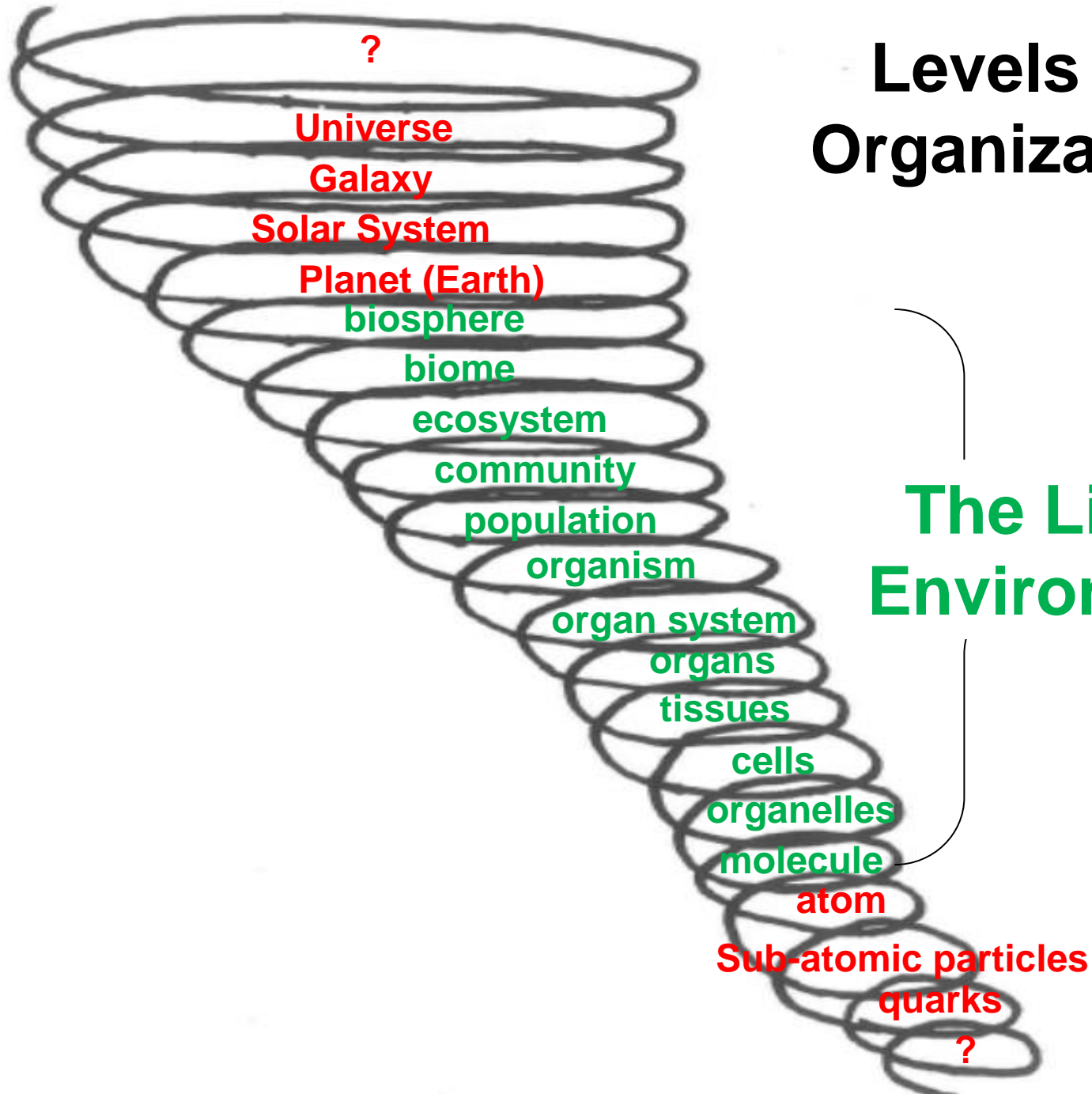


Levels of Organization



The Living Environment

Living Things Can Be.....

