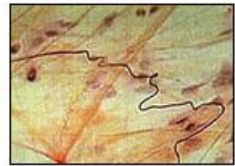
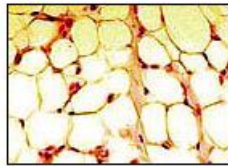


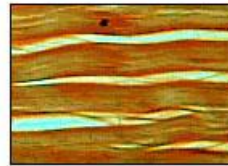
# Levels of Organization



Areolar connective tissue



Adipose tissue



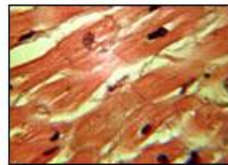
Fibrous connective tissue



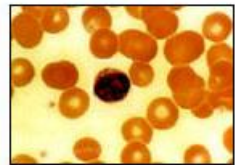
Skeletal muscle



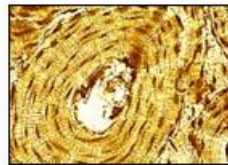
Smooth muscle



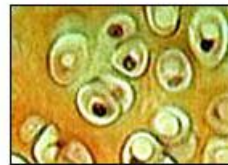
Cardiac muscle



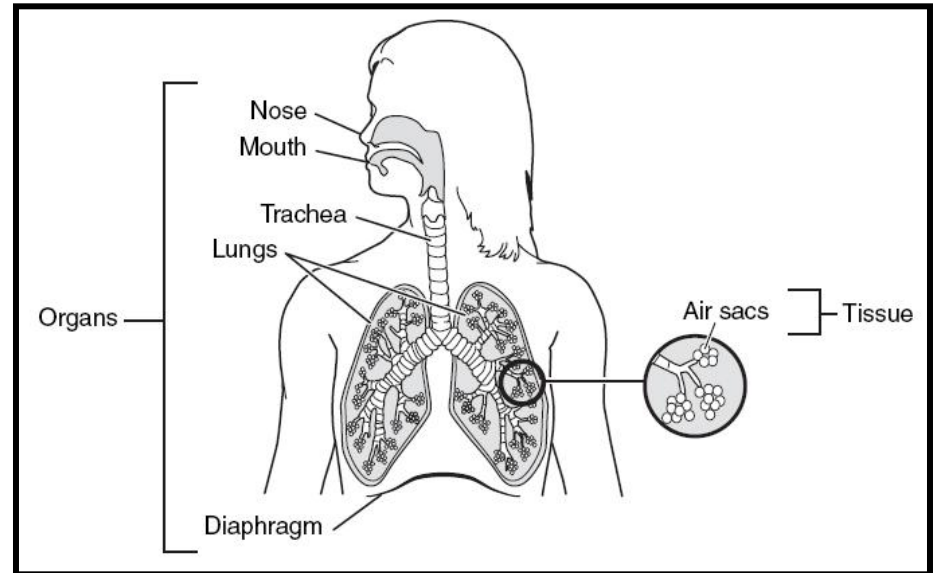
Blood



Osseous tissue

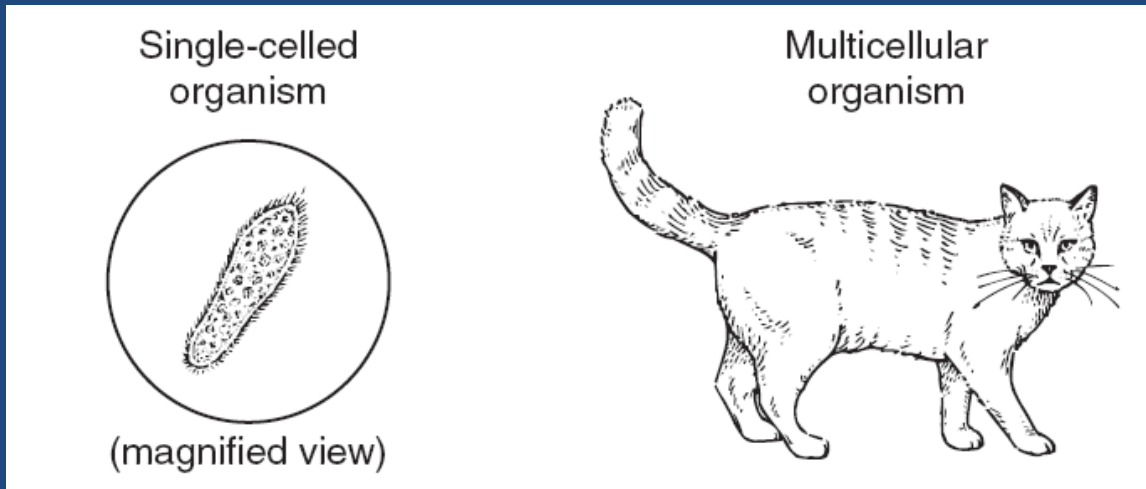


Hyaline cartilage

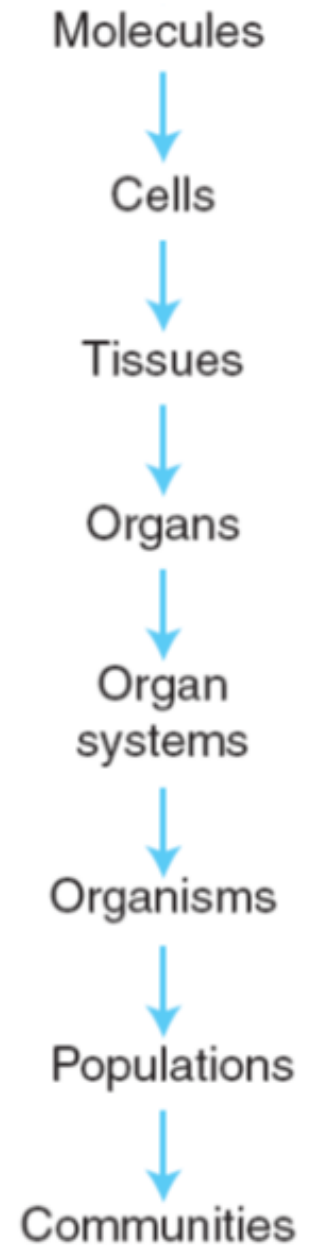


