

Let's Practice

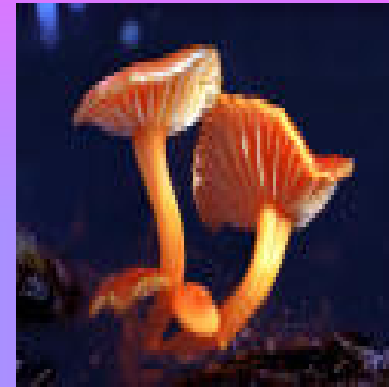
Tell if the object is living or nonliving.



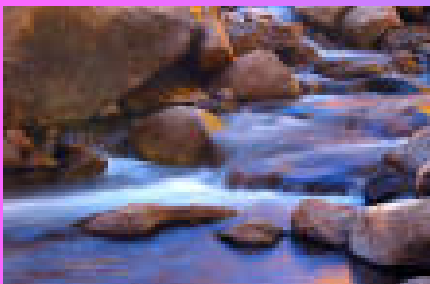
Nonliving



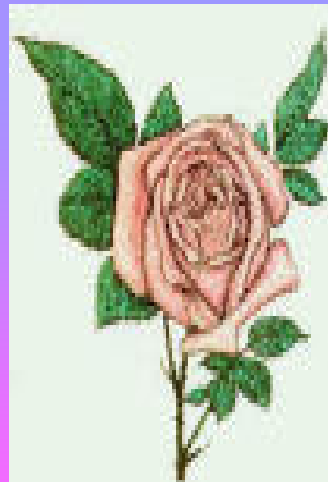
Living



Living



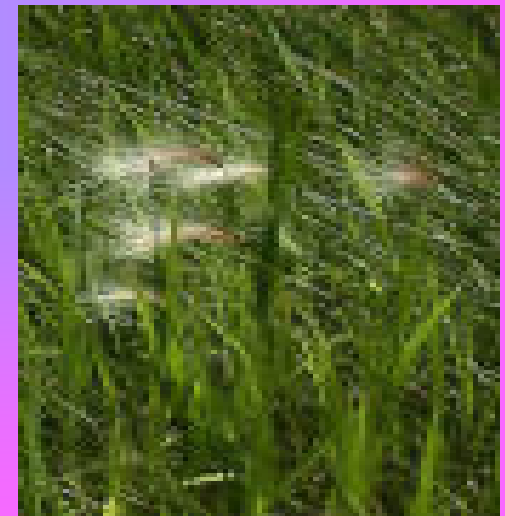
Nonliving



Living



Living



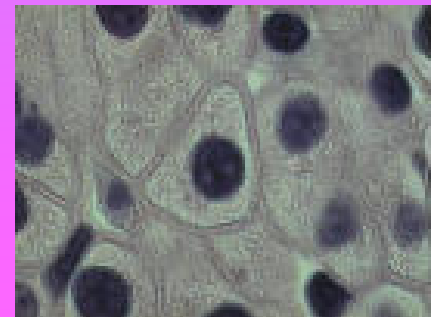
Living

Let's learn about the
7 characteristics of
life.

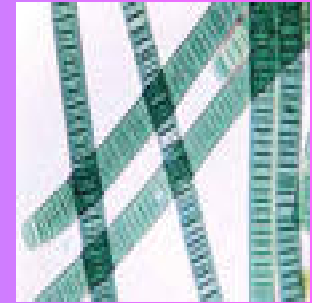


1) ALL LIVING THINGS ARE MADE OF CELLS

A CELL IS THE SMALLEST LIVING UNIT THAT CAN CARRY OUT LIFE PROCESSES.

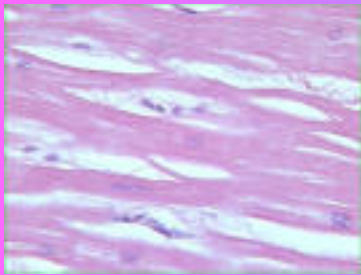


Single celled (**unicellular**) organisms
makeup most organisms on Earth.

