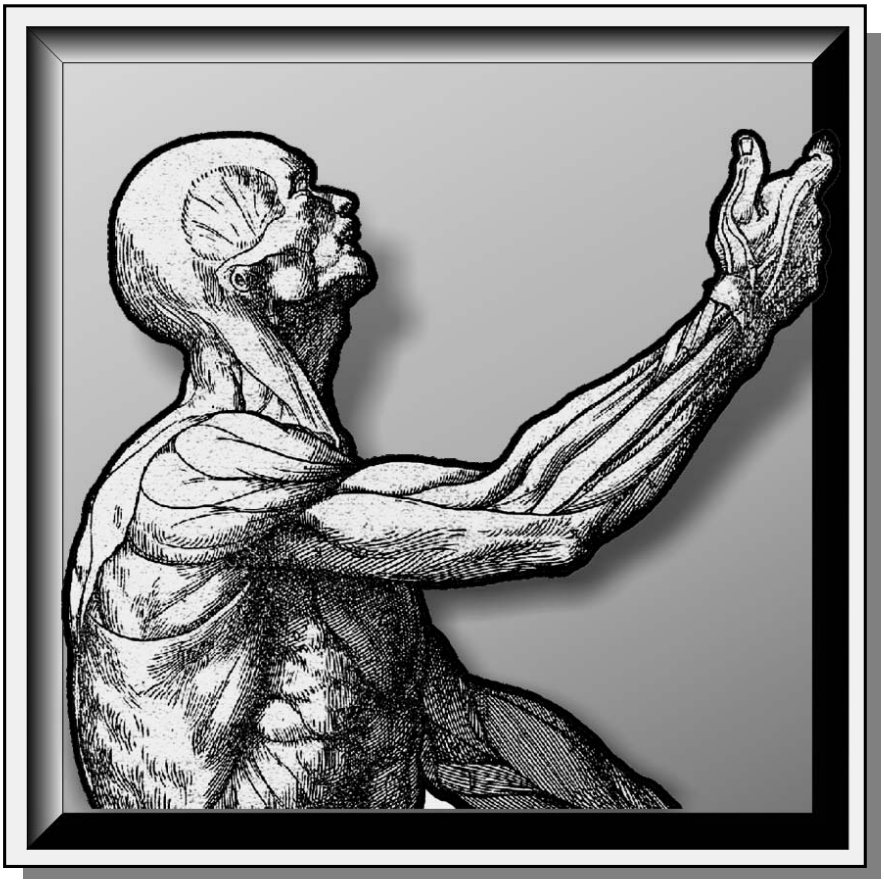
Precepts of Anatomy & Physiology

ACTIVITIES



Chapter 2

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Precepts of Anatomy & Physiology

Chapter 2, Activities

Publishers
Gene Hood, LL.D.
Ronald E. Johnson, C.Ph.D.

Managing Editor
Ronald E. Johnson, C.Ph.D.

Technical Writer
Mary Ames

Editors
Nancy S. Johnson
Minde H. Tapp

Production
Jeff Carr
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Graphics
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H. Michael Young

Quality Assurance
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THE HUMAN BODY: THE CIRCULATORY SYSTEM— INTRODUCTION

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The main circulatory system consists of the heart and: _____.
   (a) lymph vessels (c) lung alveoli
   (b) blood vessels (d) chest muscles

2. The circulatory system delivers _____ to peripheral tissues while removing _____.

3. The human heart has _____ chambers with _____ valves.

4. In an open circulatory system: _____.
   (a) blood flows into short vessels that empty into body cavities
   (b) blood flows directly over all the cells of various cavities
   (c) the heart pumps blood from the upper body
   (d) all of the above

5. Humans and other vertebrates have _____ circulatory systems.

6. How many miles of blood vessels does your body have? _____

7. A blood vessel that carries blood from the heart to the body is called a(n): _____.
   (a) artery (b) capillary (c) vein (d) none of these

8. The lining of an ***artery*** contains which of the following? _____
   (a) thin rigid walls (c) skeletal muscle cells
   (b) smooth muscle cells (d) cardiac muscle cells

9. Arteries that branch into smaller vessels, are called _____.

10. The largest artery in the body that brings oxygen-rich blood from the left ventricle to the rest of the body is called the: _____.
    (a) upper vena cava (c) aorta
    (b) pulmonary artery (d) lower vena cava

11. The artery that leaves the right ventricle, then branches into two arteries to take oxygen-poor blood to the lungs is called the: _____.
    (a) upper vena cava (c) aorta
    (b) pulmonary artery (d) lower vena cava

12. The small vessels in which the exchange of nutrients and wastes takes place are called: _____.
    (a) arteries (c) veins
    (b) capillaries (d) none of these

13. Some ***capillaries*** are a mere _____ cell(s) wide.
(a) one (b) two (c) three (d) four

14. Your body has about _____ capillaries that carry blood to every cell.

15. A vessel into which capillaries converge and that empty into veins are called: _____.
(a) arterioles (b) venules (c) arteries (d) synapses

16. Vessels that return blood to the heart are called: _____.
(a) arteries (b) capillaries (c) veins (d) none of these

17. Veins have small _____ that open to allow blood to pass through and close to prevent it from flowing backwards.

18. Contraction of skeletal muscles help to push blood through veins to the heart. _____
(a) True or (b) False

19. The walls of veins are _____ and less _____ than those of arteries.

20. _____ major veins feed blood into the heart. (a) Two (b) Three (c) Four (d) Five

21. The large vein that brings oxygen-poor blood from the upper part of the body to the right atrium is called the: _____.
(a) upper vena cava (c) lower vena cava
(b) aortic vein (d) pulmonary vein

22. The large vein that brings oxygen-poor blood from the lower part of the body to the right atrium is called the: _____.
(a) upper vena cava (c) lower vena cava
(b) aortic vein (d) pulmonary vein

23. The two vessels that bring oxygen-rich blood from each of the lungs to the left atrium are called the _____.

24. The force exerted by blood against the walls of arteries is called _____ _____.

25. ***Blood pressure*** is regulated by autonomic nerve signals that cause _____ _____ around the vessels to relax or contract.
(a) skeletal muscles (c) smooth muscles
(b) cardiac muscles (d) striated muscles

26. The kidneys help to regulate blood pressure by: _____.
(a) producing hormones (c) lowering the metabolic rate
(b) removing water from blood (d) adding salts to the blood

27. Obesity can cause high blood pressure. _____ (a) True or (b) False

28. List three ways from your text to prevent high blood pressure: _____, _____, _____

29. The lymph system is pressurized by the heart. _____ (a) True or (b) False

30. Blood plasma contains neither red nor white blood cells. _____
(a) True or (b) False

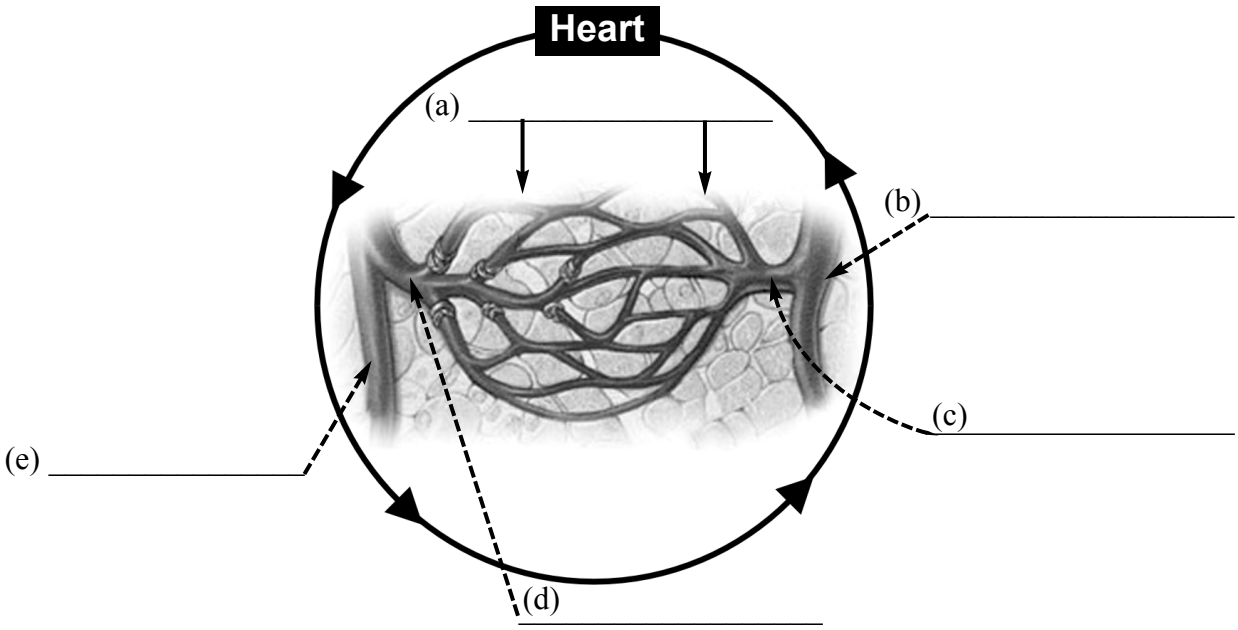
31. Lymph carries food, water and oxygen to the cells of the body. _____
(a) True or (b) False

32. Which of the following is a function of the body's lymph nodes? _____
_____.

(a) They filter lymph fluid, removing bacteria.
(b) They carry blood to the body's vital organs.
(c) They produce proteins and carbohydrates.
(d) They transfer food, water and oxygen to blood.

