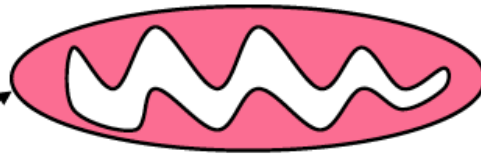


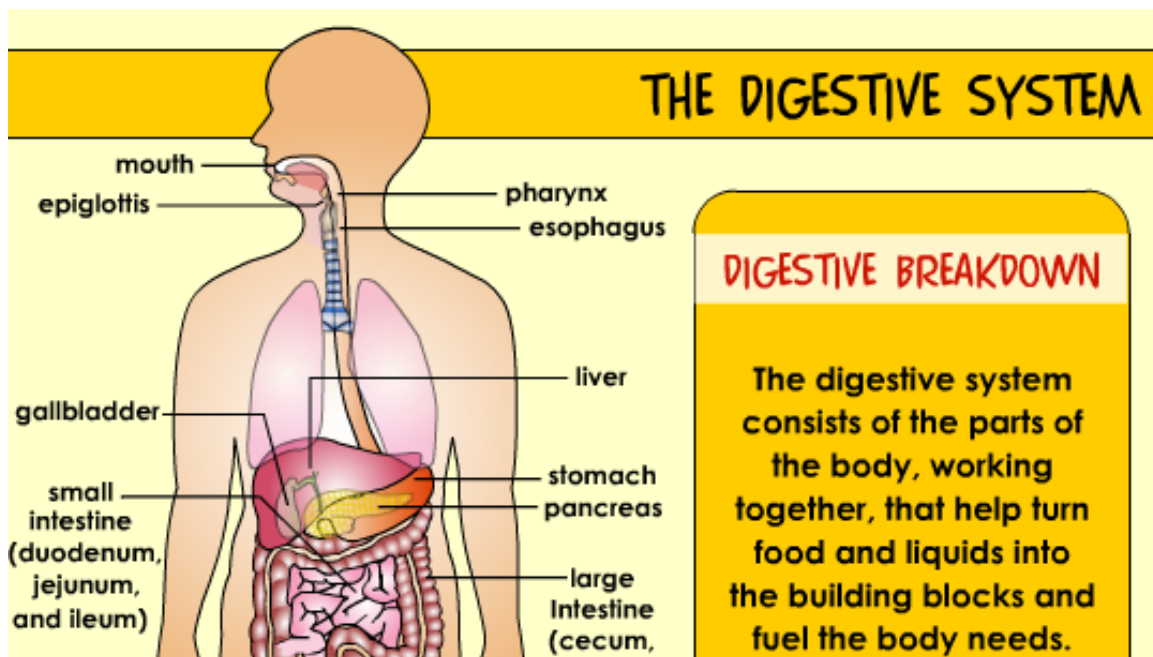
Cellular Respiration

Zoom in:

- muscle tissue
 - cell
 - mitochondria



- cellular respiration occurs in the mitochondria
- 3 body systems are needed to make the mitochondria work; digestion, circulation, and respiration

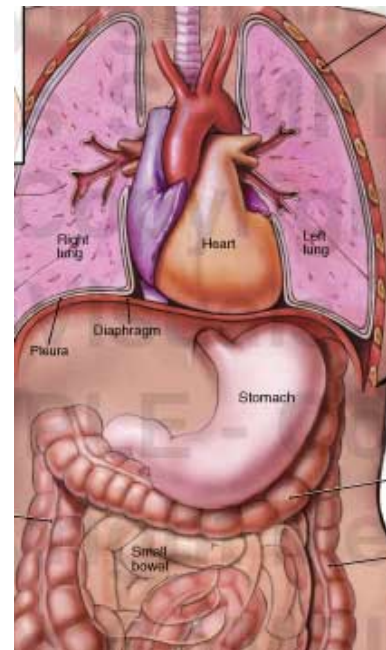
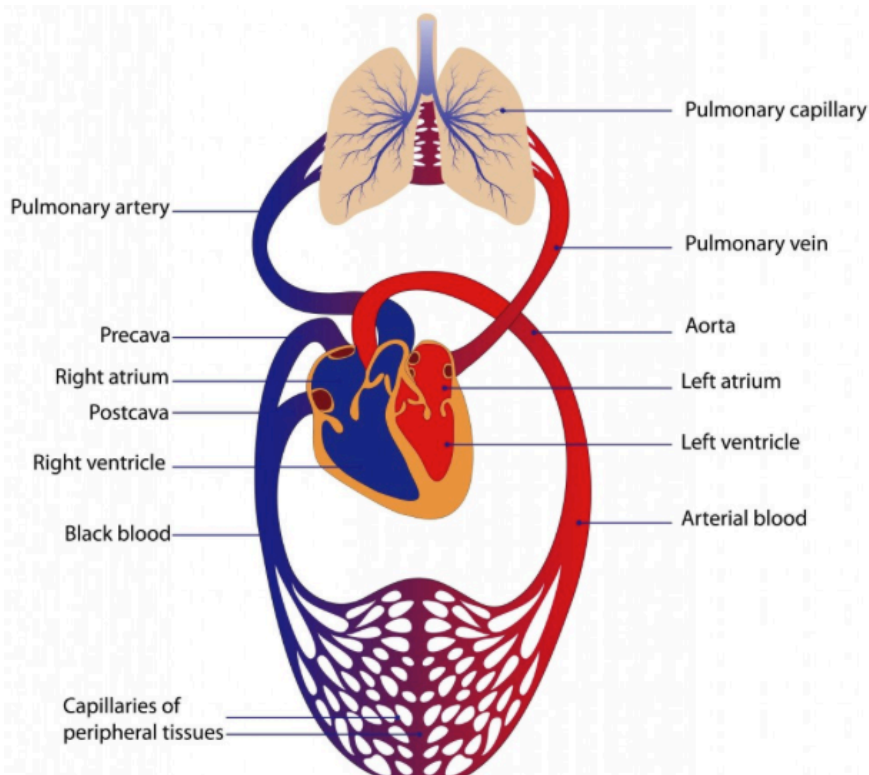


Why digestion?

- through the digestive system the body acquires the food it needs to fuel all cells
- main food source needed are carbohydrates broken into glucose molecules
- the cell breaks the glucose into something smaller and sends it off to the mitochondria
- there the mitochondria uses these smaller pieces with oxygen to make energy for you

Why respiration?

- the lungs are necessary to get oxygen into the body
- in the lungs there are millions of little air sacs called alveoli that are surrounded by capillaries
- here the blood drops off carbon dioxide and picks up oxygen
- this oxygen will be taken directly to the cells
- when the oxygen gets to the cell, the mitochondria takes it and begins the process of cellular respiration



Why circulation?

- the heart and vessels are responsible to pump and transport all nutrients to all parts of the body
- through tiny vessels called capillaries are things like glucose, oxygen and carbon dioxide able to enter or exit the tissue or vessel
- the only way to get glucose (from the intestine) and oxygen (from the lung) to the cells of your toes are through blood vessels
- the blood vessels are essential in removing waste products too, like carbon dioxide