

Directional Terms, Planes, and Sections

3. Define *plane*. When the section is made through the body wall or organ, it is made along an imaginary surface.
4. Several incomplete statements appear below. Correctly complete each statement by choosing the appropriate anatomical term from the choices. Use each term only once.

anterior	inferior	posterior	superior
distal	lateral	proximal	transverse
frontal	medial	sagittal	

- The thoracic cavity is superior to the abdominopelvic cavity.
 - The trachea (windpipe) is anterior to the vertebral column.
 - The wrist is proximal to the hand.
 - If an incision cuts the heart into left and right parts, a sagittal plane of section was used.
 - The nose is medial to the cheekbones.
 - The thumb is lateral to the ring finger.
 - The vertebral cavity is posterior to the cranial cavity.
 - The knee is inferior to the thigh.
 - The plane that separates the head from the neck is the transverse plane.
 - The popliteal region is distal to the patellar region.
 - The plane that separates the anterior body surface from the posterior body surface is the frontal plane.
5. Correctly identify each of the body planes by writing the appropriate term on the answer line below the drawing.

(a) frontal(b) median(c) transverse

Body Cavities

- Name the muscle that subdivides the ventral body cavity. diaphragm
- Which body cavity provides the least protection to its internal structures? ventral cavity
- For the body cavities listed, name one organ located in each cavity.

1. cranial cavity brain

2. vertebral cavity spine

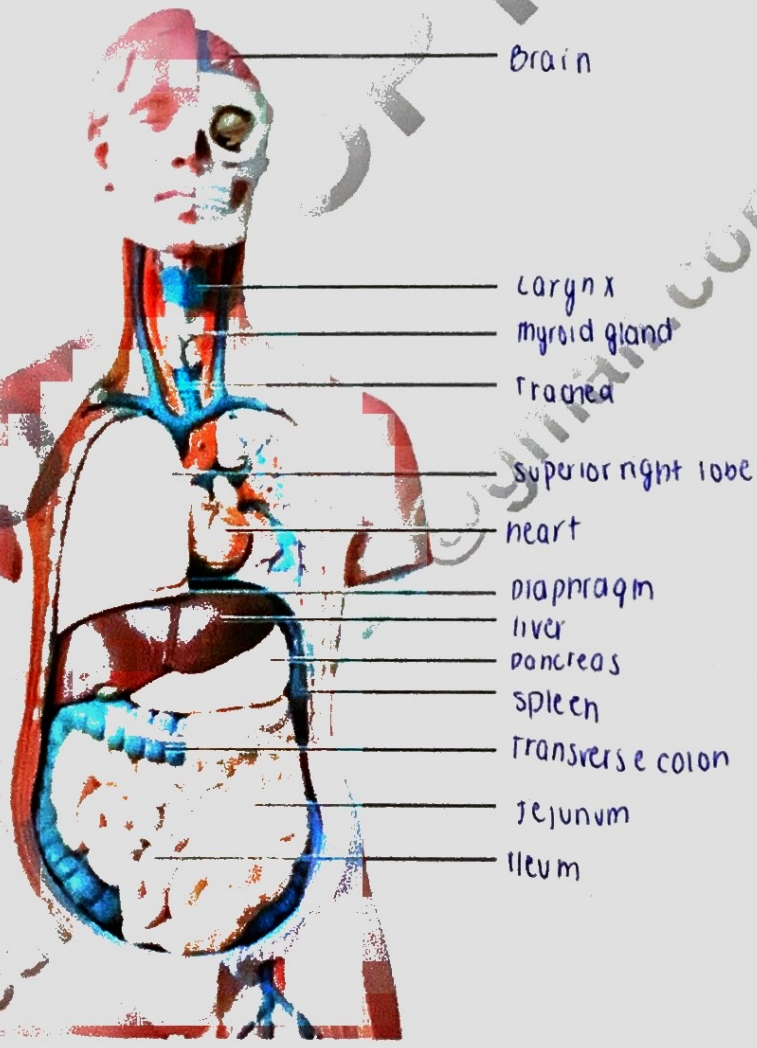
3. thoracic cavity heart
4. abdominal cavity stomach
5. pelvic cavity urinary bladder
6. mediastinum heart
9. Name the abdominopelvic region where each of the listed organs is located.
1. spleen left hypochondriac region
 2. urinary bladder hypogastric region
 3. stomach (largest portion) epigastric region
 4. cecum right inguinal region
10. Explain how serous membranes protect organs from infection. they produce a thin lubricating fluid that allows the visceral organs to slide over on another or to rub against the body wall with minimal friction
11. Which serous membrane(s) is/are found in the thoracic cavity?
pleura - visceral pleura - parietal pleura
12. Which serous membrane(s) is/are found in the abdominopelvic cavity?
peritoneum
13. Using the key choices, identify the small body cavities described below.
- Key: a. ~~middle ear cavity~~ e. ~~oral cavity~~ e. ~~synovial cavity~~
b. ~~nasal cavity~~ d. ~~orbital cavity~~
- orbital cavity holds the eyes in an anterior-facing position oral cavity 4. contains the tongue
- middle ear cavity 2. houses three tiny bones involved in hearing synovial cavity 5. surrounds a joint
- nasal cavity 3. contained within the nose
14. Name the body region that blood is usually drawn from. antecubital
15. A patient has been diagnosed with appendicitis. Use anatomical terminology to describe the location of the person's pain. Assume that the pain is referred to the surface of the body above the organ. right inguinal region
16. Which body cavity would be opened to perform a hysterectomy? pelvic cavity
17. Which smaller body cavity would be opened to perform a total knee joint replacement? synovial
18. An abdominal hernia results when weakened muscles allow the protrusion of abdominal structures. In the case of an umbilical hernia, parts of a serous membrane and the small intestine form the bulge. Which serous membrane is involved?
peritoneum