# Levels of Organization

Living things are very complex, and multicellular organisms contain a variety of tissues, organs and systems that allow them to meet the demands of life.



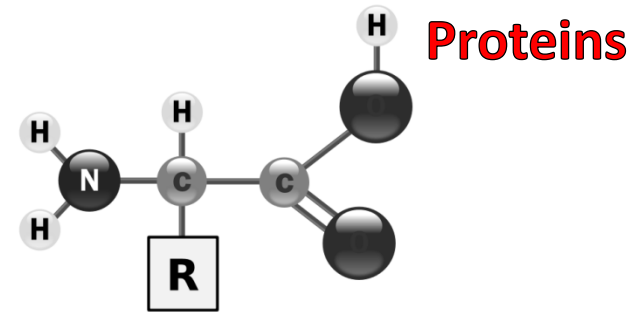
Multicellular means made of many cells.



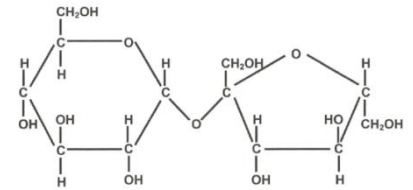
# Molecules

All matter is made of atoms, molecules and ions. This includes all of the biotic and abiotic factors in an ecosystem.

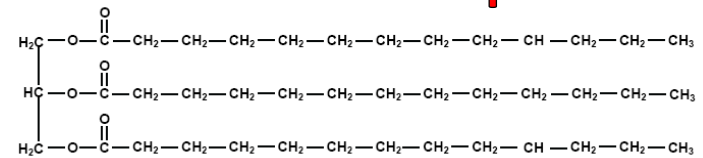
In living things, many of these molecules are classified as organic; they are based on the element carbon. All 4 classes of biomolecules are organic compounds.



