

CASE

*Curriculum for Agricultural
Science Education*

Principles of Agricultural Science – Animal

Tissues

Unit 4 – Lesson 4.2 Putting the Puzzle
Together

Animal Tissues

Tissue is comprised of a mass of organized cells to provide specific structure or function to a living organism.

Types of tissue:

- Connective
- Epithelial
- Fluid
- Muscle
- Nerve

Connective Tissues

Connective tissues provide structure to hold other tissues together and include:

- Bone
- Cartilage
- Ligaments
- Tendons



Connective Tissue

- **Bone** is calcified material that replaces cartilage as animals age
- Provides structure of animals
- Four classifications of bones
 - Long
 - Short
 - Flat
 - Irregular



Connective Tissue

- **Cartilage** is flexible and elastic
- Found between bones and in some structures, such as the ears and nose
- Normally white in color

Connective Tissue

- **Ligaments** help to hold two bones together at a joint.
- **Tendons** connect the muscle to bone.

Both are white flexible tissues

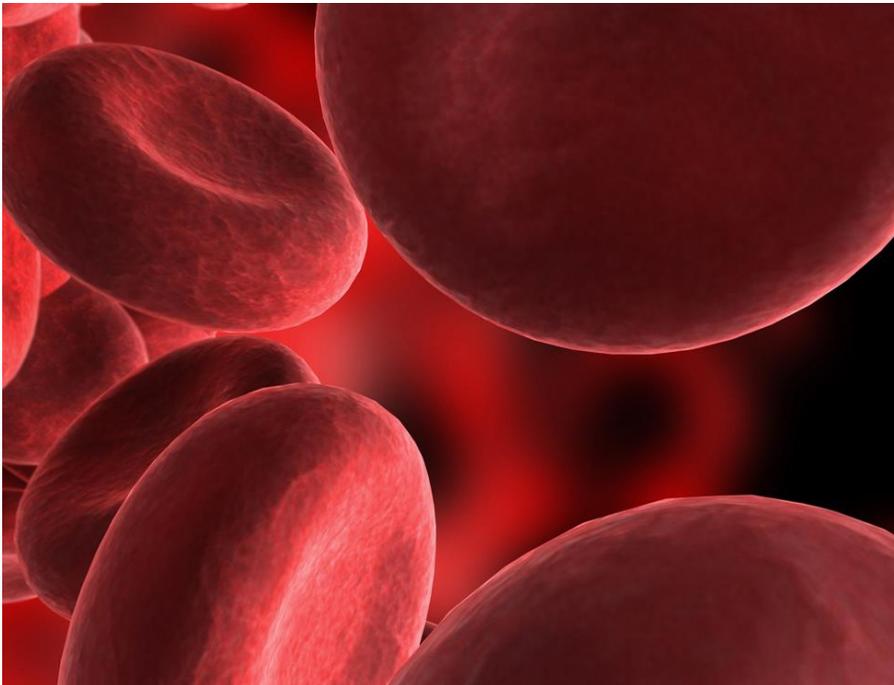
Epithelial Tissues

- **Epithelial tissues** form the outer covering of internal organs and external parts of an animal, such as skin.



Fluid Tissues

- **Fluid tissues** are specialized cells contained inside an organ or the circulatory system, such as blood.

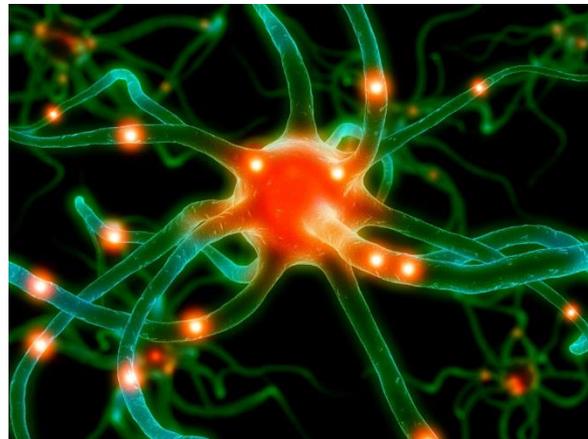


Muscle Tissues

- **Muscle tissues** aid in the movement and function of animal internal organs and external parts.
- Three types of muscles are essential:
 - **Cardiac** – involuntary, the heart
 - **Skeletal** – voluntary, e.g., bicep
 - **Smooth** – involuntary, surrounds hollow internal organs, such as the blood vessels or stomach

Nerve Tissues

- **Nerves** are specialized cells to transmit electrical pulses from the brain to muscles throughout the body.
- Nerves control muscle function in the body.



References



Gillespie, J.R., & Flanders, F.B. (2015). *Modern livestock and poultry production (9th ed.)*. Clifton Park, NY: Delmar.

Romich, J. (2006). *An illustrated guide to veterinary medical terminology (2nd ed.)*. Clifton Park, NY: Delmar.