Unicellular

OR

Multicellular

- Made up of only 1 cell

Made up of many cells

Living Things Can Be.....

Prokaryotic

OR

Eukaryotic

- Lack a defined nucleus
- Simple cells

- Has a true defined nucleus
- Complex cells

Living Things Can Be.....

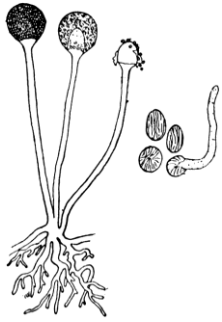
Heterotrophic

OR

Autotrophic

- Must consume food

- Makes its own food



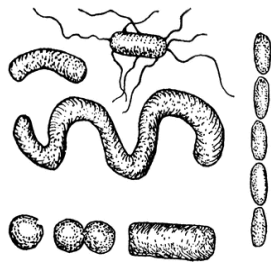
Fungi Kingdom

- Uni or Multicellular
- Eukaryotic
- Heterotrophic



Plantae Kingdom

- Multicellular
- Eukaryotic
- Autotrophic



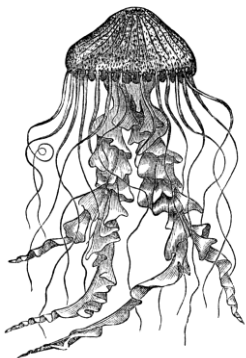
Archaea Kingdom

- Unicellular
- Prokaryotic
- Auto or heterotrophic



Eubacteria Kingdom

- Unicellular
- Prokaryotic
- Heterotrophic



Animal Kingdom

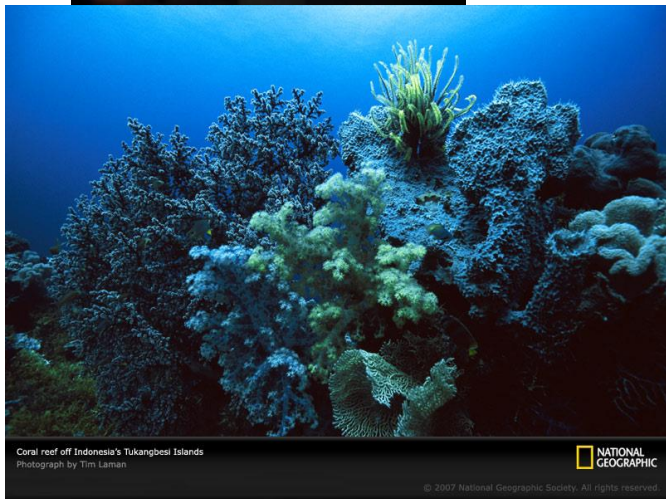
- Multicellular
- Eukaryotic
- Heterotrophic



Protist Kingdom

- Uni or Multicellular
- Eukaryotic
- Auto or Heterotrophic

How do we know if something is LIVING?



Life Processes – RRREGeNTS

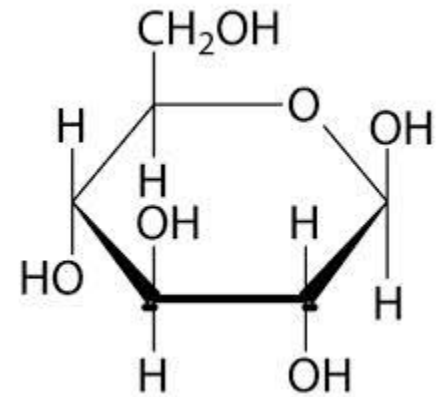
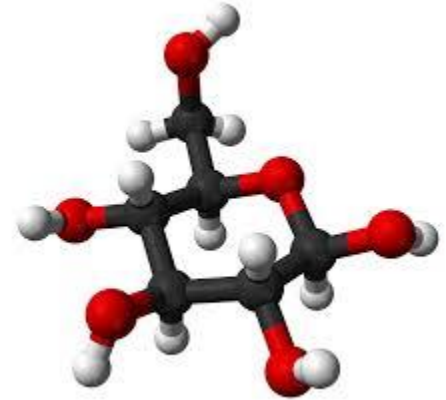
Essential life processes performed by **ALL** living things!