33. Swollen lymph nodes indicate a body _____.

34. Label the various blood vessel parts.



35. Write the **Life Principle**: "_____
_____
_____."





HUMAN BODY: THE CIRCULATORY SYSTEM— THE HEART

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters*** es***or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

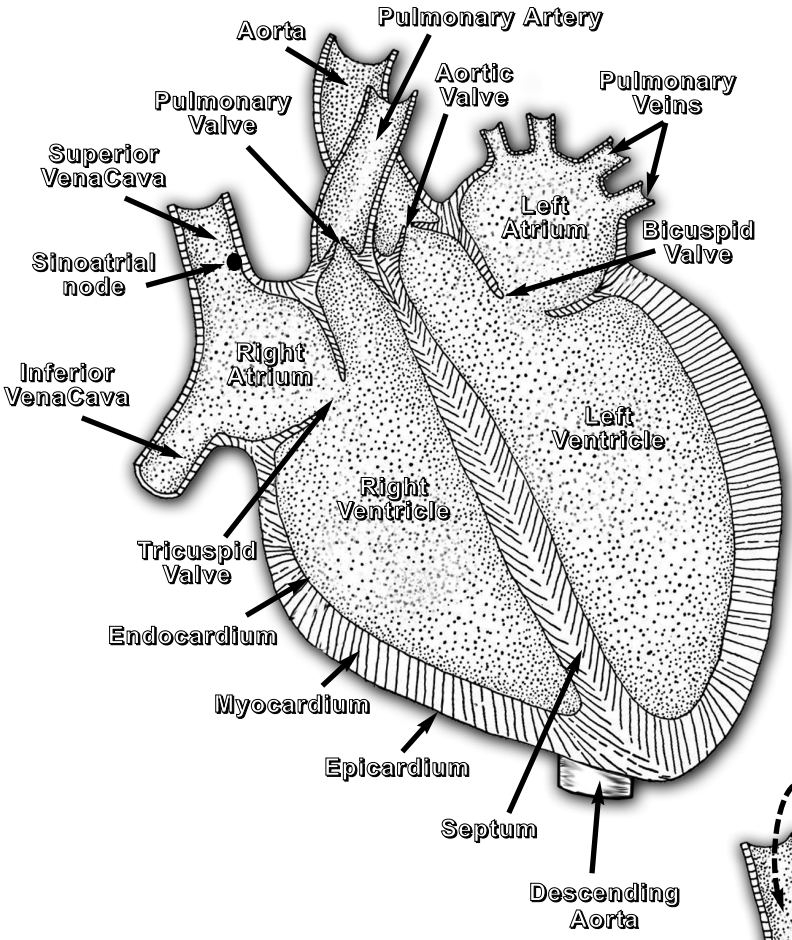
1. With every heartbeat, your blood travels the equivalent of two and a half times around the world. _____ (a) True or (b) False
2. Heart muscles have more _____ than any other body tissues.
3. The ratio of oxygen use by the heart, compared with most body tissues, is about _____.
   (a) 4/1 (b) 25/80 (c) 2/3 (d) 100,000/2,000
4. The presence of a heart is necessary for an organism to be classified as even a simple animal. _____ (a) True or (b) False
5. The upper chamber of the heart that receives the blood is called the: _____.
   (a) ventricle (b) septum (c) atrium (d) aorta
6. The lower chamber of the heart that pumps blood out of the heart is the: _____.
   (a) ventricle (b) septum (c) atrium (d) aorta
7. The thick wall that divides the left and right sections of the heart is called the: _____.
   (a) ventricle (b) septum (c) atrium (d) aorta
8. Which of the following layers of the heart is responsible for pumping blood? _____
   (a) pericardium (c) endocardium
   (b) myocardium (d) none of these
9. ***Pulmonary circulation*** referes to the pathway of blood vessels on the right side of the heart that carries blood between the: _____
   (a) head and heart (c) heart and upper extremities
   (b) heart and lungs (d) heart and lower extremities
10. When oxygen-poor blood is pumped through the lungs, it gives off _____ and picks up _____.
    (a) oxygen; carbon dioxide (c) carbon dioxide; oxygen
    (d) oxygen; carbon monoxide (d) carbon dioxide; carbon monoxide
11. ***Systemic circulation*** refers to the pathway of blood vessels on the left side of the heart that supplies the body with oxygen-_____ blood and returns oxygen-_____ blood to the heart.
12. When oxygen-rich blood is pumped to the body tissues, it gives off _____ and picks up _____.
    (a) oxygen; carbon dioxide (c) carbon dioxide; oxygen
    (b) oxygen; carbon monoxide (d) carbon dioxide; carbon monoxide

13. Your heart is about the size of your _____.

14. Right and left ***atria*** are the blood-_____ chambers of the heart.

15. Right and left ***ventricles*** are the blood-_____ heart chambers.

Use the figures below to answer questions #16-22.



16. Which of the following valves regulates the flow of blood between the right atrium and right ventricle?

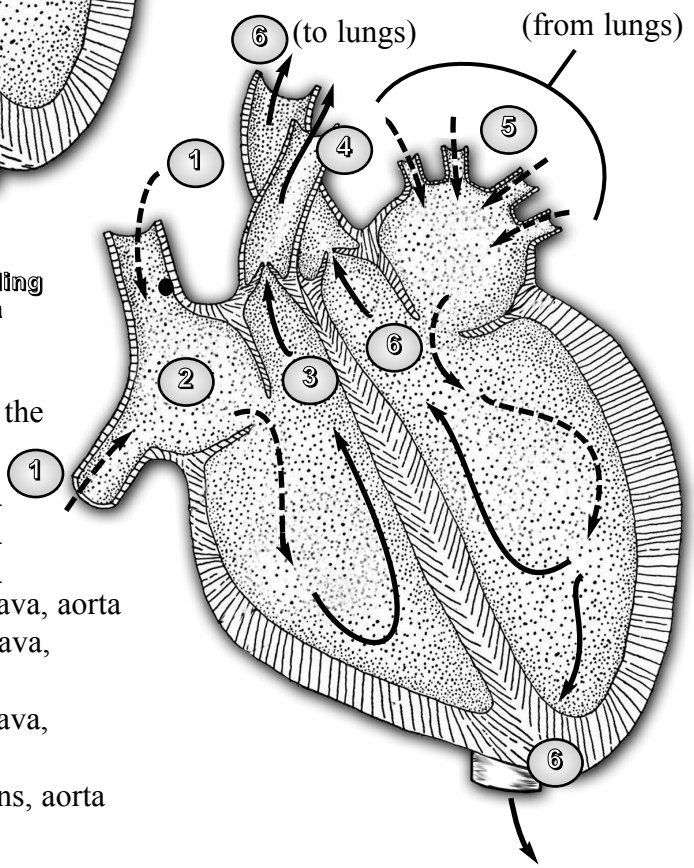
_____

(a) pulmonary valve
(c) aortic valve
(b) bicuspid valve
(d) tricuspid valve

17. Which of the following carries oxygen-poor blood?

_____

(a) aorta
(b) pulmonary artery
(c) pulmonary vein
(d) descending aorta



18. Which of the following vessels lead into the heart's atria?

_____

_____

_____

(a) superior vena cava, inferior vena cava, aorta
(b) superior vena cava, inferior vena cava, pulmonary veins
(c) superior vena cava, inferior vena cava, pulmonary arteries
(d) superior vena cava, pulmonary veins, aorta

19. Which direction does blood flow in the heart? _____
    (a) from atrium to ventricle (c) from ventricle to atrium
    (b) from atrium to atrium (d) from ventricle to ventricle

20. The only vein that carries oxygen-rich blood is the: _____.
    (a) superior vena cava (c) pulmonary vein
    (b) inferior vena cava (d) none of these

21. The _____ prevents blood from flowing back into the left ventricle after it enters the aorta.
    (a) bicuspid valve (c) pulmonary valve
    (b) aortic valve (d) tricuspid valve

22. Which of the following represents the correct order of blood flow throughout the circulatory system? _____
    _____
    _____
    (a) superior vena cava, right atrium, right ventricle, pulmonary artery, lung, pulmonary vein, left atrium, left ventricle, aorta
    (b) superior vena cava, left atrium, left ventricle, pulmonary artery, lung, pulmonary vein, right atrium, right ventricle, aorta
    (c) superior vena cava, right atrium, right ventricle, pulmonary vein, lung, pulmonary artery, left atrium, left ventricle, aorta
    (d) pulmonary artery, right ventricle, right atrium superior vena cava, lungs, pulmonary vein, left atrium, left ventricle, aorta

23. All cells of the heart contract in unison. _____ (a) True or (b) False

24. The _____ is also known as the ***sinoatrial node*** and regulates the heartbeat.

25. The sinoatrial node is controlled by the: _____.
    (a) brainstem (c) cerebrum
    (b) medulla oblongata (d) cerebellum

26. Scientists have a thorough understanding of the mechanism of pacemaker stimulation.
    _____ (a) True or (b) False

27. Write the **Life Principle**: "_____
    _____."





THE HUMAN BODY
THE CIRCULATORY SYSTEM—
THE BLOOD

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

Matching Overview:

1. _____ ***red blood cells*** (a) cell fragments in the blood that aid in clotting
2. _____ ***white blood cells*** (b) blood cells that contains hemoglobin
3. _____ ***platelets*** (c) fluid part of the blood
4. _____ ***plasma*** (d) blood cells that fight infection

5. Living cells constitute what percentage of total blood volume? _____
   (a) 55% (b) 50% (c) 45% (d) 40%

6. Plasma is mostly: _____.
   (a) water (b) protein (c) minerals (d) sugars

7. _____ are proteins that help to regulate osmotic pressure.
   (a) globulins (b) albumins (c) fibrinogens (d) platelets

8. _____ are produced by the immune system to help protect against infection.
   (a) globulins (b) albumins (c) fibrinogens (d) platelets

9. _____ regulate blood clotting.
   (a) globulins (b) albumins (c) fibrinogens (d) platelets

10. The scientific name for a red blood cell is: _____.
    (a) lymphocyte (b) erythrocyte (c) leukocyte (d) enterocyte

11. The iron-containing protein found in red blood cells that helps to transport oxygen is called _____.

12. Red blood cells are produced in the: _____.
    (a) liver sinuses (b) kidney tubules (c) bone marrow (d) pancreatic islets

13. As a red blood cell develops, it gains a nucleus and the ability to divide. _____
    (a) True or (b) False

14. The shape of a normal red blood cell is _____.
    (a) concave (b) convex (c) biconcave (d) biconvex

15. The shape of an erythrocyte is functional regarding: _____.
    (a) efficient oxygen diffusion (c) elasticity (b) flexibility (d) all of these

16. White blood cells do not contain ***hemoglobin***. _____ (a) True or (b) False

17. The most common white blood cells are: _____.
(a) eosinophils (b) neutrophils (c) basophils (d) lymphocytes

18. _____ produce antibodies that fight against infection.
(a) eosinophils (b) neutrophils (c) basophils (d) lymphocytes

19. The cascade of reactions that restores a wound results in the formation of _____ that forms a netlike covering over the wound and traps the red blood cells.

20. A condition in which fatty deposits build up on the inner surfaces of arteries, obstructing the flow of blood is called _____.

21. Blockage of the coronary arteries results in a _____.
(a) heart attack (b) stroke (c) contusion (d) diabetic retinopathy

22. Blockage of blood vessels leading to part of the brain results in a _____.
(a) heart attack (b) stroke (c) concussion (d) contusion

23. Write the **Life Principle**: "_____ _____."



THE HUMAN BODY: THE RESPIRATORY SYSTEM



You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Respiration at the _____ level has to do with the release of evergy from the breakdown of food molecules.

2. At the _____ level, respiration is breathing: the exchange of gases between organism and environment.

3. The primary function of the respiratory system is to supply the blood with _____ and to rid the body of _____.
   (a) oxygen; carbon dioxide (c) carbon dioxide; oxygen
   (b) oxygen; carbon monoxide (d) carbon monoxide; oxygen

4. What does respiration achieve? _____
   _____

5. Mucus traps inhaled particles of dust and smoke, and then _____ sweep such materials away from the lungs.

Matching:

6. _____ ***pharynx***
7. _____ ***trachea***
8. _____ ***diaphragm***
9. _____ ***larynx***
10. _____ ***bronchi***
11. _____ ***bronchioles***
12. _____ ***alveoli***

(a) air tubes that enter the lungs and branch off
(b) tiny air sacs in the lungs surrounding a network of capillaries where gas exchange occurs
(c) muscular tube at the back of mouth that connects the mouth to the digestive tract
(d) tube that carries air from the larynx to the lungs
(e) structure in which air enters the respiratory system
(f) very small air passageways that branch from the bronchi
(g) dome-shaped muscle in the chest cavity that is the main muscle for breathing

13. Which of the following contains the most capillaries? _____
   (a) bronchioles (b) trachea (c) alveoli (d) bronchi

14. A puncture wound to the pleural membrane could result in which of the following?
   _____
   (a) a paralyzed diaphragm (c) a collapsed lung
   (b) entry of air into the esophagus (d) all of these

15. The lungs extract about _____ of the oxygen from the air that you *inhale*, while the air you *exhale* contains much carbon dioxide and very little _____.
(a) 1/4; oxygen (b) 1/3; oxygen (c) 1/2; carbon dioxide (d) 2/3; carbon dioxide

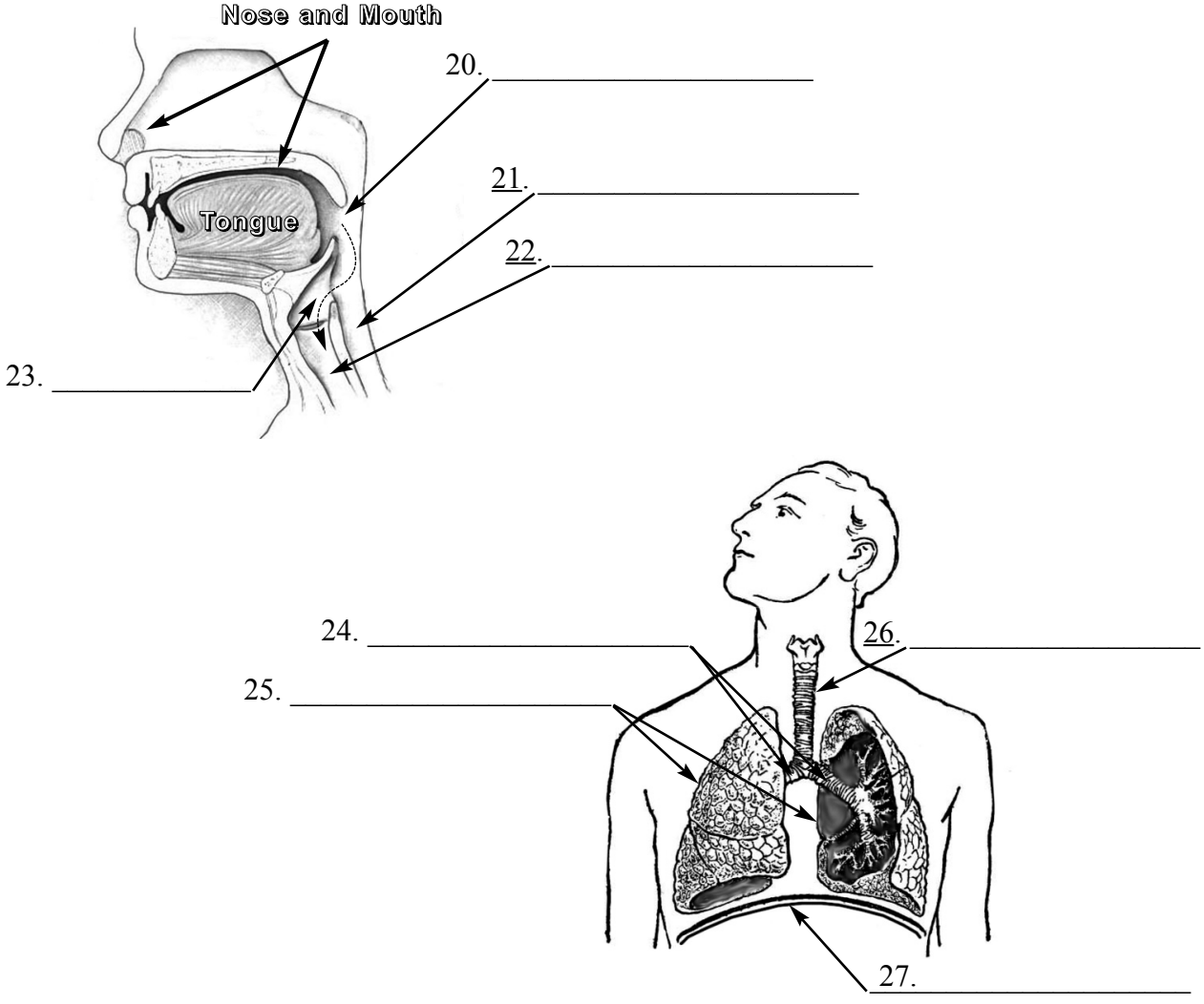
16. Air pressure is the force that drives air into the lungs. _____ (a) True or (b) False

17. Exhaling is termed as a(n) _____ process.

18. The intercostal muscles are attached to which part of the skeletal system? _____

19. The breathing center of the brain is located in the: _____.
(a) brain stem (c) cerebellum
(b) cerebrum (d) medulla oblongata

Review. Label the figures below (# 20-27).



Review. Use your text and the diagrams shown to answer questions #28-30.