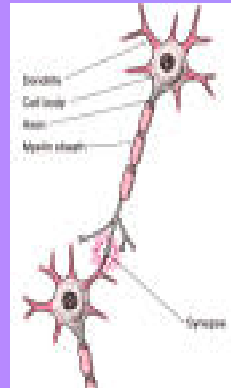


They have everything they need to be self-sufficient.

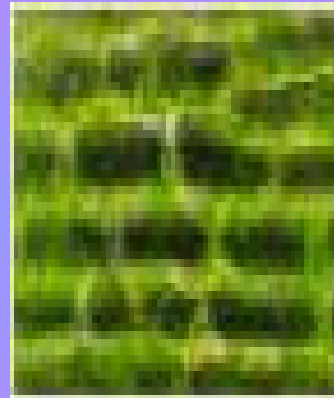
In multi-cellular organisms, the cells specialize to perform specific functions (bone cells, skin cells, muscle cells, root cells, leaf cells).



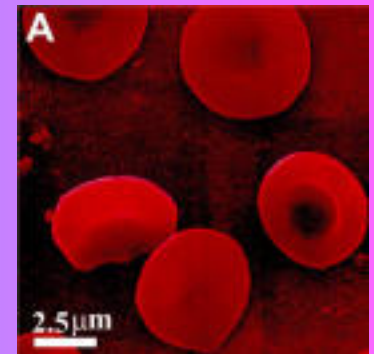
Smooth muscle



Nerve cell



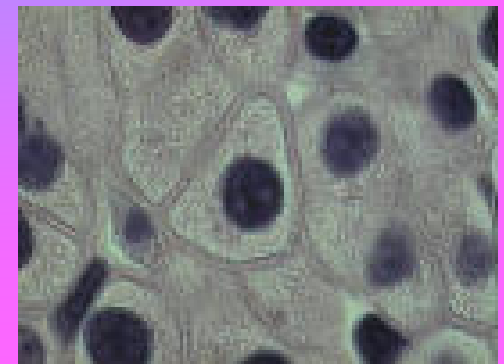
Leaf cell



Red Blood Cell

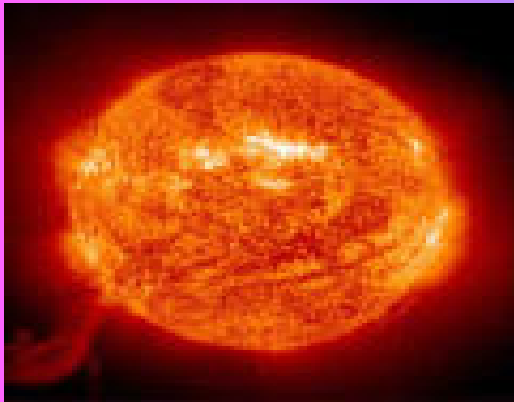


Yeast cell



2) ALL LIVING THINGS USE ENERGY

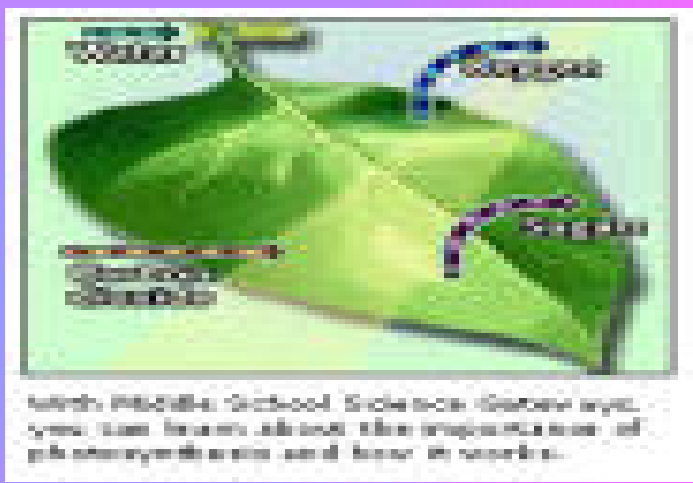
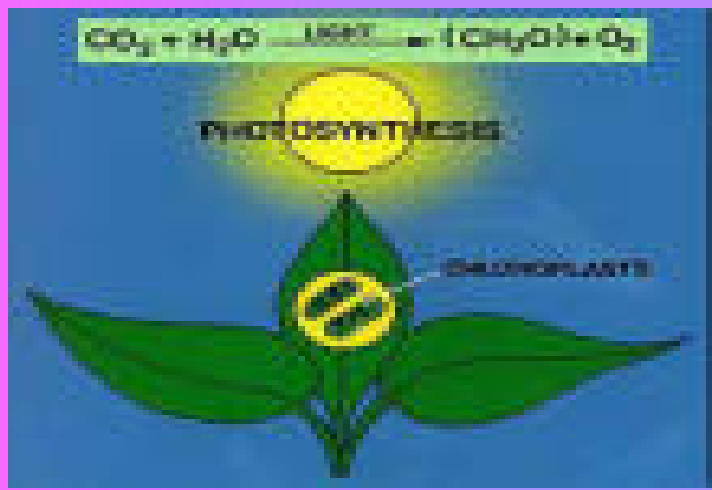
The SUN is the main source of energy on Earth!!!



