

Sharyland ISD Study Guide

Anatomy & Physiology Semester 1



Student Name: _____
Student ID: _____

Anatomy & Physiology CBE Pt.1 - STUDY GUIDE

1. Understand the process of the Scientific Method, study anatomical terminology, anatomical planes, and the anatomical regions of the body.
2. Understand the levels of organization from the cellular level to the organism level.
3. Recall the different typical cellular structures and their functions, paying special attention to the four biomolecules, cellular replication, and energy metabolism.
4. Be able to distinguish the structures and functions of the various tissues of the body, which include the nerve, epithelial, connective, and muscle tissues, and where they can be found throughout the body.
5. Understand the structure and function of the Integument System, including various epithelial layers, membranes, specialized cells, and accessory components.
6. Understand the structure and function of the Skeletal System, including types of bones, joints, bone development, and bones of the axial and appendicular skeleton.
7. Study the structure and function of the Nervous System, such as the different neural pathways, types of nerve cells, impulse transmission, and regions of the brain and spinal cord.
8. Be able to understand and differentiate between the special senses such as touch, olfactory (smell & taste), auditory, and vision, while paying attention to the structure and function of each.
9. Know the structure and function of blood, the various types of blood cells, their life span, and how the internal and external environment may affect the physiology of blood.
10. Understand the structure and function of the circulatory system, which includes the heart, arteries, and veins, while paying attention to how pulse and heart rate can be detected.

REVIEW Anatomy & Physiology CBE Pt.1

Matching

Match the following terms and identifying phrases.

- | | |
|-------------------|----------------|
| A. base pairs | K. cartilage |
| B. peptide bond | L. glucose |
| C. triglyceride | M. nucleotides |
| D. microvilli | N. lumen |
| E. histology | O. lipids |
| F. osseous tissue | P. glycogen |
| G. nucleic acid | Q. codon |
| H. amino acid | R. enzyme |
| I. ribosomes | S. cilia |
| J. polymer | T. fatty acid |

- _____ 1. Subunits that make up nucleic acids.
- _____ 2. The building block of a protein.
- _____ 3. Proteins that speed up a specific biological reaction.
- _____ 4. Fats and oils.
- _____ 5. Pairs of complementary nucleic acid bases.
- _____ 6. Key information-carrying molecules in cells.
- _____ 7. Set of three bases of DNA that specifies one amino acid in a protein.
- _____ 8. Very large enzymes that make polypeptides.
- _____ 9. Finger-like extensions that increase the surface area of a cell.
- _____ 10. Hair-like projections that actively flex to move mucus across the cell's exterior.

Match the following terms and identifying phrases.

- | | |
|------------------------|-------------------------|
| A. serous membranes | K. pleura |
| B. keratin | L. tinea |
| C. pericardium | M. melanocytes |
| D. sebaceous glands | N. psoriasis |
| E. keratinocytes | O. cutaneous membrane |
| F. mucous membranes | P. papillary layer |
| G. melanin | Q. pleurisy |
| H. sudoriferous glands | R. epithelial membranes |
| I. peritonitis | S. Merkel cells |
| J. peritoneum | T. sebum |

- _____ 11. Membrane that encloses the lungs.
- _____ 12. Membrane lining the body cavities that are closed to the outside world.
- _____ 13. Membrane lining the internal and external surfaces of the body.

Name: _____

ID: A

- ___ 14. Skin.
- ___ 15. The membrane that lines the abdominal cavity.
- ___ 16. Oily substance that helps to keep the skin and hair soft.
- ___ 17. The pigment that protects the cells from UV ray damage.
- ___ 18. The tough protein found in skin, hair and nails.
- ___ 19. Touch receptors in the skin.
- ___ 20. Glands that produce sebum.

Match the following terms and identifying phrases.

- | | |
|---------------------|-------------------------|
| A. osteocytes | K. lacunae |
| B. osteoblasts | L. intervertebral discs |
| C. hematopoiesis | M. axis |
| D. osteon | N. scapula |
| E. atlas | O. diaphysis |
| F. periosteum | P. patella |
| G. carpal bones | Q. femur |
| H. epiphysis | R. osteoclasts |
| I. bursae | S. fontanel |
| J. medullary cavity | T. sternum |

- ___ 21. The bulbous end of a long bone.
- ___ 22. The hollow shaft of a long bone.
- ___ 23. Mature bone cells.
- ___ 24. A Haversian system.
- ___ 25. Specialized bone cells that resorb bone tissue.
- ___ 26. Central hollow space inside most long bones.
- ___ 27. The process of blood cell formation.
- ___ 28. Tiny cavities laid out in concentric circles around the Haversian canals.
- ___ 29. Fibrous connective tissue membrane that surrounds and protects the shaft of long bones.
- ___ 30. The breastbone.

Match the following terms and identifying phrases.