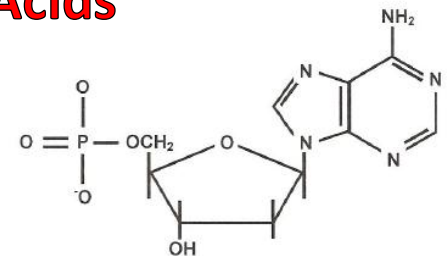
## Carbohydrates



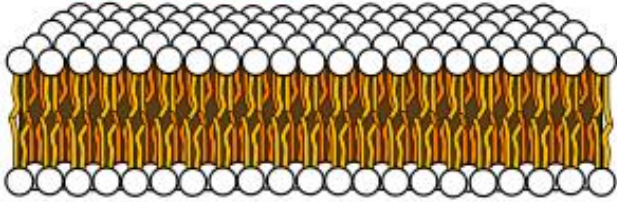
## Lipids



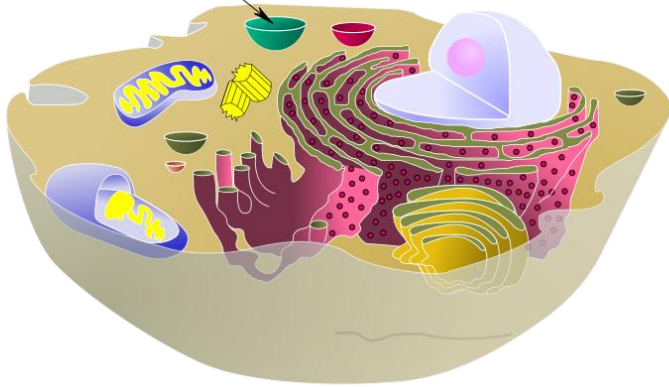
## Nucleic Acids



Bilayer sheet



Vacuole

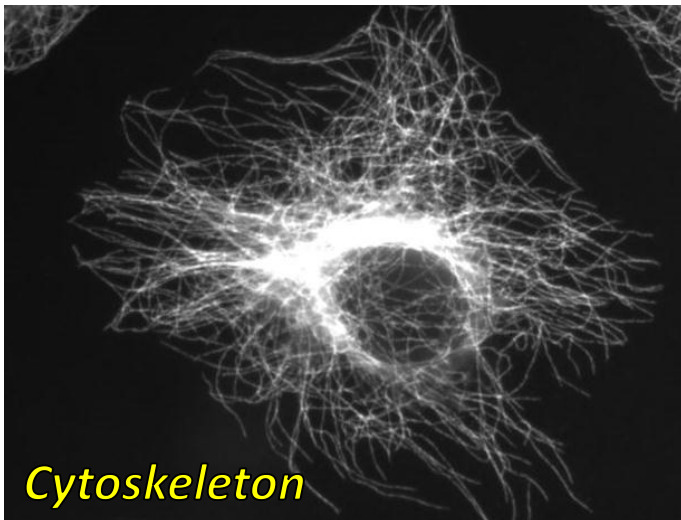


# Organelles

Inside cells, organic molecules serve many functions and are even be used to build organelles.

These organelles are the structures found inside of the cell that allow cells to perform a variety of cellular processes.

Cytoskeleton



# Cells

All living things are made of cells. Cells are the simplest structures that can be classified as living.

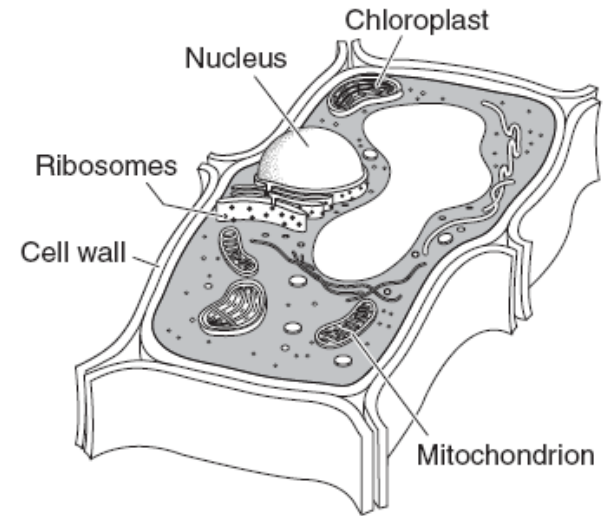
Cells contain everything that is needed for life, and there are many forms of single-celled organisms that live all around us.