REVIEW SHEET

EXERCISE Organ Systems Overview

Name Sahesha Walters Lab Time/Date _____

1. Label each of the organs at the end of the supplied leader lines.



2. Name the organ system to which each of the following sets of organs or body structures belongs.

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|------------------------|--------------------------------------|----------------------------|--|
| <u>lymphatic</u> _____ | 1. thymus, spleen, lymphatic vessels | <u>integumentary</u> _____ | 5. epidermis, dermis, cutaneous sense organs |
| <u>skeletal</u> _____ | 2. bones, cartilages, tendons | <u>urinary</u> _____ | 6. testis, prostate |
| <u>endocrine</u> _____ | 3. pancreas, pituitary gland | <u>digestive</u> _____ | 7. liver, large intestine, rectum |

respiratory 4. trachea, bronchi, lungs

urinary 8. kidneys, ureter, urethra

3. Name the cells that are produced by the testes and ovaries. gametes
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4. List the four primary tissue types. muscle, connective, epithelial, skeletal
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5. Explain why an artery is an organ. since organs are a collective of tissues joined together to serve a common function an artery would be an organ because its made up of several types of tissues.
6. Name the two main organ systems that communicate within the body to maintain homeostasis. Briefly explain their different control mechanisms. the nervous system has receptors that receives signals from the environment and converts them to electrical impulse in nerve cells, it travels to the brain, where the brain analyses the information and stimulates the relevant gland in the endocrine system
7. Explain the role that the skeletal system plays in facilitating cardiovascular system function. skeletal systems provide strength and protection for the heart and produces essential blood cells.
8. Untreated diabetes mellitus can lead to a condition in which the blood is more acidic than normal. Name two organ systems that play the largest role in compensating for acid-base imbalances. respiratory and urinary.
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9. The mother of a child scheduled to receive a thymectomy (removal of the thymus gland) asks you whether there will be any side effects from the removal of the gland. Which two organ systems would you mention in your explanation? lymphatic and endocrine
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10. Individuals with asplenia are missing their spleen or have a spleen that doesn't function well. It is recommended that these patients talk to their doctor about vaccines that are indicated for their health condition. Explain how this recommendation correlates to their chronic health condition. Individuals with asplenia have a decreased or absent splenic filtration system and a decreased amount of antibody, placing them at risk for infection.