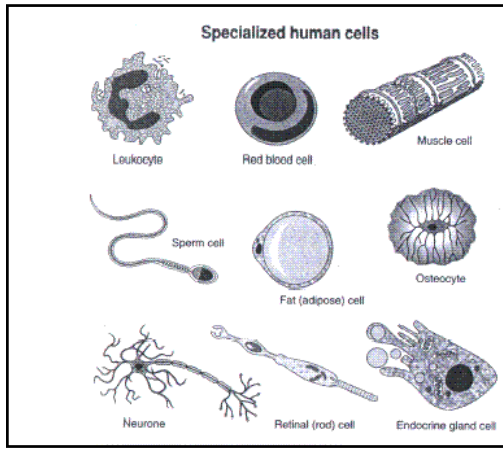
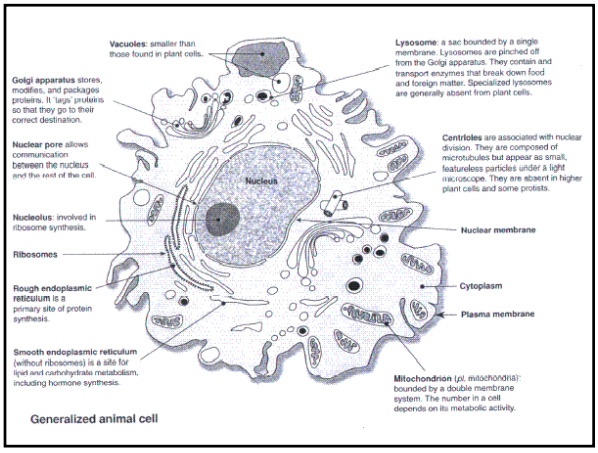
Specialized Human Cells

Integrated Science I & Honors
Mrs. King





Leukocyte

Structure

- Highly mobile and capable of amoeboid movements.
- Phagocytic

Function

- Seeks out and destroys microbes inside body
- Able to squeeze through capillary walls to reach the site of infection

Red Blood Cell

Structure

- Biconcave cell, lacking mitochondria, nucleus, and most internal membranes.
- Contains the oxygen – transporting pigment, hemoglobin.
- prevents oxygen use.

Function

- Uptake, transport, and release of oxygen to the tissues.
- Small amount of CO_2 transport. Lack of organelles creates more space for oxygen transport.
- Lack of mitochondria

Muscle Cells

Structure

- Cylindrical shape with banded myofibrils.
- Capable of contraction (shortening).

Function

- Move voluntary muscles acting on skeleton.

Sperm Cell

Structure
- Motile, flagellated cell with mitochondria.
- Nucleus forms a large proportion of the cell

Function
- Male gamete for sexual reproduction
- Mitochondria provide the energy for motility

Fat (adipose) Cell

Structure
- Spherical cell with a large fat-filled vacoule
- Nucleus pushed to the cell edge.

Function
- Fat storage- cell fill entirely with fat

Osteocyte Cell

Structure
- Cell with calcium matrix around it
- Fingerlike extensions enable the cell to be supplied with nutrients and wastes to be removed

Function
- In early stages, secretes the matrix that will be the structural component of bone.
- Provides strength

Retinal (rod) Cell

Structure
- Long, narrow cell with light-sensitive pigment (rhodopsin) embedded in the membranes

Function
- Detection of light
- Light causes a structural change in the membranes and leads to a nerve impulse (results in visual perception).

Endocrine Gland Cell

Structure
- Finger-like extensions with large vacoules

Function
- Secrets substances into bloodstream or duct