Single-celled organism

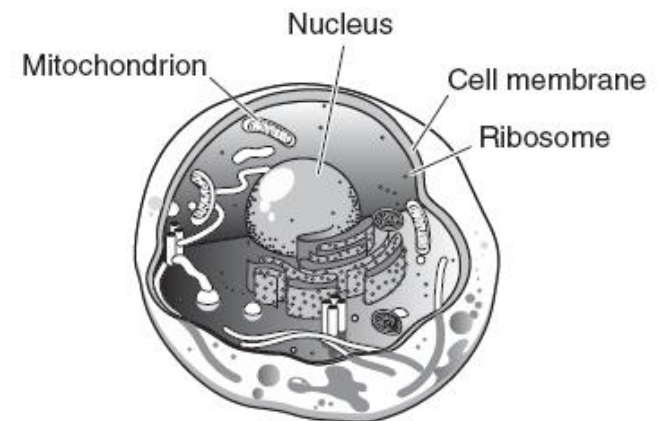


(magnified view)

## Plant Cell

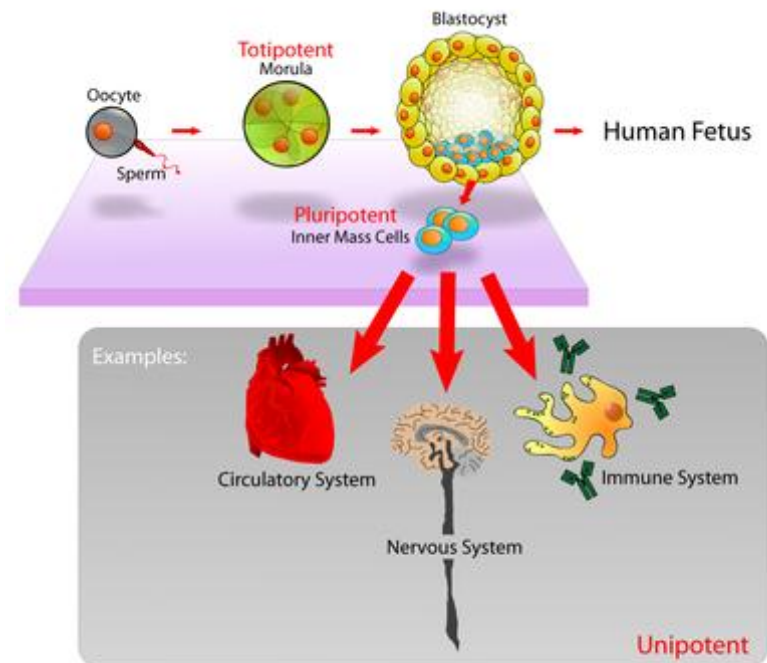
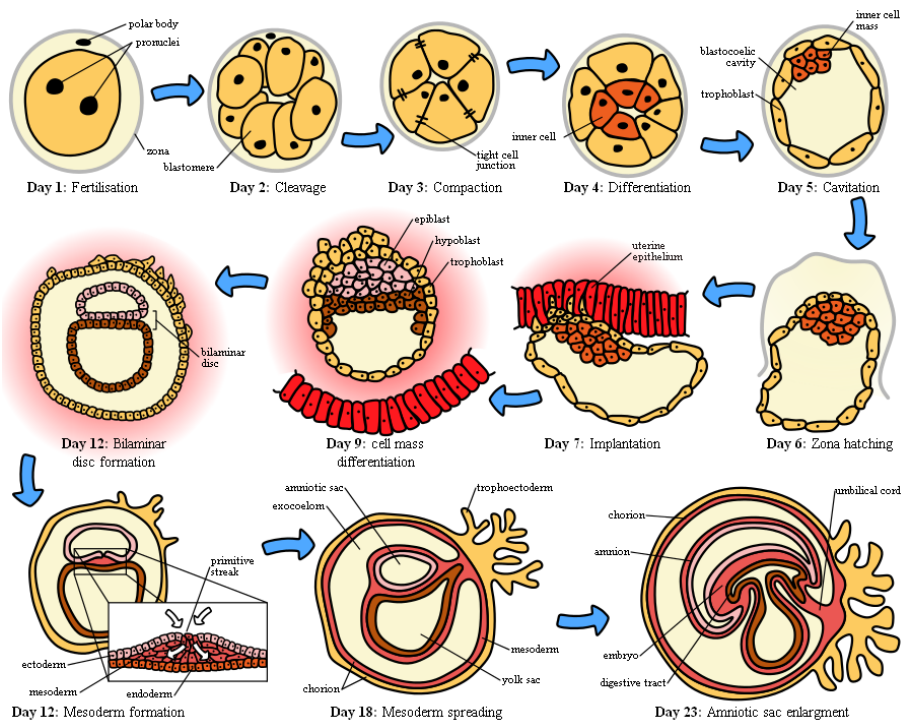


## Animal Cell



# Tissues

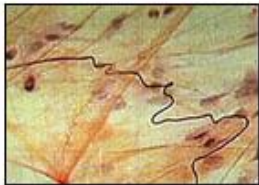
In multicellular organisms, cells begin to specialize as they multiply and develop. This happens because cells express different genes so that they can do specific jobs in the body.