- | | |
|----------------------|--------------------|
| A. cones | K. cornea |
| B. cochlea | L. septum |
| C. humors | M. choroid |
| D. rods | N. olfactory hairs |
| E. ossicles | O. iris |
| F. vestibule | P. anvil |
| G. retina | Q. conjunctiva |
| H. tympanic membrane | R. Eustachian tube |
| I. gustatory cells | S. lens |
| J. pupil | T. endolymph |

- ___ 31. Structure that gives the eye its color.
- ___ 32. Sensory cells in the retina that provide color vision.
- ___ 33. The transparent tissue over the anterior center of the eye.
- ___ 34. The innermost layer of eye, which is sensitive to light.
- ___ 35. Watery fluids that help the eyeball maintain its shape.
- ___ 36. Membrane that covers the exposed eyeball and lines the eyelid.
- ___ 37. The smallest bones in the body, which transmit and amplify sound waves.
- ___ 38. The eardrum.
- ___ 39. The thick fluid inside the membranous labyrinth.
- ___ 40. Channel connecting the middle ear to pharynx.

Match the following terms and identifying phrases.

- | | |
|----------------------|------------------|
| A. erythropoiesis | K. hemolysis |
| B. formed elements | L. type AB blood |
| C. type O blood | M. platelets |
| D. fibrin | N. phlebotomy |
| E. agglutination | O. erythrocytes |
| F. hemoglobin | P. plasma |
| G. RhoGAM | Q. antigens |
| H. white blood cells | R. antibodies |
| I. Rh negative | S. buffy coat |
| J. hematocrit | T. hemophilia |

- ___ 41. Weaves around the platelet plug to form a blood clot.
- ___ 42. Rupture of red blood cells.
- ___ 43. The process by which red blood cells are produced.
- ___ 44. Thin layer of white blood cells and platelets.
- ___ 45. Part of the formed elements that plays a role in blood clotting.
- ___ 46. The liquid component of blood.

- ___ 47. The “workhorse” of the red blood cells.
- ___ 48. The solid components of blood.
- ___ 49. Fight infections and protect the body.
- ___ 50. The proportion of total blood volume that is composed of red blood cells.

Match the following terms and identifying phrases.

- | | |
|----------------------------|---------------------|
| A. vasodilation | K. diastole |
| B. epicardium | L. bradycardia |
| C. systole | M. capillaries |
| D. endocardium | N. vasoconstriction |
| E. interventricular septum | O. vital signs |
| F. atrioventricular valves | P. myocardium |
| G. baroreceptors | Q. arterioles |
| H. veins | R. mitral valve |
| I. tachycardia | S. arteries |
| J. venules | T. arrhythmia |

- ___ 51. A period of relaxation in the heart.
- ___ 52. A period of contraction in the heart.
- ___ 53. Bicuspid valve.
- ___ 54. Widening of blood vessels to increase blood flow.
- ___ 55. Narrowing of blood vessels to decrease blood flow.
- ___ 56. Outermost layer of the heart.
- ___ 57. Innermost layer of the heart.
- ___ 58. Wall that divides ventricles.
- ___ 59. Abnormal heartbeat or rhythm.
- ___ 60. Fast heart beat.

Match the following terms and identifying phrases.

- | | |
|-----------------------------|---------------------------|
| A. neurilemma | K. plexuses |
| B. myelin sheath | L. nodes of Ranvier |
| C. reflexes | M. meninges |
| D. salutatory conduction | N. cerebrum |
| E. cell body | O. conductivity |
| F. cerebellum | P. midbrain |
| G. spinal nerves | Q. central nervous system |
| H. autonomic nervous system | R. synapse |
| I. epineurium | S. fissures |
| J. nerve impulse | T. pons |

- ___ 61. Part of an axon that includes a nucleus and mitochondria.
- ___ 62. The fatty bands of insulation surrounding axon fibers.

- ___ 63. Uninsulated gaps in the myelin sheath.
- ___ 64. The brain and spinal cord.
- ___ 65. Controls cardiac muscle and smooth muscles of the internal organs.
- ___ 66. The external covering of a Schwann cell.
- ___ 67. Intersection between two neurons.
- ___ 68. The rapid skipping of an action potential from node to node on myelinated neurons.
- ___ 69. The ability of a neuron to transmit a nerve impulse.
- ___ 70. Electrical charge that travels along a nerve fiber when stimulated.

Match the following terms and identifying phrases.

- | | |
|--------------------------|----------------------|
| A. transverse plane | K. data |
| B. physiology | L. anabolism |
| C. cells | M. frontal plane |
| D. pelvic cavity | N. metabolism |
| E. tissue | O. homeostasis |
| F. anatomy | P. thoracic cavity |
| G. organ system | Q. science |
| H. cranial cavity | R. sagittal plane |
| I. homeostatic imbalance | S. orbital cavities |
| J. anatomical position | T. negative feedback |

- ___ 71. The study of the form or structure of all living things.
- ___ 72. The study of how living things function or work.
- ___ 73. Divides the body into right and left halves.
- ___ 74. Divides the body into front and back halves.
- ___ 75. Body position that serves as a “starting point” for describing body positions and directions.
- ___ 76. Divides the body into top and bottom halves.
- ___ 77. Body cavity that holds the brain.
- ___ 78. Body cavity that houses the heart and lungs.
- ___ 79. Body cavity that holds the reproductive and excretory organs.
- ___ 80. Body cavities that holds the eyes.

