theory:

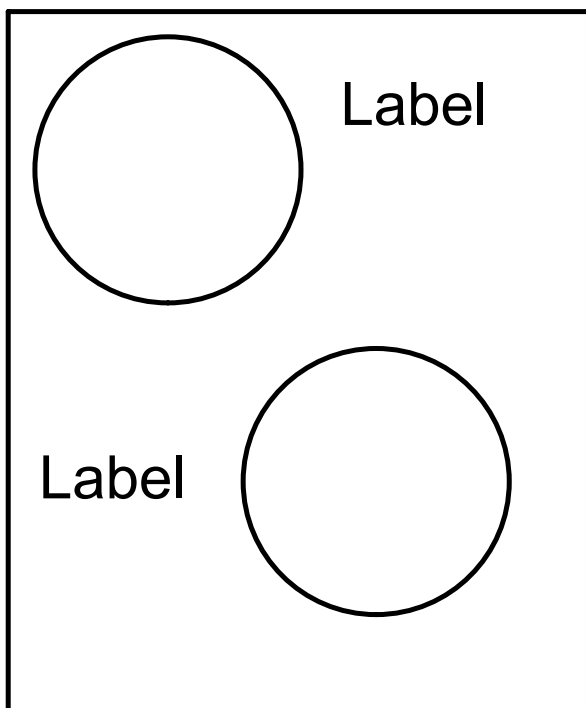
1. All living things are composed of cells.
2. Cells are the basic units of structure and function in living things.
3. All cells are produced from other cells.

Microscopes:

Follow the directions on your sheet carefully.

You will only be drawing one view from a plant cell, one from an animal cell, and one from a unicellular organism.

Please put slides back in their correct boxes.



For part 3d)

Your drawings can be one per page or two per page. Draw as much as you can see.