Human Body Systems Study Guide Answers

1. What are the five levels of structural organization in order from largest to smallest?

   Cells – Tissues – Organs – Organ Systems - Organism

2. What is the importance of mitosis? Of homeostasis?

   Mitosis – the process of cells dividing to increase their numbers
   Homeostasis – ability to maintain stable internal conditions when outside conditions change

3. Give an example of an organ. Give an example of an organ system.

   Organ – an eye
   Organ System – digestive system

4. Give the function of each body system:
   - Endocrine system – hormones cause organ systems to function
   - Muscular system – allows you to lift books
   - Nervous system – allows you to react to a hot stove
   - Skeletal system – supports the human body

5. What is the importance of the skeletal system? Which mineral is stored in the skeletal system?

   Supports the human body and produces immune cells. Calcium

6. What are the two different kinds of bones in our bodies?

   Compact and spongy

7. What function of the skeletal system helps the lungs from getting damaged if you fall?

   Protection

8. What two systems work together to allow our bodies to move?

   Skeletal system and muscular system

9. What 3 things can the nervous system perform?

   Detect, respond and process

10. How does the nervous system take on information?

    Through neurons
11. List the 5 senses:

   Vision, hearing, smell, taste, touch

12. What is an example of a voluntary control and involuntary control?

   Voluntary – pointing
   Involuntary – breathing

13. What are the three types of muscle cells and where can they be found?

   1. Skeletal – bones/skeletal system (arms and legs)
   2. Cardiac – heart
   3. Smooth – bladder and stomach

14. List the three main types of blood vessels and explain their functions:

   1. Arteries – carry blood away from the heart
   2. Veins – transport blood that contains CO2 back to your heart
   3. Capillaries – enables oxygen to move throughout the circulatory system

15. What are the functions of the lymphatic system?

   1. Removing excess fluids around organs
   2. Produces white blood cells
   3. Transports fat

16. What organs are responsible for making white blood cells?

   Thymus – spleen – bone marrow

17. What percentage of water is found in the human body?

   65%

18. What is the first line of defense of the human body?

   Skin and mucus

19. What is the second line of defense of the human body? Explain

   White blood cells attack and destroy harmful substances

20. What is an example of a noninfectious disease?

   Noninfectious disease – cancer
21. What is an example of an infectious disease?

**Infectious disease – chicken pox**

22. Where does digesting food begin and where does it end?

**Begins – mouth**
**End - rectum**

23. What role(s) does the liver play in the human body (digestive and excretory)?

**Digestive – makes bile that breaks down food**
**Excretory – removes waste from the blood and breaks down protein**

24. What is the importance of the excretory system?

**Remove waste products**

25. How are the lungs a part of the excretory system?

**Lungs remove carbon dioxide and excess waters.**

26. Define the term gametes.

**Male and Female reproductive cells (Male – sperm) (Female – ova; eggs)**

27. What hormone helps the male gametes mature?

**Male: Testosterone**

28. What hormone helps the female gametes to mature?

**Female: Estrogen and Progesterone**

29. Define the term zygote.

**A cell that forms when a sperm cell fertilizes an egg cell. ***Contains genetic information**

30. During a female’s menstrual cycle what is release from the ovaries?

**Mature Eggs**

31. What is the first stage of human development? What is the final stage of development before birth?

**First – zygote**
Final – fetus

32. List the organs that make up the respiratory system:

Pharynx, trachea, bronchus

33. What do lungs consist of?

Alveoli

34. When does the transition between the respiratory system and the circulatory system occur?

Alveoli to capillaries