**REVIEW Anatomy & Physiology CBE Pt.1
Answer Section****MATCHING**

- | | |
|------------|--------|
| 1. ANS: M | PTS: 1 |
| 2. ANS: H | PTS: 1 |
| 3. ANS: R | PTS: 1 |
| 4. ANS: O | PTS: 1 |
| 5. ANS: A | PTS: 1 |
| 6. ANS: G | PTS: 1 |
| 7. ANS: Q | PTS: 1 |
| 8. ANS: I | PTS: 1 |
| 9. ANS: D | PTS: 1 |
| 10. ANS: S | PTS: 1 |
| 11. ANS: K | PTS: 1 |
| 12. ANS: A | PTS: 1 |
| 13. ANS: R | PTS: 1 |
| 14. ANS: O | PTS: 1 |
| 15. ANS: J | PTS: 1 |
| 16. ANS: T | PTS: 1 |
| 17. ANS: G | PTS: 1 |
| 18. ANS: B | PTS: 1 |
| 19. ANS: S | PTS: 1 |
| 20. ANS: D | PTS: 1 |
| 21. ANS: H | PTS: 1 |
| 22. ANS: O | PTS: 1 |
| 23. ANS: A | PTS: 1 |
| 24. ANS: D | PTS: 1 |
| 25. ANS: R | PTS: 1 |
| 26. ANS: J | PTS: 1 |
| 27. ANS: C | PTS: 1 |
| 28. ANS: K | PTS: 1 |
| 29. ANS: F | PTS: 1 |
| 30. ANS: T | PTS: 1 |
| 31. ANS: O | PTS: 1 |
| 32. ANS: A | PTS: 1 |
| 33. ANS: K | PTS: 1 |
| 34. ANS: G | PTS: 1 |
| 35. ANS: C | PTS: 1 |
| 36. ANS: Q | PTS: 1 |
| 37. ANS: E | PTS: 1 |
| 38. ANS: H | PTS: 1 |

39. ANS: T PTS: 1
40. ANS: R PTS: 1
41. ANS: D PTS: 1
42. ANS: K PTS: 1
43. ANS: A PTS: 1
44. ANS: S PTS: 1
45. ANS: M PTS: 1
46. ANS: P PTS: 1
47. ANS: F PTS: 1
48. ANS: B PTS: 1
49. ANS: H PTS: 1
50. ANS: J PTS: 1
51. ANS: K PTS: 1
52. ANS: C PTS: 1
53. ANS: R PTS: 1
54. ANS: A PTS: 1
55. ANS: N PTS: 1
56. ANS: B PTS: 1
57. ANS: D PTS: 1
58. ANS: E PTS: 1
59. ANS: T PTS: 1
60. ANS: I PTS: 1
61. ANS: E PTS: 1
62. ANS: B PTS: 1
63. ANS: L PTS: 1
64. ANS: Q PTS: 1
65. ANS: H PTS: 1
66. ANS: A PTS: 1
67. ANS: R PTS: 1
68. ANS: D PTS: 1
69. ANS: O PTS: 1
70. ANS: J PTS: 1
71. ANS: F PTS: 1
72. ANS: B PTS: 1
73. ANS: R PTS: 1
74. ANS: M PTS: 1
75. ANS: J PTS: 1
76. ANS: A PTS: 1
77. ANS: H PTS: 1
78. ANS: P PTS: 1
79. ANS: D PTS: 1
80. ANS: S PTS: 1

O 14.
J 15.
T 16.
G 17.
B 18.
S 19.
D 20.

F 47.
B 48.
H 49.
J 50.

L 63.
Q 64.
H 65.
A 66.
R 67.
D 68.
O 69.
J 70.

O 31.
A 32.
K 33.
G 34.
C 35.
Q 36.
E 37.
H 38.
T 39.
R 40.

K 51.
C 52.
R 53.
A 54.
N 55.
B 56.
D 57.
E 58.
T 59.
I 60.

F 71.
B 72.
R 73.
M 74.
J 75.
A 76.
H 77.
P 78.
D 79.
S 80.

M 1.
H 2.
R 3.
O 4.
A 5.
G 6.
Q 7.
I 8.
D 9.
S 10.

H 21.
O 22.
A 23.
D 24.
R 25.
J 26.
C 27.
K 28.
F 29.
T 30.

D 41.
K 42.
A 43.
S 44.
M 45.
P 46.

K 11.
A 12.
R 13.

E 61.
B 62.