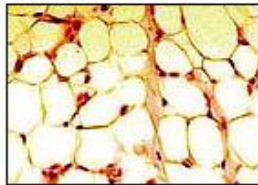
# Tissues

Specialized cells multiply into groups of specialized cells as the organism grows.

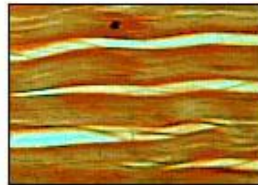
Groups of specialized cells are called **tissues**.



Areolar connective tissue



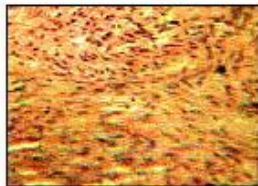
Adipose tissue



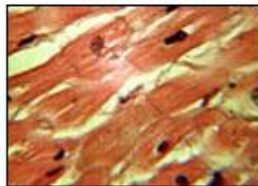
Fibrous connective tissue



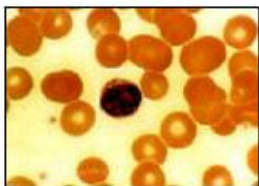
Skeletal muscle



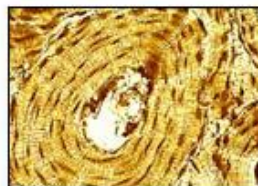
Smooth muscle



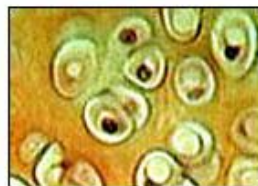
Cardiac muscle



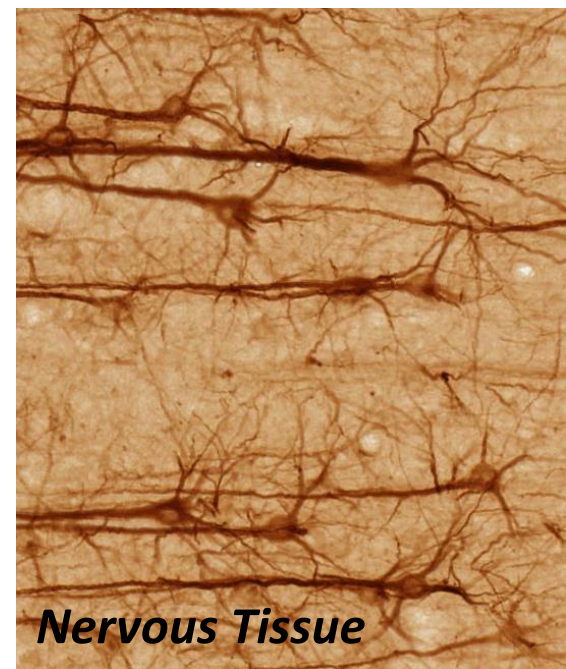
Blood



