INTRODUCTION TO ANATOMY AND PHYSIOLOGY

WORKSHEETS

Anatomy
1 Define anatomy. ______________________________________

2 Define cellular anatomy. ______________________________________

3 Define cytology. ______________________________________

4 Define developmental anatomy (embryology). ______________________________________

5 Define gross anatomy. ______________________________________

6 Define histological anatomy. ______________________________________

7 Define histology. ______________________________________

8 Define microscopic anatomy. ______________________________________

9 Define regional anatomy. ______________________________________

10 Define systemic anatomy. ______________________________________

11 Define surface anatomy. ______________________________________

Physiology
12 Define physiology. ______________________________________

13 Define cell physiology. ______________________________________

14 Define pathology. ______________________________________

15 Define systemic physiology. ______________________________________

16 Define special (organ) physiology. ______________________________________

Complementarity
17 What does complementarity of anatomy and physiology refer to? ______________________________________

Organizational Levels
18 List in sequence (lowest first) the six hierarchical levels of anatomy and physiology.
(1) ______________________________________
(2) ______________________________________
(3) ______________________________________
(4) ______________________________________
(5) ______________________________________
(6) ______________________________________

19 How does the chemical level (atoms, molecules, and their interactions) relate to cells? ______________________________________

20 Cells are built on the __________ level and are organized into the __________ level.

21 What are the three components of the cell theory?
(1) ______________________________________
(2) ______________________________________
(3) ______________________________________

22 Tissues are built on the __________ level and are organized into the __________ level.

23 What are the four fundamental groups of tissues?
(1) ______________________________________
(2) ______________________________________
(3) ______________________________________
(4) ______________________________________

24 Organs are built on the __________ level and are organized into the __________ level.

25 Organ systems are built on the __________ level and are organized into the __________ level.

26 Match the following systems with their components:

Cardiovascular system
- Brain, spinal cord, nerves, and receptors
- Heart, blood vessels, and blood

Digestive system
- Kidneys, ureters, urinary bladder, and urethra
- Lymph nodes, lymphatic vessels and their fluid called lymph, tonsils, spleen, and thymus
- Mouth, esophagus, stomach, small intestine, large intestine, anus, and accessory
- Nasal cavity, voice box (larynx), windpipe (trachea), and lungs
- Organs such as salivary gland, pancreas, liver and gallbladder
- Organs which produce hormones (chemical messengers) which include pituitary, testes, ovaries, thymus, thyroid
- Ovaries, fallopian tubes, uterus, and vagina
- Skeletal muscles
- Skeleton
- Skin, hair, nails, sweat glands and oil glands
- Testes, ductus (vas) deferens, prostate, seminal vesicles, and penis

Muscular system
- Heart, blood vessels, and blood

Nervous system
- Lymph nodes, lymphatic vessels and their fluid called lymph, tonsils, spleen, and thymus
- Mouth, esophagus, stomach, small intestine, large intestine, anus, and accessory
- Nasal cavity, voice box (larynx), windpipe (trachea), and lungs
- Organs such as salivary gland, pancreas, liver and gallbladder
- Organs which produce hormones (chemical messengers) which include pituitary, testes, ovaries, thymus, thyroid
- Ovaries, fallopian tubes, uterus, and vagina
- Skeletal muscles
- Skeleton
- Skin, hair, nails, sweat glands and oil glands
- Testes, ductus (vas) deferens, prostate, seminal vesicles, and penis

Endocrine system
- Heart, blood vessels, and blood

Respiratory system
- Lymph nodes, lymphatic vessels and their fluid called lymph, tonsils, spleen, and thymus
- Mouth, esophagus, stomach, small intestine, large intestine, anus, and accessory
- Nasal cavity, voice box (larynx), windpipe (trachea), and lungs
- Organs such as salivary gland, pancreas, liver and gallbladder
- Organs which produce hormones (chemical messengers) which include pituitary, testes, ovaries, thymus, thyroid
- Ovaries, fallopian tubes, uterus, and vagina
- Skeletal muscles
- Skeleton
- Skin, hair, nails, sweat glands and oil glands
- Testes, ductus (vas) deferens, prostate, seminal vesicles, and penis

