

Animal Body Structure and Organization

Trends in Evolution

Levels of Organization

- Cells
- Tissues
- Organs
- Organ Systems
- Organism

Cellular Level of Organization

- Different cells have different functions
 - Differentiation
- EX:

Sponges



Tissue Level of Organization

- Made of cells that work together
- Cells are organized into patterns and layers
 - EX: Jellyfish



Major Tissues Found in Animals

- Epithelial tissue:
 - Forms covers or linings made of replaceable cells
 - Functions:
 - Absorption- intestine,
 - Excretion – sweat glands
 - Protection – skin

- **Connective tissue:**
 - Supports, binds and connects tissues to other tissues
 - EX: Tendons, Ligaments, Adipose (fat), Cartilage, Bone

- Muscle Tissue:
 - Used for movement
 - Three types:
 - Skeletal
 - Cardiac
 - Smooth

- Nervous Tissue:
 - Carries electrical impulses = communication
 - Nerves and brain tissue
 - Neurons- conducting cells

Organ Level of Organization

- Organs are made of more than one tissue
- Have a specialized function
 - EX: Flatworms-Reproductive organs, eyespots, feeding structures



Organ System Level of Organization

- Organs work together to form systems
 - EX: Nemertean worms and all other animal groups



Organisms!

- A fully functional animal
- An organism can perform all of the specialized tasks we have already learned about



Organisms

- Things animals do:
 - Feeding
 - Respiration
 - Circulation
 - Movement
 - Excretion
 - Response
 - Reproduction