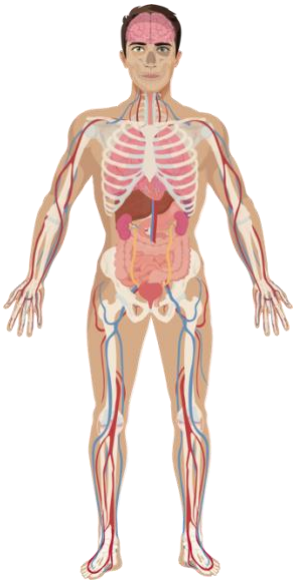
TOPIC: INTRODUCTION TO ORGAN SYSTEMS

- *Recall:* organ system - group of organs that coordinate to perform a common _____.
- _____ of anatomy and physiology often broken up by organ system.
  - Grouped by function:
    - Protection, structure, & support (3)
    - Communication & integration (2)
    - Transport & immunity (2)
    - Nutrient, gas, & waste exchange (3)
    - Reproduction (1 system w/ two variants)
  - Important: Bodies are highly _____.
    - Organs & systems have many _____ functions.



Protection and Support:

Integumentary System	Skeletal System	Muscular System
 Skin Hair Nails	 Bones Cartilage	 Muscles
■ Protection, _____ regulation	■ _____, protection	■ _____

- Muscular & skeleton: sometimes combined as the _____skeletal system.

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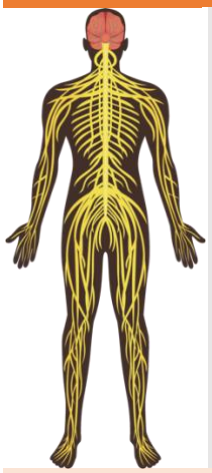
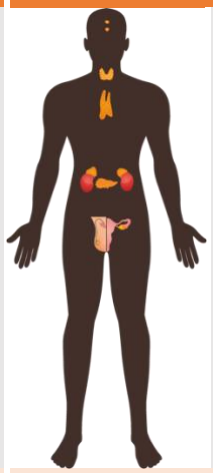
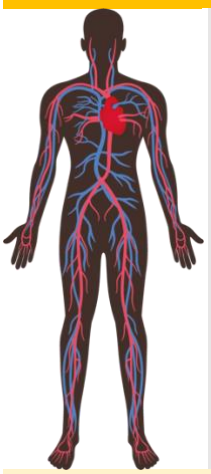
Communication and Integration: Systems most responsible for maintaining _____.

Nervous System	Endocrine System
 Brain Spinal cord Nerves	 Pineal gland Hypothalamus Pituitary gland Thyroid gland Thymus gland Adrenal gland Pancreas Ovaries/Testes
■ _____ communication and integration using electrical signals	■ _____ body coordination, using chemical messengers (hormones)

Transport and Immunity:

Circulatory System (Cardiovascular System)	Lymphatic System & Immune System
 Heart Arteries Capillaries Veins Blood	 Lymphatic Vessels Lymph Nodes Tonsils Thymus Spleen
■ _____ materials through the body.	■ Transport _____ and provide immunity.

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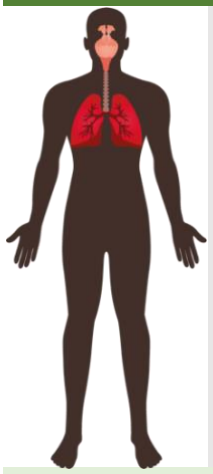
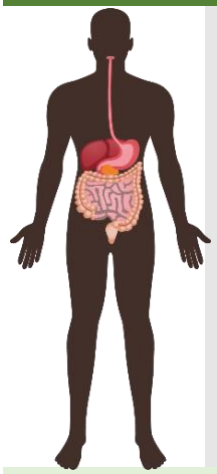
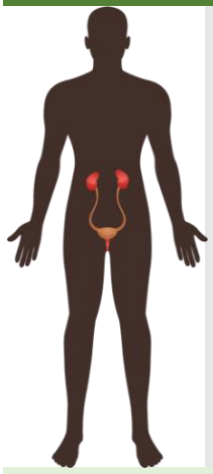
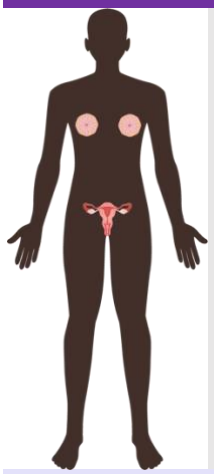
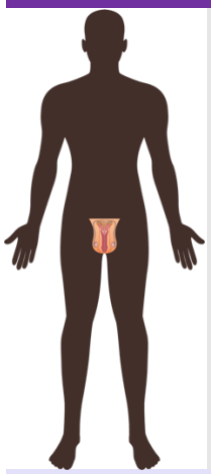
Gas, Nutrient, and Waste Exchange: exchange material between outside the body and the _____.

Respiratory System	Digestive System	Urinary System
 Nasal Cavity Pharynx Larynx Trachea Lungs	 Mouth Esophagus Stomach Small Intestine Large Intestine Liver Pancreas Gall Bladder	 Kidneys Ureters Bladder Urethra
■ Exchange gases (_____&_____)	■ Obtain _____ & _____ from food.	■ Remove _____ & excess _____ from blood.

Reproduction: produce _____.

Female Reproductive System	Male Reproductive System
 Mammary glands Ovaries Uterine Tubes Uterus Vagina	 Testes Ductus Deferens Prostate Gland Penis
■ Produce _____, receive sperm, support fetal development.	■ Produce and deliver _____.

TOPIC: INTRODUCTION TO ORGAN SYSTEMS:

PRACTICE: The digestive and respiratory systems are both responsible for taking in useful molecules into the body. When taken in by these systems, where do the molecules go first?

a) The muscular system.
b) The cardiovascular system.
c) The endocrine system.
d) The urinary system.

PRACTICE: Which system is the least responsible for keeping you alive on a day-to-day basis?

a) The reproductive system.
b) The cardiovascular system.
c) The digestive system.
d) The endocrine system.

PRACTICE: Distinguish between the endocrine system and the nervous system.

a) The nervous system sends messages using chemical signals, while the endocrine system uses electric signals.
b) The endocrine system's communication mechanisms tend to work more slowly than the nervous system.
c) The endocrine system uses direct point-to-point communication; the nervous system sends whole-body messages.
d) Both the systems use hormones, but hormones from the endocrine system enter the blood.

PRACTICE: Which two systems allow materials to move from one region of the body to another?

a) Endocrine and cardiovascular.
b) Respiratory and digestive.
c) Digestive and integumentary.
d) Circulatory and lymphatic.

PRACTICE: Which organ systems directly allow waste materials to be passed out of the body?

a) Respiratory and endocrine.
b) Circulatory and digestive.
c) Urinary and respiratory.
d) Circulatory and lymphatic.

PRACTICE: Of all your systems, the integumentary, respiratory, and digestive most regularly experience infection from microorganisms. Which answer best describes why that may be the case?

a) All three systems are in regular contact with substances from outside the body that may contain bacteria.
b) All three systems are closely linked to the immune system, meaning they protect against microorganisms.
c) All three systems have limited blood supply, meaning the body has difficulty fighting infection in those places.
d) All three systems function to transfer materials from outside of the body to inside the body, giving microorganisms and entry point.