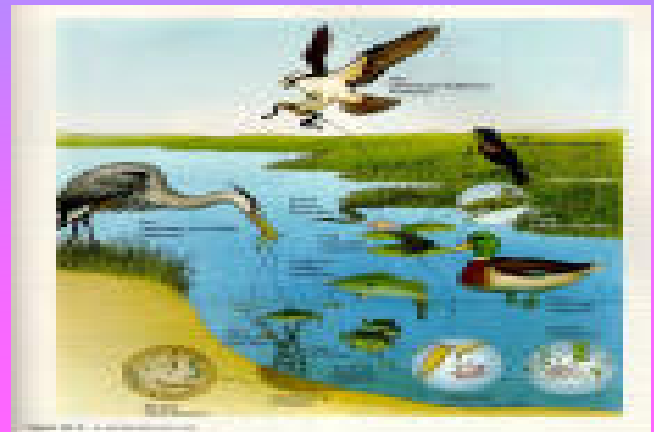
The Sun makes light that is used by plants!!!!!!

What is the name of this process by which plants convert the energy from the sun into food?

Plants (producers) trap the energy of the Sun and make glucose (sugar) in the process called photosynthesis.



Consumers (animals) get their energy from the plants!!!!



3) ALL LIVING THINGS RESPOND TO A STIMULUS (plural-Stimuli)

Living things respond to immediate and long-term changes in their environment (shiver when cold, change fur color, plants bend toward light).



Dogs wait patiently for a
treat Sunday afternoon.

digital photo by Dave Libben

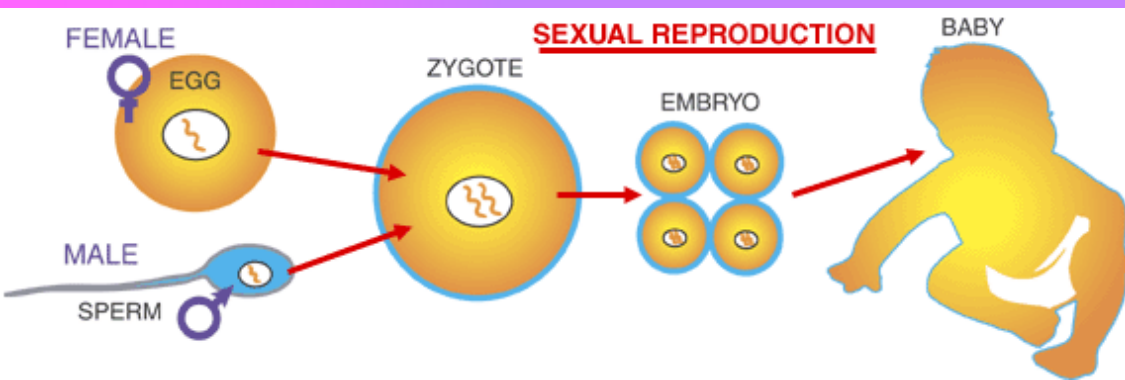
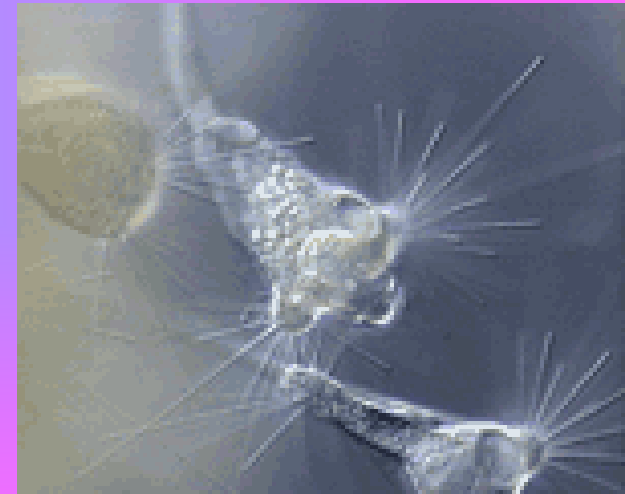
Responding to Stimuli

