Name Date Class

Note-taking Worksheet

Vertebrate Animals

Section 1 Chordate Animals

A. _____—animal with a notochord and gill slits sometime during its development

1. Internal system of bones called an _____

2. _____—cold-blooded animals whose body temperatures change as their environmental temperatures change

3. _____**—**warm-blooded animals whose body temperatures do not change with changes in their surroundings

B. _____—ectotherms living in water

1. _____ that exchange carbon dioxide for oxygen

2. _____ to steer, balance, and move

3. _____ to cover and protect skin

C. Three _____ of fish

1. _____—have a skeleton made of bone; 95 % of all fish

a. _____—air sac to help control swimming depth

b. External fertilization in reproduction

2. Some fish endoskeletons are made of _____**,** a tough, flexible tissue, rather than bone.

3. _____ fish—long, tube-like body without scales; a cartilage skeleton; mouth without a jaw; very few species

4. _____ fish—cartilage skeletons, movable jaws, rough scales, sharp teeth, usually predators; sharks in this group

Section 2 Amphibians and Reptiles

A. _____ spend part of their lives on land and part in water.

1. Adaptions—adjustments for _____

a. _____—inactivity during cold weather

b. _____—inactivity during hot, dry weather

Meeting Individual Needs

Note-taking Worksheet (continued)

2. Characteristics of amphibians
   a. _____ to support body on land
   b. _____ to breathe on land; also exchange oxygen and carbon dioxide through the skin
   c. _____ and _____ adapted to land life
   d. Long _____ capture insects for food
3. Amphibian _____
   a. Hatched from eggs fertilized in water; _____ live in water and breathe through gills
   b. Land-function structures such as _____ and _____ develop for _____ life

B. _____—ectothermic animals that generally live their whole lives on land

1. Reptile types—body plans _____
   a. Some, such as turtles, use a hard _____ for protection.
   b. Some, such as alligators or crocodiles, live in or near _____.
   c. Some, such as lizards and snakes, use their tongues to _____ their environment
2. Reptile _____
   a. Thick, dry skin covered with _____ protects and reduces water loss.
   b. Breathe through _____
   c. Internal fertilization produces _____ that nourish and protect the young until they hatch, fully developed

Section 3 Birds

A. _____—endothermic vertebrates that have two wings, two legs, a bill or beak, feathers, and lay eggs

B. Adaptations for _____

1. Strong, hollow _____
2. High-energy _____
3. Large, efficient _____
4. Lungs with _____ for efficiency and light weight
5. _____ shape, movement, and surface area to enable flight
6. _____ shape

Note-taking Worksheet (continued)

C. _____ functions

1. _____—give shape and coloring

a. _____—parallel strands off the main shaft

b. Help bird _____ or swim

c. Attract _____ or _____ from predators

2. _____—insulating layer of fluffy feathers under contour feathers

3. Feather care—_____ adds oil for water-repellency; also closes breaks or gaps in feathers

Section 4 Mammals

A. _____—endothermic vertebrates with mammary glands and hair

1. _____—produce milk to nourish young

2. Specialized _____

a. _____—plant-eating animals with incisors for cutting and molars for grinding

b. _____—meat eaters with sharp canines for tearing flesh

c. _____—eat both plants and animals using a variety of teeth

3. Body _____

a. Well developed _____ with millions of alveoli

b. Large _____ and complex nervous system for learning and remembering

c. _____ fertilization

Note-taking Worksheet (continued)

B. _____ types

1. _____ lay eggs and lack nipples on mammary glands.

2. _____ give birth to immature young that finish developing in a pouch.

3. _____ develop from embryos connected to a placenta by an umbilical cord.

a. Placenta provides _____ and oxygen to embryo and removes its _____.

b. Time of development in uterus is called _____.

C. Mammals _____

1. More than 4,000 _____ exist.

2. Found on every _____ and climate

3. Have a role in maintaining environmental _____

4. Many mammals are _____ due to destruction of their habitat.