28. The nasal and oral passageways converge to form the: _____.
    (a) larynx (c) trachea
    (b) pharynx (d) epiglottis

29. The progression of air through the respiratory system is: _____
    _____.
    (a) nose/mouth, larynx, pharynx, trachea, lungs
    (b) nose/mouth, larynx, esophagus, trachea, lungs
    (c) nose/mouth, pharynx, esophagus, trachea, lungs
    (d) nose/mouth, pharynx, larynx, trachea, lungs

30. The trachea divides into _____ bronchi.
    (a) two (b) three (c) four (d) five

31. Write the **Life Principle**: "_____
    _____."





THE HUMAN BODY: THE RESPIRATORY SYSTEM— VARIOUS HAZARDS

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Place an "X" before each means by which the common cold may be communicated to others.
   _____ breathing
   _____ coughing into the air
   _____ sneezing into the air
   _____ nasal congestion
   _____ the sniffles
   _____ sharing food/drinks back and forth

2. Rhinoviruses must attach to the nasal epithelial cells of the throat in order to multiply and infect. _____ (a) True or (b) False

3. Cilia in the respiratory system push mucus-trapped microorganisms up the throat for expulsion. _____ (a) True or (b) False

4. Rhinoviruses grow in the: _____.
   (a) trachea (b) lungs (c) nose (d) mouth

5. Place an "X" in front of each of the following that will help reduce the likelihood of suffering from a cold.
   _____ lots of rest
   _____ high sugar diet
   _____ frequent hand washing
   _____ avoid close contact with people showing rhino symptoms

6. Asthma may be the result of air pollution and/or emotional trauma. _____
   (a) True or (b) False

7. List 7 of the toxic substances in tobacco: _____,
   _____, _____,
   _____, _____
   _____, _____

8. Smoking has which of the following effects on the respiratory system? _____
   _____.
   (a) paralyzes cilia (c) restricts air flow
   (b) increases mucus (d) all of these

9. Tar from cigarettes accumulates in the lungs and passes directly into the _____ _____.

10. A ***carcinogenic*** substance is a(n) _____ chemical.
(a) cold-causing (c) cancer-causing
(b) asthma-causing (d) bronchitis-causing

11. **Matching:**

_____ bronchitis	(a) most serious consequence of smoking
_____ pneumonia	(b) airways clogged with mucus
_____ emphysema	(c) loss of lung tissue elasticity
_____ lung cancer	(d) lungs are weakened

12. The spread of cancer from an original site of infection to other parts of the body is called _____.

13. The circulatory system is _____by the nicotine or carbon monoxide found in smoke. (a) most affected (b) least affected (c) unaffected

14. _____ bind(s) to hemoglobin, inhibiting its ability to carry oxygen.
(a) nicotine (b) tar (c) carbon monoxide (d) all of these

15. _____ cause(s) blood vessels to constrict, inhibiting blood flow and increasing blood pressure.
(a) nicotine (b) tar (c) carbon monoxide (d) all of these

16. Smoking can lead to the development of ***arteriosclerosis***. _____
(a) True or (b) False

17. A _____ administers respiratory care and life support to cardiopulmonary patients.

Review. Use the figure on page 21 of your text to answer questions #18-22.

18. Fortunately, the negative effects of smoking are limited to the respiratory system._____
(a) True or (b) False

19. Smoking _____ on urine production.
(a) has an abnormal effect (b) has a homeostatic effect (c) has no effect

20. Smoking inhibits the release of _____ from the pancreas.

21. Heartburn may be a result of smoking. _____ (a) True or (b) False

22. Smoking _____ the senses of smell and taste.
(a) sharpens (b) dulls (c) has no effect on

23. Write the **Life Principle:** "_____ _____."

Note: Ask your teacher for the quiz over topics 1 - 5 before proceeding to the next section.
Reminder: If you score 85% or higher on the three section quizzes, you may be exempt from the chapter test!





THE HUMAN BODY: THE DIGESTIVE SYSTEM— NUTRITION

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. A(n) _____ is the amount of heat energy needed to raise the temperature of one gram of water by one degree Celsius.

2. The basic energy needs of an average teenager are between _____ kcal per day.
   (a) 1000 and 1200 (b) 1300 and 1400 (c) 1400 and 1500 (d) 1500 and 1600

3. The seven nutrients needed by our bodies are: _____, _____ _____, _____, _____, _____, _____, _____.

4. Our bodies need at least one _____ of water a day to replace that which is lost to sweat, breath, and urine. (a) cup (b) pint (c) liter (d) gallon

5. Doctor "_____" discovered the benefit of using water to treat disease while confined to an Iranian _____.

Label questions #6-10 as containing <u>simple</u> or <u>complex</u> carbohydrates.

<u>6</u>. _____ apple <u>9</u>. _____ strawberry

<u>7</u>. _____ wheat <u>10</u>. _____ potato

<u>8</u>. _____ honey

11. It is usually very difficult for the body to break down starch into simple sugars to be passed to the bloodstream. _____ (a) True or (b) False

12. It is difficult for the body to break down cellulose into simple sugars to be passed to the bloodstream. _____ (a) True or (b) False

13. Fatty acids are important in the production of which of the following? _____
    (a) red blood cells (b) hormones (c) DNA (d) all of these

<u>14</u>. Place an "X" before each example of good fats.

_____ margarine	_____ butter	_____ olives
_____ avocados	_____ nuts	_____ processed oil
_____ fast foods	_____ French fries	_____ coconut

<u>15</u>. Essential amino acids_____ manufactured by the body.
(a) can be (b) cannot be (c) are partially

16. List any three good sources of healthy proteins mentioned in your text: _____
_____

17. _____ are organic molecules that the body needs in small quantities to help perform important chemical reactions.

18. _____ vitamins are now recognized as essential to human health.
(a) ten (b) twelve (c) fourteen (d) sixteen

19. _____ are inorganic substances that are needed in very small amounts in the body.

20. _____ is required to produce the building material of bones and teeth.
(a) iron (b) iodine (c) calcium (d) magnesium

21. _____ is required to make hemoglobin for red blood cells.
(a) iron (b) iodine (c) calcium (d) magnesium

22. _____ is required to synthesize thyroxin for the thyroid gland.
(a) iron (b) iodine (c) calcium (d) magnesium

Matching:

23. _____ metabolic enzymes	(a) break down and assimilate foods
24. _____ digestive enzymes	(b) defend body against microbes and inflamation
25. _____ immune enzymes	(c) repair damaged tissue

26. Basic good eating habits are to eat a _____ of fresh foods as close to their _____ state as possible, and reduce sugar intake.

27. Why should you reduce sugar intake? _____
_____

Review. Use the vitamin and mineral charts in your text to answer questions #28-32.

28. Scurvy is the result of a deficiency in which vitamin? _____
(a) Niacin (b) Folic acid (c) Ascorbic acid (d) Riboflavin

29. Which of the following is a water-soluble vitamin? _____
(a) A (b) D (c) C (d) E

30. Which of the following vitamins is essential for proper eyesight? _____
(a) choline (b) calciferol (c) tocopherol (d) retinol

31. Seafood is a source of which mineral? _____
(a) calcium (b) sodium (c) iodine (d) magnesium

32. Which of the following mineral combinations functions in acid-base balance? _____
(a) potassium/zinc (b) sodium/potassium (c) chlorine/phosphorous (d) all of these

33. Write the **Life Principle**: "_____
_____."





THE HUMAN BODY: THE DIGESTIVE SYSTEM— FUNCTION

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The _____ system breaks down food into usable proteins, carbohydrates, fats, minerals and vitamins, and converts them into _____.

2. The human body is designed to be mostly alkaline. _____ (a) True or (b) False

3. The hardest substance of the body is found: _____.
   (a) on the surfaces of the teeth (c) in the bones of the skull
   (b) in the matrix of long bones (d) in the spinal column

4. Teeth do much of the _____ work of digestion.
   (a) chemical (b) absorptive (c) mechanical (d) emulsifying

Matching:

5. _____ incisors (a) grind food
6. _____ cuspids, bicuspids (b) cut through food
7. _____ molars (c) grasp and tear food

8. _____ is the fluid that moistens food in the mouth, making it easier to chew.

9. The enzyme _____ breaks down starches into sugars.
   (a) protease (b) amylase (c) lipase (d) nuclease

10. A _____ is a saclike membrane filled with chemicals and enzymes that can break down almost any substance within a cell.

11. A clump of chewed food that is ready to go down the throat is called a(n) _____.

Matching Overview:

12. _____ ***epiglottis***
13. _____ ***esophagus***
14. _____ ***peristalsis***
15. _____ ***cardiac sphincter***
16. _____ ***pepsin***
17. _____ ***chyme***
18. _____ ***duodenum***

(a) muscular contractions that pass food through the alimentary canal
(b) flap of tissue that prevents food from entering the trachea
(c) protein digesting enzyme
(d) mixture of stomach fluids and food in the stomach area
(e) tube through which food passes from the pharynx to the stomach
(f) thick ring of muscle which closes the esophagus after food has passed into the stomach
(g) first part of the small intestine

19. The _____, located at the junction of the stomach and small intestine, opens to allow chyme into the duodenum.

20. The _____ measures nearly a foot and constitutes the first of _____ parts of the small intestine.

21. Most of the chemical work of digestion takes place in the: _____.
(a) stomach (b) small intestine (c) large intestine (d) mouth

Matching Overview:

22. _____ ***pancreas***
23. _____ ***liver***
24. _____ ***bile***
25. _____ ***gallbladder***
26. _____ ***villi***
27. _____ ***microvilli***
28. _____ ***lymph vessels***

(a) collect fluid that leaks from the capillaires and returns it to the circulatory system
(b) gland that produces digestive enzymes and hormones that regulate blood sugar
(c) emulsifies fats and aids in their digestion and absorption
(d) small fingerlike projections on the surfaces of the villi of the small intestine
(e) stores bile and expels it into the small intestine for digestion
(f) gland that produces bile to aid digestion
(g) projections of the small intestine that increase the surface area for absorption of nutrients

Review.