- Different structures and processes exist among various organisms to perform these

- **R**espiration
- **R**egulation
- **R**eproduction
- **E**xcretion
- **G**rowth
- **N**utrition
- **T**ransport
- **S**ynthesis

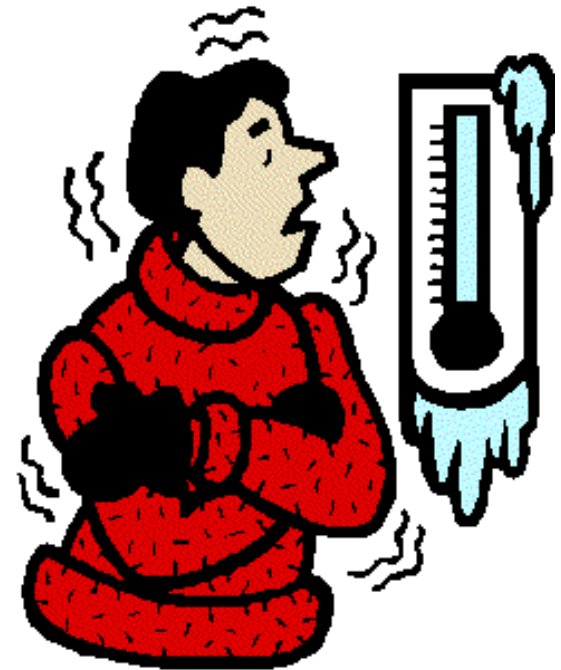
Respiration

- **NOT JUST BREATHING!**
- A.K.A. cellular respiration
- Release of **ENERGY** stored in the chemical bonds of food molecules (glucose) to be converted into a form useable by the cell (**ATP**)
 - May or may not require oxygen depending on the organism



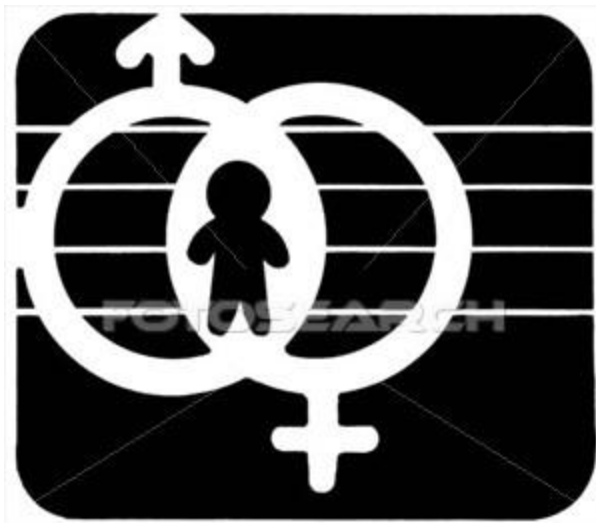
Regulation

- Control & coordination of body activities
- Responding to changes in environment
 - ex. Sweating or shivering to lower/raise body temperature
 - ex. Producing insulin to lower blood sugar