Osseous tissue



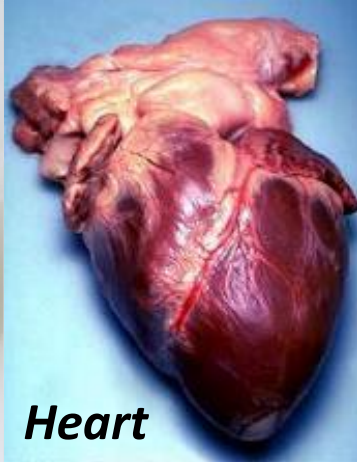
Hyaline cartilage



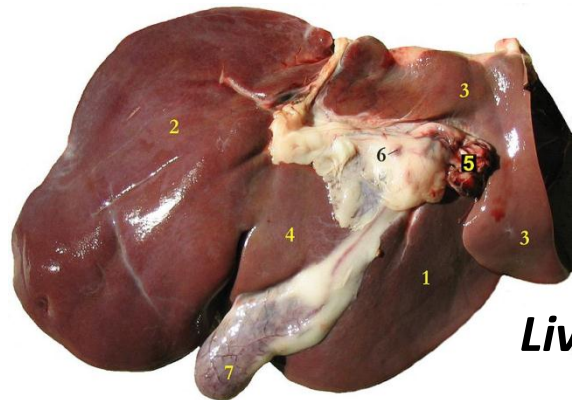
# Organs



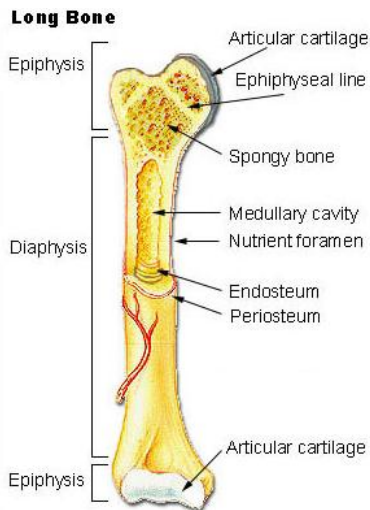
**Brain**



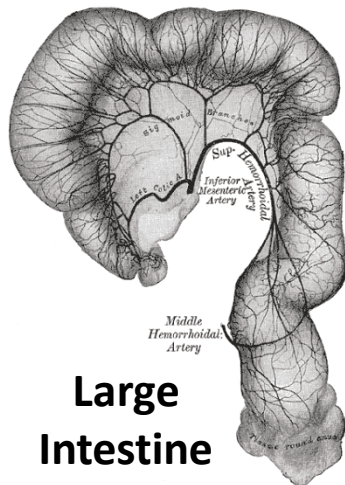
**Heart**



**Liver**



**Long Bone**



**Large Intestine**

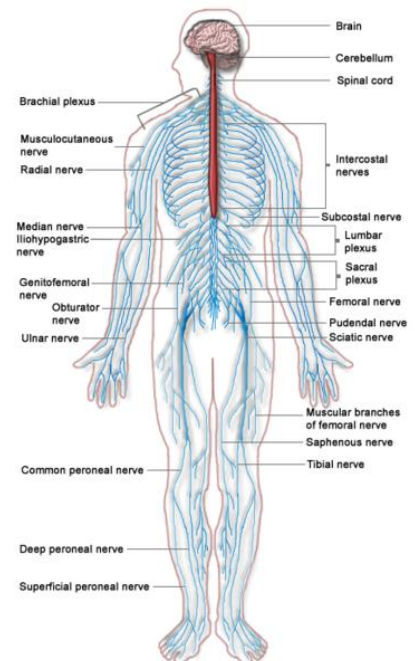
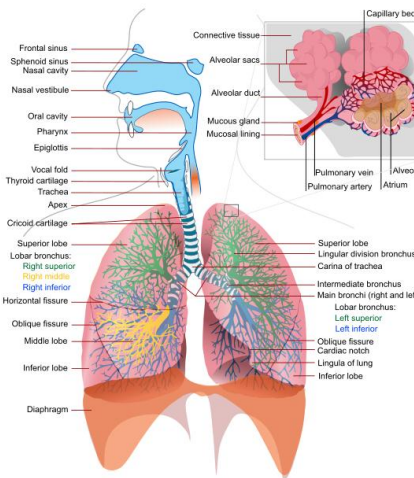
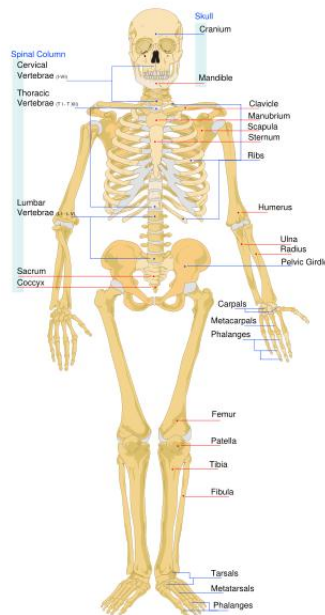
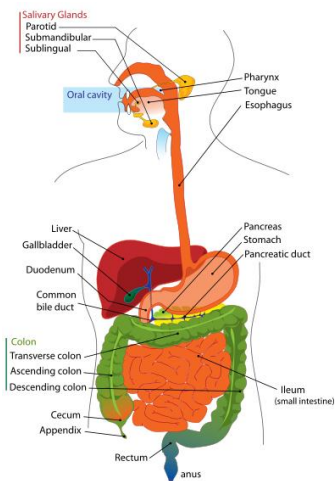
**Organs** are a collection of tissues that serve a common function. Being made of different tissues allows organs to complete complex tasks for the body.