29. Sodium bicarbonate, produced by the pancreas, helps to neutralize stomach acid for the proper functioning of digestive enzymes. _____ (a) True or (b) False

30. The liver removes much of the sugar from the blood coming from the small intestine and stores it in the form of _____ for future use.
(a) glucose (b) maltose (c) glycogen (d) glucagon

31. Gallstones are compound mainly of _____, resulting from bad _____.

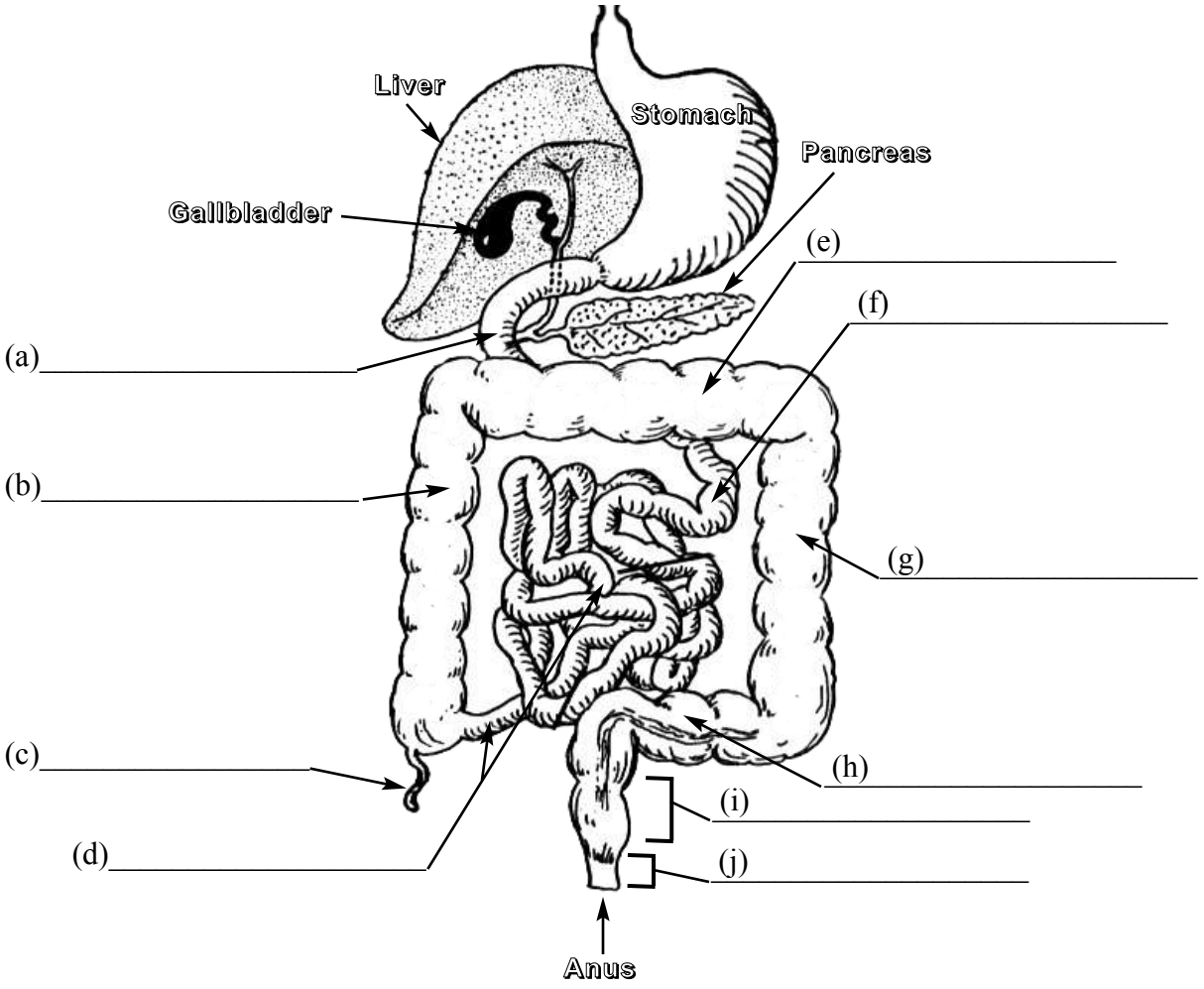
32. Gallstones form only in the gallbladder. _____ (a) True or (b) False

33. The middle portion of the small intestine, the _____, measures _____ or more in length.

34. The longest and last part of the small intestine, the _____, measures about _____ feet.

35. The colon removes _____ from undigested material, producing a concentrated waste material called _____.

36. Label the designated parts of the small and large intestines.



37. Write the **Life Principle**: "_____
_____."





THE HUMAN BODY: THE DIGESTIVE SYSTEM— THE AMAZING LIVER

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The liver is likened to is a master _____ laboratory.
2. The liver is the largest of the internal organs. _____ (a) True or (b) False
3. The liver has _____ separate lobes that function independently of each other.
   (a) two (b) three (c) four (d) five
4. The liver is capable of regeneration. _____ (a) True or (b) False
5. Every _____ has to pass through the liver.
6. The liver is responsible for _____ the body's energy supply.
   (a) converting (b) distributing (c) maintaining (d) all of these
7. The liver makes _____, a yellowish-green alkaline liquid which is stored in the gall bladder and secreted into the small intestine to help break down fats.
8. Many _____ and _____ are produced by the liver.
9. Artificial livers are currently used for transplantation. _____ (a) True or (b) False
10. _____ means inflammation of the liver.
    (a) syphilis (b) hepatitis (c) jaundice (d) cirrhosis

Matching:

11. _____	Hepatitis A	(a) serum hepatitis; bloodborne
12. _____	Hepatitis B	(b) infectious hepatitis, foodborne
13. _____	Hepatitis C	(c) blood exchange, intravenous drug use

14. All forms of hepatitis are viral. _____ (a) True or (b) False
15. Type C hepatitis can turn into cirrhosis or _____.
16. Only large quantities of alcohol can damage the liver. _____
    (a) True or (b) False
17. Alcoholic hepatitis results in _____.
    (a) syphilis (b) cirrhosis (c) jaundice (d) none of these

List the five categories of liver functions as listed in your text.

18. _____,
_____,
_____,
_____,
_____
_____

Fill in the outline below of some of the basic liver functions (19-23).

19. Metabolizes Nutrients
    A. Converts _____, _____, _____ into glucose.
    B. Converts _____ to _____ for storage.

20. Stores Nutrients
    A. Stores/assimilates vitamins: _____, _____, _____, _____, _____
    B. Stores/minerals: _____, _____, _____, _____
    C. Stores extra _____ for quick release

21. Regulates Critical Substances In Blood
    A. Regulates _____ concentration
    B. Regulates _____ levels
    C. Regulates _____ factors
    D. Helps maintain _____
    E. Helps maintain _____ and _____ balance

22. Manufactures, Replaces, Recycles Needed Substances
    A. Recycles _____ content of blood
    B. Creates _____
    C. Provides _____ factors
    D. Renews/replaces _____ cells
    E. Constructs _____ and _____
    F. Constructs 50,000 systems of _____ to govern metabolic activity
    G. Reconstructs _____
    H. Creates _____ proteins
    I. Creates _____ substances

23. Modifies, Filters Out, Detoxifies, Removes Harmful Substances
    A. Removes products of _____
    B. Helps modify, breakdown, remove harmful _____, _____, _____
    C. Breaks down colon _____ from bad _____

24. Write the **Life Principle**: "_____
_____."





THE HUMAN BODY: THE EXCRETORY SYSTEM— FUNCTION

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The elimination of chemical wastes from the body is known as: _____.
   (a) absorption (b) excretion (c) secretion (d) reabsorption

2. _____ is a chemical waste excreted by the lungs.