- a. dogs pant when hot
- b. pupils dilate in lower light levels
- c. humans sweat when body gets too hot
- d. reflexes - touch hot stove, fight/flight

4) ALL LIVING THINGS REPRODUCE

Reproduction must occur for a species to survive.

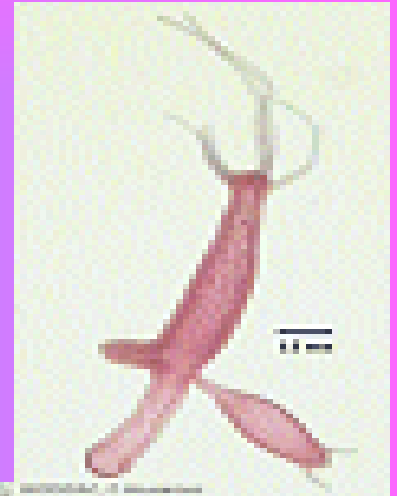
Reproduction can be either sexual or asexual.



ASEXUAL REPRODUCTION

3 Types of Reproduction

1. Budding – Hydra and Sponge



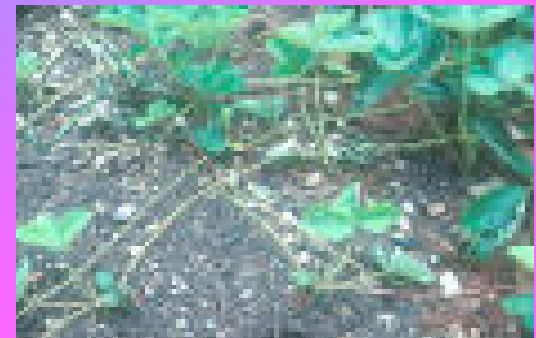
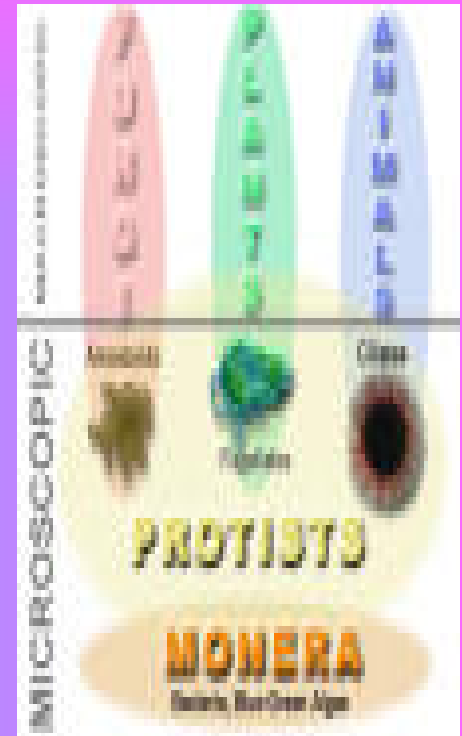
2. Fragmentation - Starfish



3. Binary Fission – unicellular organisms



ASEXUAL REPRODUCTION



5) ALL LIVING THINGS GROW AND DEVELOP

To grow means to get bigger and to get bigger; more cells must be added.

