


Grade 8 Science

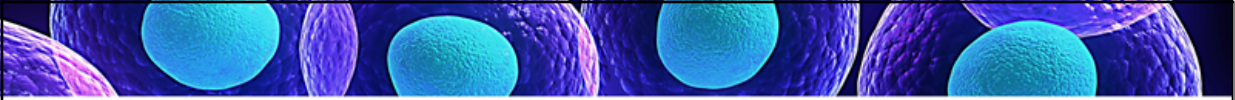
Unit 2: Cells



Characteristics of Living Things

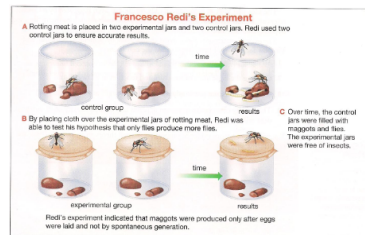
Unscramble the letters to list the characteristics of living things.

nemvomet	<u>movement</u>
satew	<u>waste</u>
lescl	<u>cells</u>
tebehar	<u>breathe</u>
worg	<u>grow</u>
greeny	<u>energy</u>
slan epif	<u>life span</u>
derpons	<u>respond</u>
ecerpoudr	<u>reproduce</u>



Cell Theory

Centuries ago, before the invention of the microscope, people had no knowledge of cells. As such, our understanding of living things was limited. Although people understood that humans came from other humans, it was believed that some organisms could come from non-living things. This concept was known as **Spontaneous Generation**. An example of assumed spontaneous generation was the presence of maggots on rotting flesh, it was believed that the maggots were produced as the flesh began to rot. Italian scientist, Francesco Redi, helped us prove that this is not the case. Let's look at Redi's experiment:



Note: This is known as a control experiment. Why might that be?



Cell Theory

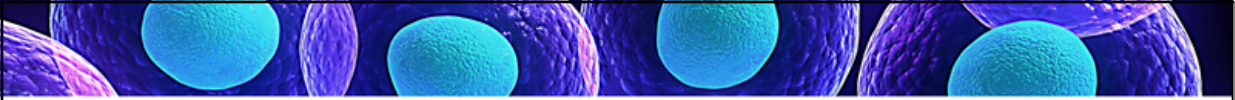
Based on Redi's experiment, and several more observations made by scientists around the world, a generalized theory was formed. The **Cell Theory** stated three hypotheses:

1. All living things are composed of one or more cells.
2. The cell is the basic unit of life.
3. All cells come from pre-existing cells.

Modern day scientists have since expanded the cell theory, adding the following postulates:

4. Energy flow occurs within cells.
5. Hereditary information (DNA) is contained within cells.
6. All cells have the same basic chemical composition.

*You will need to know these 6 postulates, please copy them into your notes.



Unicellular Organisms

For the remainder of the period we will look at some of the smallest organisms on earth. Unicellular organisms are living things that are composed of only a single cell. In order to be considered living, they must abide by all of the characteristics of living things. This means that all of these organisms move, grow, require energy, reproduce, etc.

I have shared a slide show with you with the title "Unicellular organisms." I will now assign each table group a specific single-celled organism. When you open the slide show you will find a slide template to fill out. As a group, research the required information, complete your groups slide, and be prepared to discuss your findings with the class.



Unicellular Organisms

Here is the list of organisms:

1. Amoeba
2. Euglena
3. Chlamydomonas
4. Paramecium
5. Diatom
6. Stentor

You are to research:

- How does it move
- How does it get energy
- Find a microscope image of it (not a drawing)



We will discuss your information when the timer sounds.

*You will need to be familiar with both methods of movement and ways of obtaining energy.

Attachments

2-3 Fly Experiment.jpg