3. The skin removes _____ from the body.
   (a) carbon dioxide (b) excess water/salt (c) metabolic wastes (d) all of these

4. One function of the excretory system is to _____ the body's fluid content.

5. Ammonia is converted into _____ by the body.

6. Each minute of your life, nearly one-fourth of your blood flows to each kidney through a _____ artery. (a) brachial (b) hepatic (c) gastric (d) renal

7. A vessel that carries urine to the ***urinary bladder*** before it is excreted from the body is called a(n): _____.
   (a) venule (b) ureter (c) nephron (d) urethra

8. The sac that stores urine before it is eliminated from the body is the _____ _____.

9. Urine contains which of the following? _____
   (a) urea (b) wastes (c) water (d) all of these

10. The renal cortex of each fist-size kidney houses millions of blood-filtering units called: _____.
    (a) sinusoids (b) capsules (c) nephrons (d) ureters

11. The ball of capillaries in a ***nephron*** that filters blood is called a: _____.
    (a) collecting duct (b) renal pelvis (c) renal venule (d) glomerulus

12. A cup-shaped receptacle that is the initial, expanded segment of the nephron where filtrates enter from the blood is called (a): _____.
    (a) Bowman's capsule (b) renal pelvis (c) glomerulus (d) collecting duct

13. Almost _____ percent of the water that is initially filtered out by the kidneys is reabsorbed. (a) 55 (b) 77 (c) 88 (d) 99

14. The region of the nephron of the kidney where concentrated urine is produced is called the _____.

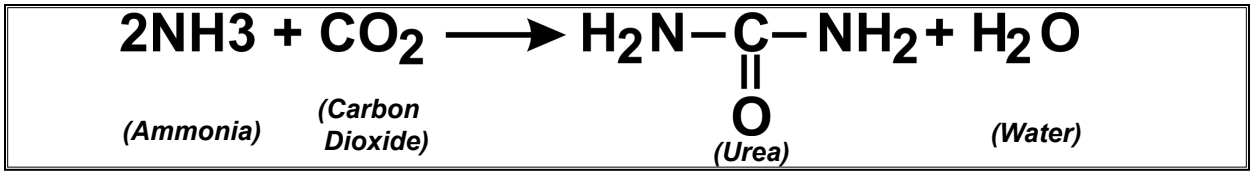
15. If the body is dehydrated, urine will be _____, whereas if the body is hydrated, urine will be _____.
    (a) concentrated; dilute (c) dilute; concentrated
    (b) concentrated; concentrated (d) dilute; dilute

16. The _____ closely monitors the water content of the blood.
    (a) medulla oblongata (b) cerebral cortex (c) brain stem (d) hypothalamus

17. The hypothalamus signals the _____ to release ADH which causes the kidneys to reabsorb more water.
    (a) pituitary gland (b) pineal gland (c) pancreas (d) parathyroid gland

18. Dark yellow urine indicates that the body: _____.
    (a) has sufficient water (c) needs more water
    (b) has an excess of water (d) is out of water

Review. Apply what you have learned. Use the figure below and the information in your text to answer question #19.



19. Which of the following processes is illustrated here? _____
    _____
    (a) increased absorption of water due to ADH
    (b) conversion of a toxin into a less toxic waste product
    (c) removal of urea from the blood in the form of urine
    (d) glomerular filtration of blood plasma

Review. Use the figure at the bottom of page 40 in your text to answer questions #20-23.

20. The _____ tubule feeds wastes into the collecting duct of the nephron.
    (a) proximal (b) distal (c) nephron (d) Vas efferens

21. The outer layer of the human kidney is called the renal _____.
    (a) cortex (b) medulla (c) nephron (d) dermis

22. The ***loop of Henle*** is surrounded by a network of _____.

23. Which of the following represents the correct flow of filtrate through the nephron?
    _____
    (a) Bowman's capsule, proximal tubule, loop of Henle, distal tubule, collecting duct
    (b) Bowman's capsule, proximal tubule, distal tubule, loop of Henle, collecting duct
    (c) Bowman's capsule, loop of Henle, proximal tubule, distal tubule, collecting duct
    (d) Bowman's capsule, distal tubule, proximal tubule, loop of Henle, collecting duct

24. Write the **Life Principle**: "_____
    _____."





THE HUMAN BODY: THE EXCRETORY SYSTEM— THE AMAZING KIDNEYS

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. All of the blood in the human body is filtered through the kidneys at the rate of about _____ times each hour. (a) five (b) ten (c) fifteen (d) twenty

2. If you live to be 80 years of age, your kidneys will have processed _____ gallons of blood over the course of your life.

3. The tube that releases urine from the body near the vagina in females or through the penis in males is called the: _____.
(a) urethra (b) ureter (c) tubule (d) nephron

4. Normal urine contains anti-microbial substances such as organic acids and varying quantities of antibodies. _____ (a) True or (b) False

5. Which of the following would be used to treat an individual with no kidney function? _____ (a) radiation (b) dialysis (c) transfusion (d) chemotherapy

6. Among major diseases, kidney problems rank _____ in the United States, killing more than 100,000 Americans each year.
(a) first (b) third (c) fifth (d) seventh

7. Insoluble crystals that form in the urine are called _____.

8. Kidney stones are composed mainly of _____, _____ and _____.

9. Uric acid crystals often result from too much _____ in the diet.

10. _____ may help prevent or remediate calcium-based kidney stones.

11. Persons prone to develop kidney stones should avoid all oxalic acid foods._____
(a) True or (b) False

12. Which of the following may be used to remove insoluble crystals from the urinary tract? _____
(a) ultrasound (b) oral medications/supplements (c) surgery (d) all of these

13. Infection of the kidney nephrons is known as _____.

14. _____ operate kidney _____ machines that filter normal waste products and excess fluids from the blood of patients whose kidneys can no longer perform that function.

15. Hemodialysis technicians can be responsible for both direct patient care and equipment maintenance and repair. _____ (a) True or (b) False

16. Write the **Life Principle**: "_____
_____
_____
_____."

Note: Ask your teacher for the quiz over topics 6 - 10 before proceeding to the next section.
Reminder: If you score 85% or higher on the three section quizzes, you may be exempt from the chapter test!



THE HUMAN BODY: THE IMMUNE SYSTEM— INTRODUCTION



You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. Your immune system keeps your body from being dismantled by bacteria in a matter of weeks. _____ (a) True or (b) False

2. The immune system is most noticeable when it is malfunctioning. _____
   (a) True or (b) False

3. The presence of ***pus*** and ***inflamation*** are evidence that the immune system is functioning. _____ (a) True or (b) False

4. Colds and flu as well as symptoms such as _____ and _____ are the result of obvious breaches in the immune system.

5. Overreaction by the immune system in some people to certain stimuli that do not normally affect other people is called a(n): _____.
   (a) microbial infection (c) allergic reaction
   (b) viral infection (d) fungal infection

6. A(n) _____ is any biological change that disrupts normal bodily functions.

7. Vitamin D deficiency leads to: _____.
   (a) Beriberi (b) Pellagra (c) Scurvy (d) Rickets

8. Vitamin C deficiency leads to: _____.
   (a) Berberi (b) Pellagra (c) Scurvy (d) Rickets

9. Disease can be caused by organ degeneration. _____
   (a) True or (b) False

10. Lack of the enzyme *tyrosinase* prevents the body from manufacturing _____, the natural pigment that causes hair color, eye color and tanning.

11. Albinism is a(n) _____ disease.
    (a) cellular (b) genetic (c) allergic (d) pathogenic

12. Cancer cells _____ uncontrollably.
    (a) disintegrate (b) reproduce (c) swell with fluid (d) release toxins

13. Visible cancer that appears as a tumor on the skin is called a(n) _____.

14. A disease-causing organism is known as a(n): _____.
    (a) bacterium (b) fungus (c) pathogen (d) protozoan

15. The human large intestine harbors dense colonies of bacteria. _____
(a) True or (b) False

16. Which of the following is a mechanism by which ***pathogens*** harm the body?
_____
(a) destroy cells as they grow (c) produce toxins
(b) grow inside body cells (d) all of these

For questions #17-19, list the three ways the immune system protects the human body.

17. _____
_____
_____

18. _____
_____
_____

19. _____
_____
_____

20. The skin is considered a _____ defense against pathogens.
(a) specific (b) nonspecific (c) inflamatory (d) anti-inflamatory

21. Which of the following is part of the inflammatory response? _____
_____
(a) blood vessels near the wound expand (c) skin becomes very red
(b) white blood cells invade infected tissues (d) all of these

22. Place an "X" in front of each of the following that prevents pathogens from entering the nose, mouth and eyes.
_____ (a) tears _____ (d) white blood cells
_____ (b) enzymes _____ (e) mucus
_____ (c) saliva _____ (f) antibodies

23. Any bacteria or virus that gets past the nonspecific defenses will encounter other systems of defense. _____ (a) True or (b) False

Use the chart in your text to answer questions #24-28.

24. The organism that causes Lyme disease is known as: _____.
(a) Neisseria meningitis (c) Vibrio cholerae
(b) Borrelia burgdoferi (d) Clostridium tetani

25. Ringworm is caused by a(n): _____.
(a) fungus (b) worm (c) bacterium (d) virus

26. Which of the following diseases is airborne? _____
(a) Cholera (b) Diphtheria (c) Meningitis (d) Chickenpox

27. Consumption of contaminated meat can cause which disease? _____
(a) Beef tapeworm (b) Schistosomiasis (c) Tuberculosis (d) Malaria

28. More than one organism causes which of the following diseases? _____
(a) Measles (b) Cholera (c) AIDS (d) Influenza

Read the Life Principle to answer #29-31.

29. What is the first blessing referenced by the author? _____

30. Why would that be considered a blessing? _____

31. Your conscience could be considered as a type of defense mechanism to help you be more immune to trouble. _____ (a) True or (b) False

32. Write the **Life Principle**:
"_____
_____
_____
_____."



THE HUMAN BODY: THE IMMUNE SYSTEM— FUNCTION



You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. When a serious infection causes pathogens to spread, the immune system releases chemicals that _____ the body's temperature.