To increase numbers of cells, cell division must occur.

Develop means to change into an adult form (mature).



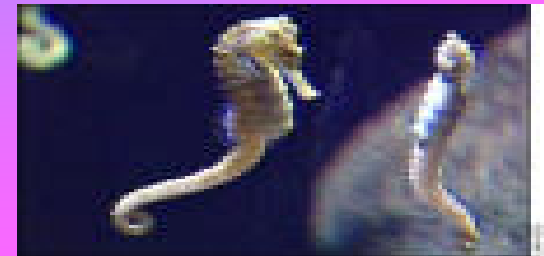
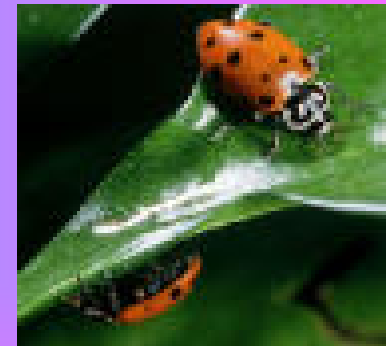
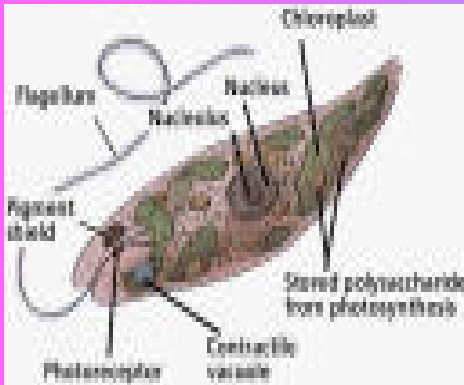
6) ALL LIVING THINGS CHANGE TO FIT THEIR ENVIRONMENT (ADAPT)

Organisms must adapt to changes in their environment or risk becoming extinct.

Adaptations occur over a very long period of time (millions of years).



Name some the adaptations of these organisms.

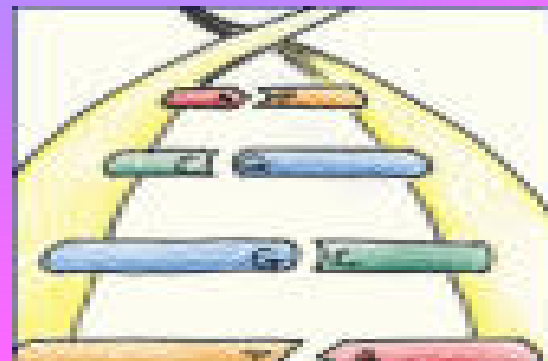
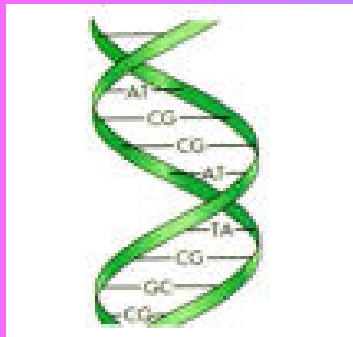


7) ALL LIVING THINGS HAVE DNA.

DNA provides instructions for making molecules called proteins.

Proteins build cells.

DNA carries the genetic material from parent to offspring (heredity).

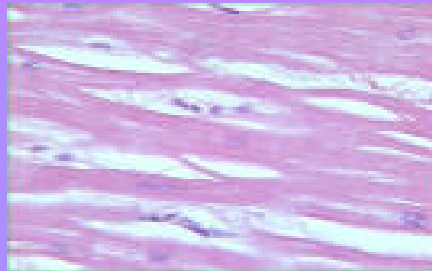


LET'S PRACTICE!!!

Which characteristics of life is being described?



Reproduction



Cells



Adaptation



Dogs wait patiently for a treat Sunday afternoon.
digital photo by Dave Libben

Responses



Energy



Grow and develop

Bellringer: Give an example of something living, dead and nonliving.

* Living organisms must show ALL 7 characteristics of life.

* Dead organisms ONCE showed ALL 7 characteristics but now do not.

* Nonliving things do not have all 7 characteristics.

