NATURAL SCIENCE 6th grade – Unit 3 : LIVING THINGS (I).

**MICROSCOPES** are instruments that allow us to see things that are too small for our eyes to see. They have magnifying lenses.

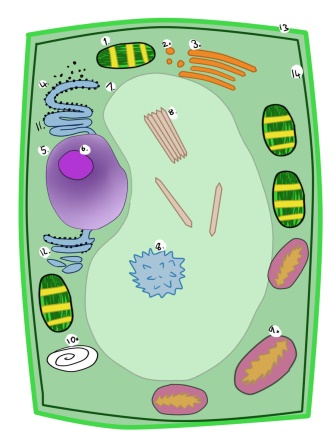
A sample is a small piece of the material that you want to look at.

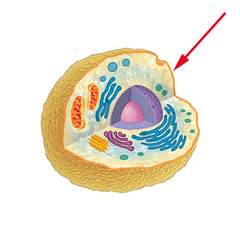
**CELLS:**

All living things (also known as organisms) are made up of tiny things called cells. Cells are living things too, and they carry out the three life processes: nutrition, sensitivity and reproduction.

Animals and plants have a similar structure:

* **Nucleus**: controls what happens in the cells. Genetic information is stored here.
* **Organelles** are the organs of the cells.
* **Cytoplasm**: a jelly-like liquid inside the cell.
* **Membrane**: is the skin of the cell.

Cells from different parts of a plant or an animal have different shapes.

**Animal cells:** are smaller and usually have an irregular shape.

**Plant cells:** are bigger and usually have a regular shape. **Chloroplasts** allow plants to produce their own food through photosynthesis.

Plants cells are surrounded by a hard **cell wall**.

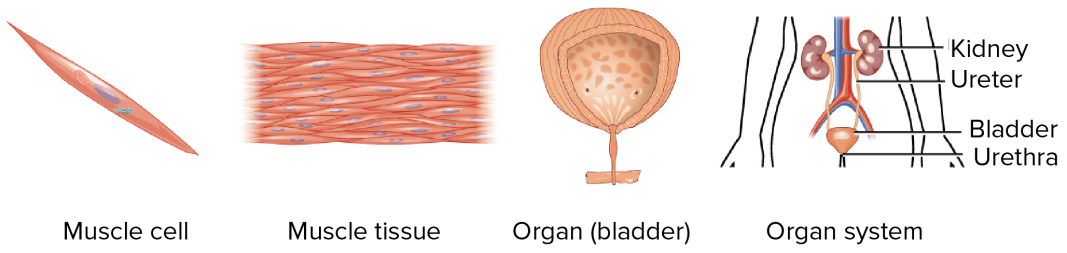
**UNICELLULAR OR MULTICELLULAR:**

Most organisms, like animals and plants, have many cells. They are **multicellular**. But some organisms have only one cell and are only visible through a microscope. They are **unicellular**.

**Unicellular**: have one cell. This cell carries out three life processes: nutrition, sensitivity and reproduction. (Microbes).