2. A diagnosis of a very high white blood cell count is indicative of a: _____ _____.
   (a) high level of health (c) hormone imbalance
   (b) serious infection (d) blood disorder

3. All white blood cells are known as: _____.
   (a) erythrocytes (b) leukocytes (c) lymphocytes (d) osteocytes

4. Many white blood cells are produced in the: _____.
   (a) liver sinusoids (b) gall bladder (c) bone marrow (d) thyroid gland

5. The ability of the body to resist a specific pathogen is called _____.

6. Most people who recover from the mumps or measles never again become sick with the same disease. _____ (a) True or (b) False

Matching overview:

7. _____ ***antibody***
8. _____ antigen
9. _____ complement protein
10. _____ ***lymphocyte***
11. _____ ***B cells***
12. _____ ***T cells***
13. _____ plasma cells

(a) lymphocytes that mature in the bone marrow and produce antibodies
(b) activated by antibodies to complement their actions
(c) specialized B cells that release antibodies into the bloodstream to fight infection
(d) basic functional unit of specific immunity
(e) white blood cells that produce antibodies to assist the immune system
(f) white blood cells that mature in the thymus gland and regulate other cells of the immune system
(g) stimulates production of antibodies

14. Antibodies are _____-shaped proteins that respond to specific antigens.
   (a) X (b) L (c) Y (d) J

15. When an antibody binds to a toxin, it is called a(n) _____.

16. Plasma cells provide _____ immunity to certain diseases.
(a) temporary (b) permanent (c) no (d) uncertain

17. A weakened or mild form of a pathogen that causes temporary immunity when injected into the body is called a(n): _____.
(a) antibiotic (b) vaccine (c) antidote (d) all of these

18. The Flu vaccine has proven to be 100% effective in preventing a person from experiencing the flu. _____ (a) True or (b) False

19. Batch vaccinations for children are suspected of instigating some serious health problems. _____ (a) True or (b) False

20. A type of lymphocyte in the immune system that attacks and destroys a virus-infected cell is called a: _____.
(a) suppressor T cell (b) killer T cell (c) helper T cell (d) plasma cell

21. The action of the immune system using cells to attack a pathogen, rather than an antibody, is known as: _____.
(a) antibody-mediated immunity (c) cell-mediated immunity
(b) nonspecific immunity (d) cell-based autoimmunity

22. A type of lymphocyte in the immune system that identifies a specific pathogen in the body is known as a(n): _____.
(a) suppressor T cell (b) killer T cell (c) helper T cell (d) plasma cell

23. The _____ shuts off the immune response after an infection has been fought successfully.
(a) suppressor T cell (b) killer T cell (c) helper T cell (d) plasma cell

24. A condition in which the immune system attacks its own cells is known as an _____ _____.

25. Among the growing list of autoimmune diseases are _____ diabetes, _____ arthritis, _____ lupus and _____ _____.

26. Mast cells release chemicals called _____ in response to antigens in the environment.
(a) prostaglandins (b) leukotrienes (c) histamines (d) none of these

27. Which of the following is a common symptom of an allergic reaction? _____
(a) inflammation (b) itching (c) asthma (d) all of these

28. The best initial responses to allergic/asthmatic conditions are: _____ _____.
(a) avoid the particular antigen that causes it; seek natural solutions
(b) take a smooth muscle relaxing drug; receive a vaccine
(c) wear a protective mask when exposed; take an immunosuppressant drug
(d) ignore the symptoms; they will leave in time

29. The HIV virus attacks cells of the _____ system.
(a) nervous (b) endocrine (c) immune (d) digestive

Use the figures on pages 55 and 56 of your text to answer questions #30-32.

30. When a B cell encounters its specific antigen, it proliferates to become either a plasma cell or a: _____.
    (a) helper T cell (b) memory B cell (c) killer T cell (b) antibody

31. Antibodies must be attached to B cells in order to attack antigens. _____
    (a) True or (b) False

32. Infected cells are destroyed directly by helper T cells. _____
    (a) True or (b) False

33. Write the **Life Principle**: "_____
    _____."





THE HUMAN BODY: THE REPRODUCTIVE SYSTEM— INTRODUCTION

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The trillions of cells in a newborn baby all derive from the fusion of two tiny reproductive cells: a sperm and an egg. _____ (a) True or (b) False

2. Haploid reproductive cells that can unite with other haploid cells to form new individuals are called: _____.
   (a) zygotes (b) embryos (c) gametes (d) somates

3. The female reproductive glands that produce eggs and female hormones are known as: _____. (a) ova (b) testes (c) ovaries (d) uteri

4. The male reproductive glands that produce sperm and male hormones are known as: _____. (a) follicles (b) testes (c) scrota (d) ovaries

5. The ovaries produce _____, while the testes produce _____ that determine the sex of the developing embryo.
   (a) estrogens; androgens (c) androgens; estrogens
   (b) estrogens; progesterones (d) androgens; progesterones

6. Puberty is marked by an _____ in the levels of sex hormones in the body.

7. The hypothalamus signals the _____ to release ***FSH*** and ***LH***.
   (a) pineal gland (b) parathyroid gland (c) pituitary gland (d) prostate gland

8. _____ stimulates the development of sperm in males and the follicle in females.
   (a) FSH (b) LH (c) both FSH & LH (d) neither of these

9. _____ stimulates testosterone production in males and the development of the follicle, ovulation, and the production of the corpus luteum in females.
   (a) FSH (b) LH (c) both FSH & LH (d) neither of these

10. Human sperm contain _____ chromosomes. (a) 24 (b) 23 (c) 48 (d) 46

11. List three male secondary sex characteristics that develop as a result of the actions of testosterone: _____,
    _____,
    _____.

12. Female secondary sex characteristics develop as a result of the actions of which two hormones? _____
    (a) calcitonin and progesterone (c) progesterone and estrogen
    (b) estrogen and prolactin (d) prolactin and calcitonin

13. The female ***gamete***, or egg, is also called a(n) _____.

Matching:

14. _____ scrotum
15. _____ ***seminiferous tubules***
16. _____ epididymis
17. _____ ***Vas deferens***

(a) place of sperm production
(b) tube that stores sperm
(c) sac that contains the testes
(d) duct that extends from scrotum to ejaculatory duct

18. The temperature in the testes needs to be 2^0 C _____ than that of the rest of the body to ensure proper sperm development.

19. Semen is released from glands lining the reproductive tract. _____
(a) True or (b) False

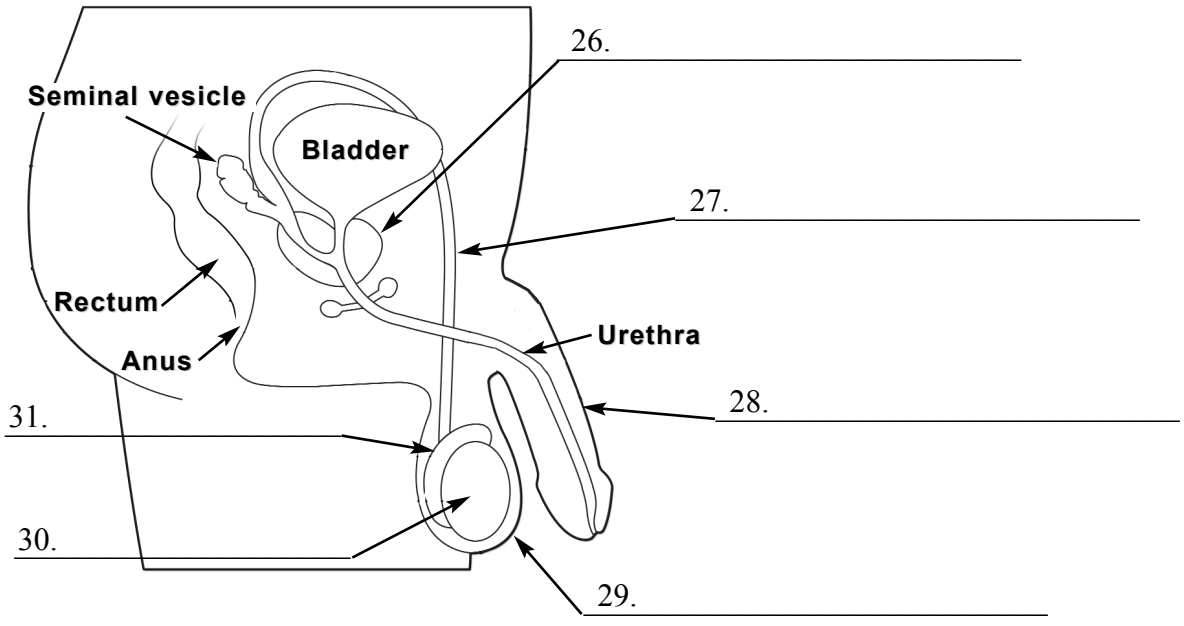
Matching:

20. _____ follicle
21. _____ ***Fallopian tube***
22. _____ ***ovulation***
23. _____ ***uterus***
24. _____ ***cervix***
25. _____ ***vagina***