Female reproductive system
- Heart, blood vessels, and blood

Skeletal system
- Lymph nodes, lymphatic vessels and their fluid called lymph, tonsils, spleen, and thymus
- Mouth, esophagus, stomach, small intestine, large intestine, anus, and accessory
- Nasal cavity, voice box (larynx), windpipe (trachea), and lungs
- Organs such as salivary gland, pancreas, liver and gallbladder
- Organs which produce hormones (chemical messengers) which include pituitary, testes, ovaries, thymus, thyroid
- Ovaries, fallopian tubes, uterus, and vagina
- Skeletal muscles
- Skeleton
- Skin, hair, nails, sweat glands and oil glands
- Testes, ductus (vas) deferens, prostate, seminal vesicles, and penis

Integumentary system
- Heart, blood vessels, and blood

Urinary system
- Lymph nodes, lymphatic vessels and their fluid called lymph, tonsils, spleen, and thymus
- Mouth, esophagus, stomach, small intestine, large intestine, anus, and accessory
- Nasal cavity, voice box (larynx), windpipe (trachea), and lungs
- Organs such as salivary gland, pancreas, liver and gallbladder
- Organs which produce hormones (chemical messengers) which include pituitary, testes, ovaries, thymus, thyroid
- Ovaries, fallopian tubes, uterus, and vagina
- Skeletal muscles
- Skeleton
- Skin, hair, nails, sweat glands and oil glands
- Testes, ductus (vas) deferens, prostate, seminal vesicles, and penis

Lymphatic system
- Heart, blood vessels, and blood

Male reproductive system
- Lymph nodes, lymphatic vessels and their fluid called lymph, tonsils, spleen, and thymus
- Mouth, esophagus, stomach, small intestine, large intestine, anus, and accessory
- Nasal cavity, voice box (larynx), windpipe (trachea), and lungs
- Organs such as salivary gland, pancreas, liver and gallbladder
- Organs which produce hormones (chemical messengers) which include pituitary, testes, ovaries, thymus, thyroid
- Ovaries, fallopian tubes, uterus, and vagina
- Skeletal muscles
- Skeleton
- Skin, hair, nails, sweat glands and oil glands
- Testes, ductus (vas) deferens, prostate, seminal vesicles, and penis
27 Match the following systems with their functions:

Cardiovascular system
Delivery of air to lungs for oxygen and carbon dioxide exchange between air and blood

Digestive system
Immediate control of systems, personality, emotions, etc.

Endocrine system
Includes the production, storage, and elimination of urine, which involves regulation of water, electrolytes, and blood pH.

Female reproductive system
Includes the skeleton which supports, protects, provides for storage of calcium, and serves as a site of blood cell production.

Integumentary system
Long-term regulation of systems by production and release of hormones.

Lymphatic system
Movement of the body and involved in body temperature regulation.

Male reproductive system
Processing and absorption of nutrients.

Muscular system
Production of egg, implantation and development.

Nervous system
Production of lymphocytes for immunity, and collects, filters, and transports fluid (lymph).

Respiratory system
Production of sperm.

Skeletal system
Protection (by skin, hair, etc.), site of sensory receptors, involved in body temperature control, etc.

Sensory system
Transport of blood; including cells, nutrients, wastes, gases, hormones, etc.

Urinary system

28 In reference to Figure 1.1, identify levels #1 - #6.

1 2 3 4 5 6

29 Define metabolism.

30 What are the two major divisions of metabolism?

(1)

(2)

31 Define catabolism.

32 Define anabolism.

33 What are three ways growth may occur?

(1)

(2)

(3)

34 Define differentiation.

35 Define responsiveness.

36 Motion begins with controlled molecular actions within the ________.

37 List five areas where movements are seen.

(1)

(2)

(3)

(4)

(5)

38 What are two processes of cell reproduction?

(1)

(2)

39 What does meiosis give rise to?

40 What are three things cell division provides?