**Multicellular**: are made up of many different kinds of cells. Organisation:

**CELL – TISSUE – ORGAN - SYSTEM**

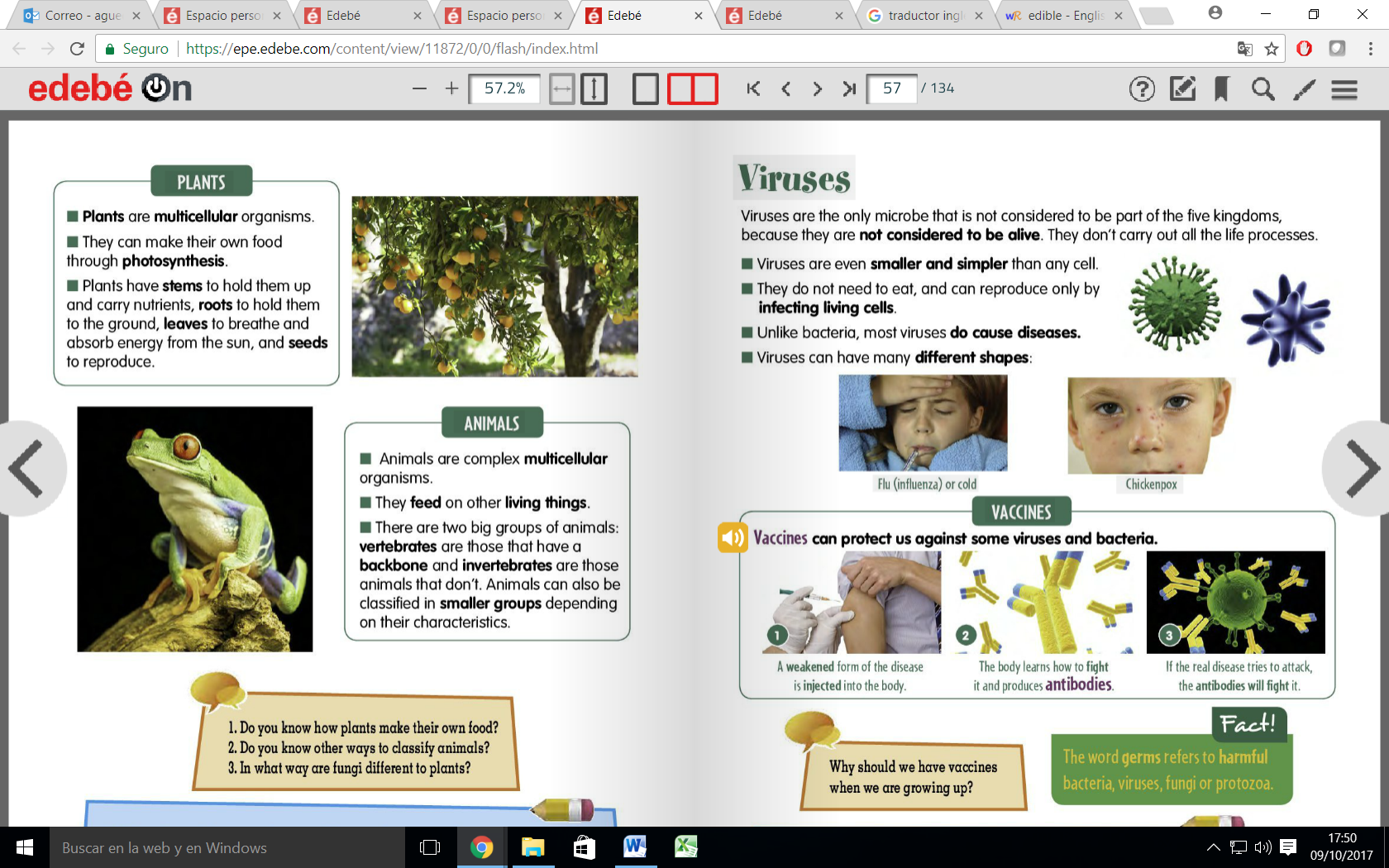


**THE FIVE KINGDOMS:**

Animals and plants are living organisms. But there are other life forms:

* **MONERANS**: can live anywhere. Bacteria are the most common monerans and they are the smallest living organisms that exist. **Bacteria** are unicellular. They feed on **organic matter** (heterótrofas). Some **can move** by themselves. Many bacteria are **useful**, and very few are **harmful**.
* **PROTISTS**: live in water or wet places. There are two types:
  + **Protozoa:** are unicellular. They feed on **organic matter** (heterótrofas)**.** Most **can move** by themselves
  + **Algae:** have **chloroplasts,** so they can make their own food, like plants (autótrofas). They can be **unicellular** or **multicellular**.
* **FUNGI:** live in land habitats. They feed on dead organic matter. There are 3 main groups:
  + **Yeast:** unicellular. We use some kinds to make bread, beer, wine,…
  + **Mould:** multicellular. Some are good to eat. Others are used to make medicine.
  + **Mushrooms:** multicellular. Some are poisonous. Some are edible.
* **PLANTS:** are multicellular organisms. They can make their own food through photosynthesis. Plants have stems, roots, leaves and seeds.
* **ANIMALS:** are complex multicellular organisms. They feed on other living things. They can be vertebrates or invertebrates.

**VIRUSES:**

Are the only microbe that is not considered to be part of the five kingdoms because **they are not considered to be alive.** Viruses are **smaller and simpler** than any cell. They do not need to eat and can reproduce only by **infecting living cells**. Most viruses **cause diseases**. Virus can have many **different shapes**.