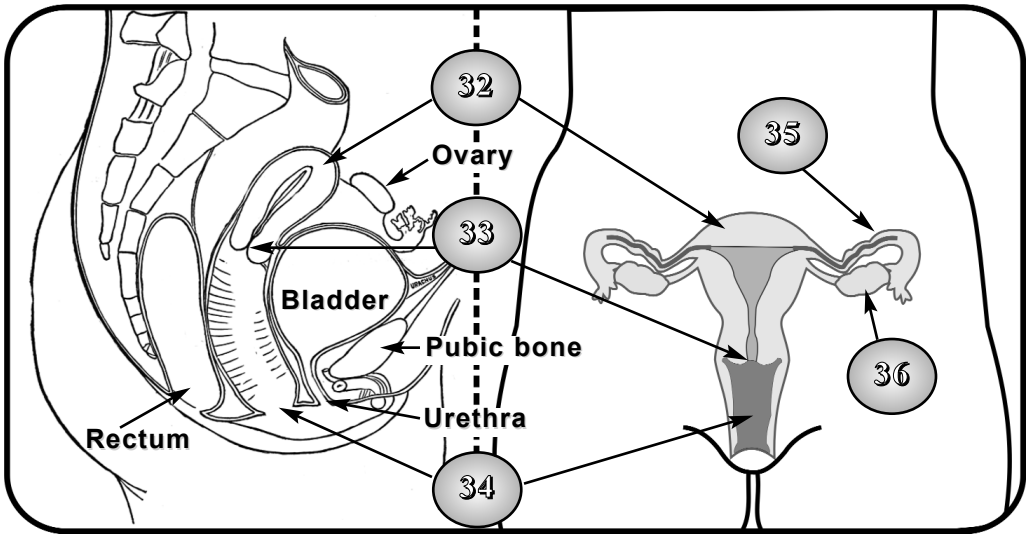
(a) opening of uterus adjoining the vagina
(b) process in which an egg is released from the ovary
(c) forms birth canal, repository for sperm during mating
(d) cluster of cells that contains a developing egg
(e) muscular chamber where fertilized egg develops
(f) tube that receives ovum from ovary and passes it to the uterus

Review. Label the parts of the male and female reproductive organs as indicated (#26-36).

Male Reproductive System



Female Reproductive System



32. _____
33. _____
34. _____
35. _____
36. _____
37. Write the **Life Principle**: "_____
_____."





THE HUMAN BODY: THE REPRODUCTIVE SYSTEM— FUNCTION

You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. The pattern of events in females that involves the development and release of an egg for fertilization, and the preparation of the uterus to receive a fertilized egg, is known as the _____.

2. The follicle phase begins when the level of estrogen in the bloodstream is: _____.
   (a) high (b) low (c) steady (d) irregular

3. The level of estrogen signals the pituitary gland to release FSH and LH into the bloodstream during the _____ phase.
   (a) follicle (b) luteal (c) ovulation (d) menstruation

4. During the follicle phase, a ***follicle***: _____.
   (a) breaks open, releasing the egg (c) develops to maturity
   (b) becomes a corpus luteum (d) turns yellow and dies

5. Estrogen causes the lining of the uterus to become _____ in preparation for a fertilized egg.

6. **Refer to the chart on page 64 of your text.** Ovulation occurs when the pituitary gland sends out a burst of: _____.
   (a) estrogen (b) FSH (c) LH (d) progesterone

7. During ovulation, a follicle: _____.
   (a) develops to maturity (c) breaks open, releasing the egg
   (b) becomes a corpus luteum (d) turns yellow and dies

8. During the luteal phase, a follicle: _____.
   (a) develops to maturity (c) breaks open, releasing the egg
   (b) becomes a corpus luteum (d) turns yellow and dies

9. A ***corpus luteum*** produces: _____.
   (a) estrogen (c) both estrogen and progesterone
   (b) progesterone (d) neither estrogen or progesterone

10. Progesterone prepares the lining of the uterus for _____.

11. Progesterone inhibits the release of: _____.
    (a) LH (b) FSH (c) LH and FSH (d) neither of these

12. Menstruation occurs when estrogen levels are: _____.
    (a) high (b) low (c) steady (d) irregular

13. When menstruation ceases for one full year, the female is said to have experienced _____.

14. Semen contains as many as 100 _____ sperm per milliliter.
    (a) thousand (b) million (c) billion (d) trillion

15. ***Fertilization*** usually occurs in the: _____.
    (a) ovary (b) cervix (c) vagina (d) Fallopian tube

16. Fusion of an egg and sperm to form a zygote is known as: _____.
    (a) implantation (b) fertilization (c) copulation (d) menstruation

17. A fertilized egg is called a(n) _____.

18. A solid ball of cells produced by cell division of a zygote is called a(n): _____.
    (a) morula (b) blastocyst (c) gastrula (d) gamete

19. A hollow ball of cells marking the phase of development of the zygote is called a(n): _____.
    (a) morula (b) blastocyst (c) gastrula (d) gamete

20. The process during which the cells of the zygote grow into the uterine wall is known as: _____.
    (a) implantation (b) fertilization (c) neurulation (d) gastrualtion

21. The hormone produced by the zygote that keeps the corpus luteum alive and preserves the uterine lining is known as: _____.
    (a) LH (b) FSH (c) HCG (d) ADH

22. The process of cell migration during which the primary germ layers of the embryo are formed is called: _____.
    (a) implantation (b) fertilization (c) gastrulation (d) neurulation

23. **Matching:**

_____ Ectoderm	(a) develops into connective and muscle tissue, skeleton, circulatory and reproductive systems, etc.
_____ Mesoderm	(b) develops into pancreas, liver and lining of respiratory and digestive systems, etc.
_____ Endoderm	(c) develops into hair, nervous system, epidermal skin layers, tooth enamel, etc.

24. The beginning of the nervous system that develops during ***neurulation*** is called the _____.

25. The process in which the ectoderm forms the ***neural tube*** is called: _____.
    (a) implantation (b) fertilization (c) gastrulation (d) neurulation

26. The organ that connects a mother with her developing embryo and provides for the exchange of nutrients, oxygen, wastes, and carbon dioxide is known as the: _____.
(a) chorion (b) blastocyst (c) morula (d) placenta

27. The thin tube of embryonic tissue that connects the embryo to the uterus is called the _____.

28. The mother and developing embryo share the same blood during embryonic development. _____ (a) True or (b) False

Review. Use the chart on page 64 of your text to answer questions #29-31.

29. Which phase of follicular development involves an LH surge? _____
(a) menstruation (b) follicle phase (c) ovulation (d) luteal phase

30. High levels of progesterone favor the _____ of the uterine lining.
(a) thickening (b) thinning (c) stretching (d) constriction

31. Which two hormones are particularly low during mensturation? _____
(a) FSH and LH (c) both a and b
(b) estrogen and progesterone (d) neither a nor b

32. Write the **Life Principle**: "_____
_____."


PAC
TM
TM



THE HUMAN BODY: THE REPRODUCTIVE SYSTEM— FETAL DEVELOPMENT AND BIRTH



You are making progress! ***Answer the following questions. Circle the correct answers or fill in the blanks with words, letters or numbers as each question indicates. Check your answers from the Answer Key. Correct all errors, then complete your next goal.***

1. By six or seven weeks after conception (fertilization), the embryo is less than an _____ long with the beginnings of _____, _____, _____ and _____.

2. Most drugs, including alcohol, tobacco and medications can penetrate the placenta and prevent normal development of an embryo. _____
   (a) True or (b) False

3. By _____ weeks after conception, a baby's gender and a strong heartbeat can be distinguished.

4. At eight to ten weeks of age, an embryo is called a(n) _____.

5. A child born at seven months of growth probably would not have a fully developed respiratory system. _____ (a) True or (b) False

6. Normal childbirth takes place about _____ months after fertilization.
   (a) eight (b) nine (c) ten (d) eleven

7. The pituitary hormone that stimulates contractions of the smooth muscles surrounding the uterus so birth will occur is: _____.
   (a) prolactin (b) oxytocin (c) estrogen (d) progesterone

8. During birth, the opening of the cervix expands until it reaches a diameter of nearly _____ centimeters.
   (a) four (b) six (c) ten (d) twelve

9. When a timely contraction squeezes the chest of the baby in the birth canal, the baby cries, causing: _____.
   (a) his or her first breath of air (c) detaching of the placenta
   (b) the lungs to fill with fluid (d) severance of the umbilical cord

10. **Matching. Review**.

    _____ 1st stage labor
    _____ 2nd stage labor
    _____ 3rd stage labor

    (a) increasing frequent and intense contractions; urgency to "push" ending in birth of a child
    (b) "afterbirth"— placenta is expelled
    (c) "stomach cramps"— contractions mild and intermittant

11. ***Prolactin*** is the _____ hormone that stimulates the production of milk in the breast tissue of the mother.
(a) pituitary (b) pineal (c) hypothalamus (d) progesterone

12. ***Colostrum*** is the fluid which comes before mature milk that contains a remarkable mixture of special antibodies produced by the mother's _____ system and insures proper functioning of the baby's _____.

13. Breastfeeding is shown to be is superior to other forms of infant nourishment. _____
(a) True or (b) False

14. Human parents are responsible for the _____, _____ and _____ well being of a child for eighteen years or longer.

15. Place an "X" before each of the following scenarios that would ideally benefit children the most.
_____ homes with husband and wife present
_____ single-parent homes
_____ foster homes
_____ orphanages
_____ homes where parents perform roles responsibly
_____ homes riddled with alcohol and/or drugs
_____ parents working as a loving team in child rearing
_____ blended families
_____ two men as parents
_____ two women as parents

16. Humans differ from animals in physical, spiritual and emotional dimensions. _____
(a) True or (b) False

17. Anatomy and physiology is the study of the _____, _____, and relationships of body components.

18. Write the **Life Principle**: "_____
_____."

Note: Ask your teacher for the quiz over topics 11-15 before proceeding to the next section.
Reminder: If you score 85% or higher on the three section quizzes, you may be exempt from the chapter test!