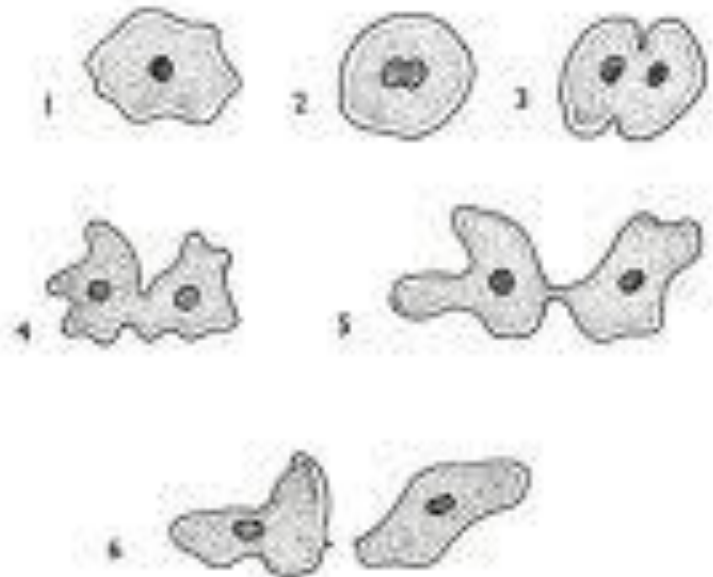


Reproduction

- Production of new individuals (necessary for survival of the species, NOT for the individual)
- May occur sexually (ex. animals) or asexually (ex. microorganisms)



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Excretion

- Removal of waste products made by cells during metabolic activity
 - ex. Carbon dioxide (waste product of cellular respiration) is exhaled
 - ex. Urine is produced to release urea



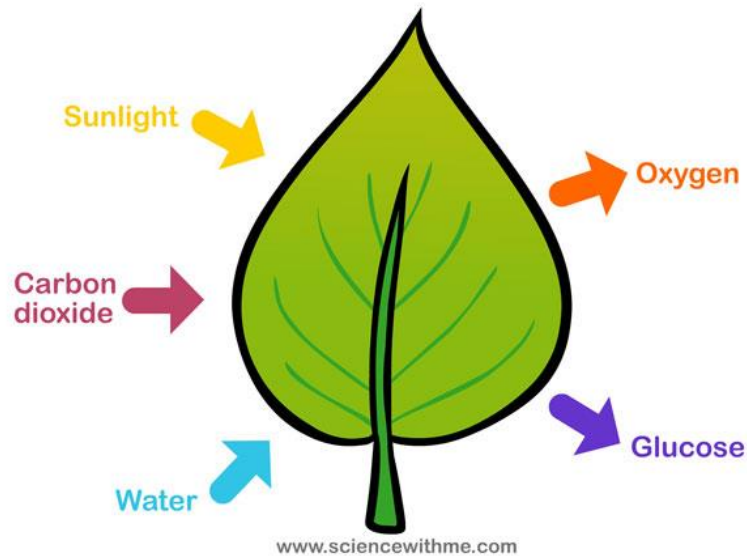
Growth

- Increase in cell size or increase in number of cells
 - ex. A zygote will divide to become an embryo/fetus