**Organs rarely do just one thing. Because they are complex, YES, they have more than one role in the body.**



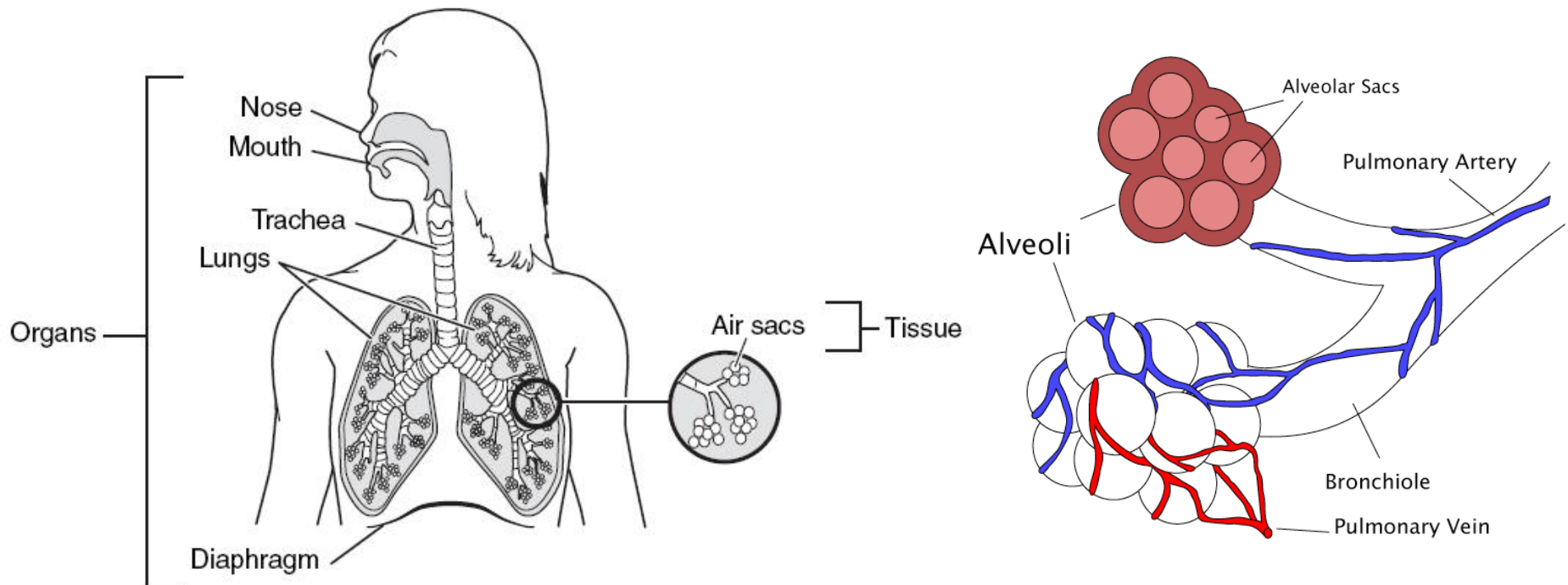
# Organ Systems

Some jobs, like breathing in and out or digesting a meal, require more than one organ to work together. Groups of organs that work together are called **organ systems**.



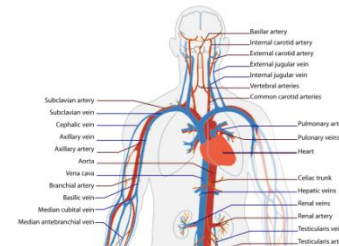
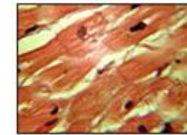
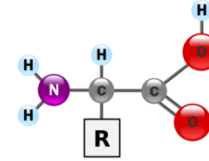
# Organ Systems

Organ systems, also called body systems, rely on all of the tissues and organs in the system working together to fill the needs of each cell and maintain homeostasis.



# Organism

An **organism** is a complete living thing. Multicellular organisms are incredibly complex creatures. They are able to survive because of well organized systems full of organs and tissues that allow them to meet the needs of every cell.



Simple

Molecules

Cells

Tissues

Organs

Organ systems

Organisms

Complex