Module 13 Biology

Read pages 393 – 402.

Assignment #1

Write the answers on your own paper, not on this sheet.

1. Define the following terms:
    a. Vertebrae
    b. Notochord
    c. Endoskeleton
    d. Bone marrow
    e. Axial skeleton
    f. Appendicular skeleton
    g. Closed circulatory system
    h. Arteries
    i. Capillaries
    j. Veins
    k. Olfactory lobes
    l. Cerebrum
    m. Optic lobes
    n. Cerebellum
    o. Medulla oblongata
    p. Internal fertilization
    q. External fertilization
    r. Oviparous development
    s. Ovoviviparous development
    t. Viviparous development

2. Search online for the image of each organism below and print out a picture. Include the name of the organism on each picture:
    a. Urochordate (ex., sea squirt)
    b. Cephalochordate (ex., lancelet)
3. What is the difference between cartilage and bone?
4. What do red blood cells do?
5. Red blood cells contain hemoglobin. What does hemoglobin do?
6. An owl has very sensitive vision. Which brain lobes are larger in the owl in the owl compared to the “average” vertebrate?
7. Fish have a very good sense of smell. Which brain lobes in fish are larger than average?
8. A creature reproduces when the female collects sperm cells that the male deposited on a plant. The female lays an egg, attaches it to the same plant, and then the eggs hatch after 3 weeks.
    a. Is the fertilization internal or external?
    b. What kind of development is this?
9. Use your skeleton handout from class. Write the anatomical name for each bone:
    a. Jaw bone
    b. Collar bone
    c. Breast bone
    d. Spine
    e. Shoulder blade
    f. Fingers
    g. Wrist
    h. Upper arm bone
    i. Hips
    j. Kneecap
    k. Ankle
    l. Shin bone

Read pages 403 - 423.

Assignment #2

Write on your own paper, not on this sheet.

1. Define the following terms
    a. Anadromous
    b. Bile
    c. Atrium
    d. Ventricle
    e. Ectothermic
    f. Hibernation
2. Name an organism that is anadromous.
3. What is the difference between the skeleton of a ray and the skeleton of a fish?
4. What is the shark's most sensitive means of finding prey?
5. What function do dorsal fins perform?
6. List two ways that a ray is different from a skate.
7. Look at the diagram of the fish in Problem 17 on page 427 of the book. Identify the name of each structure in the diagram AND list the function of the structure.
8. Look at the diagram of the fish in Problem 19 on page 427 of the book. Identify the name of each structure AND indicate whether it contains oxygen-rich or oxygen-poor blood.
9. List the six common characteristics of amphibians.
10. For most amphibians, what is the major respiratory organ?