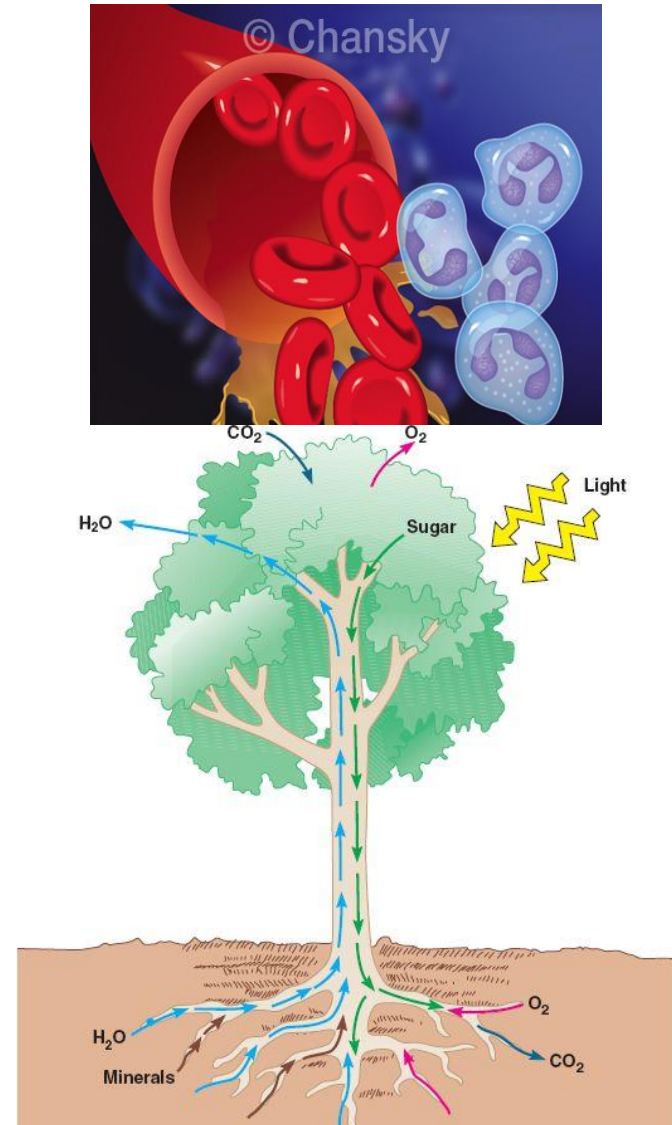
Nutrition

- Obtaining and breaking down nutrients for further use
 - ex. Animals eating and digesting food
 - ex. Plants performing photosynthesis



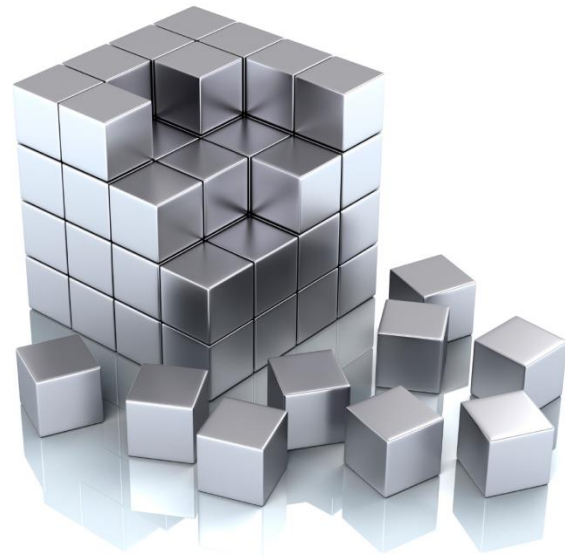
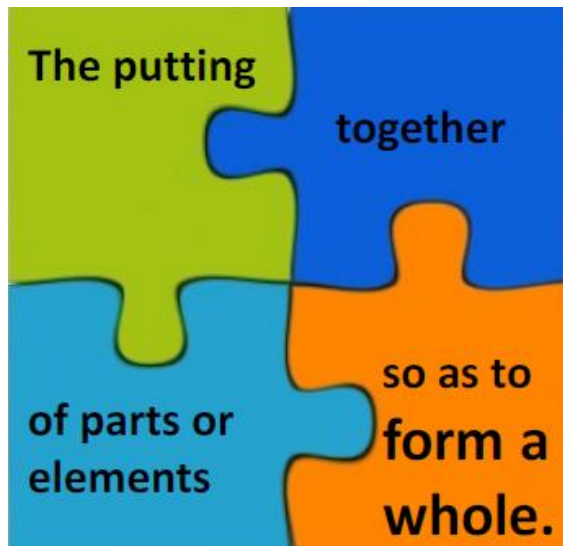
Transport

- Absorption & distribution of materials
 - ex. Oxygen absorbed into the blood at the lungs is delivered to the brain
 - ex. Water taken in by the roots of a plant moves up toward the leaves



Synthesis

- Building of larger molecules from smaller ones
- Ex. Building proteins by linking together amino acids (protein building blocks)



Metabolism

- ***all*** of the chemical reactions performed by living things
 - (A.K.A. metabolic activities)
- includes both the building up and breaking down of materials



Homeostasis

- Maintenance of an internal **balance** or **steady state** despite changes in the external or internal environment
- Failure to maintain homeostasis leads to sickness or death

