***Animal Diversity, 8e* (Hickman)**

**Chapter 10 Molluscs**

1) Where would you locate the coelomic cavity when dissecting a mollusk such as a clam?

A) The coelom is between the mantle and the shell.

B) The coelom is all of the area enclosed by the two shells and exposed when you open the shell.

C) The cavity around the heart, the kidneys, and the lumen of the gonads forms the limited coelom.

D) The cavities inside the siphon are the coelom.

E) The coelom is the space inside small tubules that form the gills.

Answer: C

2) The radula

A) not only rasps off fine food particles but also serves as a conveyor belt to carry food toward the digestive tract.

B) replaces worn teeth by secreting new teeth at the posterior end.

C) varies in number, pattern, and form of teeth, allowing species to be classified by this trait.

D) may be modified to bore through hard materials.

E) All of the choices are correct.

Answer: E

3) To prevent taking back in the wastes it has just expelled, a standard sediment-inhabiting bivalve mollusk should position itself

A) with the incurrent siphon upstream.

B) with the excurrent siphon upstream.

C) in any direction, since it can control which way the water flows in either siphon.

D) either with the incurrent siphon upstream or with the excurrent siphon upstream, but not in any direction, since it can control which way the water flows in either siphon.

E) None of the choices are correct.

Answer: A

4) The newest clam shell is built

A) on the outside so the periostracum is the newest material.

B) on the inside so the inside nacreous layer is the newest.

C) both directions outward from the central prismatic layer.

D) all at once; all layers of shell are the same age.

E) None of the choices are correct.

Answer: B

5) Clams burrow by using

A) adductor muscles.

B) cilia action.

C) gills for jet propulsion.

D) a modified radula.

E) a foot.

Answer: E

6) The Monoplacophora

A) lack a shell.

B) live in fresh water.

C) lack a foot.

D) have several internal organs that are serially repeated.

E) All of the choices are correct.

Answer: D

7) The Polyplacophora

A) have a coiled shell.

B) live in the ocean, especially in intertidal areas.

C) lack gills.

D) lack a radula.

E) All of the choices are correct.

Answer: B

8) The Scaphopoda

A) lack a shell.

B) lack a mantle.

C) live in fresh water.

D) pursue prey in a manner similar to squid.

E) lack gills.

Answer: E

9) Torsion

A) involves movement of the shell independent of visceral movements.

B) rotates the shell between 90 and 180 degrees.

C) begins with the contraction of an asymmetrical foot retractor muscle.

D) shifts the anus from posterior to the right side of the body.

E) All of the choices are correct.

Answer: E

10) Snails that lack gills are called "pulmonate" and their mantle cavity functions

A) for propulsion.

B) to produce pearls.

C) as a lung.

D) to store wastes.

E) All of the choices are correct functions.

Answer: C

11) Cultured pearls are made by

A) cutting spherical balls from the thick shell of oysters and polishing them into circular beads.

B) dropping a grain of sand into the incurrent siphon of a pearl oyster.

C) tying off the labial palps.

D) growing oysters in high-calcium waters where they produce the pearls as unfertilized eggs.

E) placing an irritating particle under the shell mantle.

Answer: E

12) Of all of the freshwater organisms, more freshwater clams are becoming endangered than other species. What is the likely reason?

A) They are a primitive animal and they are due for natural extinction.

B) The shellfish industry has moved inland and we are overharvesting them for human food.

C) Clams are more heavily parasitized than any other molluscan group.

D) As filter-feeders, they concentrate pollutants and are more likely to be harmed by water pollution.

E) All of the choices are correct.

Answer: D

13) Most freshwater clams have a bivalve \_\_\_\_\_\_\_\_ stage that attaches to the gills and lives as a parasite for a few weeks.

A) veliger

B) trochophore

C) brachial

D) miracidia

E) glochidia

Answer: E

14) The main structures that taste food and direct it into the mouth of a clam is/are

A) the gills.

B) labial palps.

C) the siphons.

D) the gastric mill.

E) adductor muscles.

Answer: B

15) Cephalopods feed on

A) microscopic organisms.

B) fish, molluscs, crustaceans, and worms.

C) seaweed.

D) whales and porpoises.

E) None of the choices are correct.

Answer: B

16) A *Nautilus* differs from a snail because

A) the snail body occupies the whole shell and the *Nautilus* mainly lives in the last chamber.

B) the *Nautilus* is the last representative of a once flourishing group while snails belong to a most abundant modern group.

C) the *Nautilus* generates gas in the chambers for buoyancy during swimming and a snail does not.

D) All of the choices are differences.

E) None of the choices are correct.

Answer: D

17) The water current in the body of a cephalopod mollusc provides

A) oxygen for respiration.

B) jet power for rapid locomotion.

C) a means of carrying wastes and gametes out of the body.

D) All of the choices are cephalopod uses for their body water currents.

E) None of the choices are correct.

Answer: D

18) The cephalopod nervous system is best described as

A) absent.

B) primitive and very little advanced from that of a cnidarian.

C) the most advanced among molluscs.

D) more complex than ours.

E) None of the choices are correct.

Answer: C

19) Although snails and some other molluscs are hermaphroditic, most molluscs are either male or female, a condition called

A) asexual.

B) sexual.

C) monoecious.

D) dioecious.

E) parthenogenetic.

Answer: D

20) Gaseous exchange in gastropods may involve

A) gills.

B) lungs.

C) mantle.

D) body surface.

E) All of the choices are correct.

Answer: E

21) The circulatory system of cephalopods is more efficient than that of other molluscs because

A) it places the systemic circulation before the gills.

B) it is a closed network of vessels.

C) all blood is circulated through the gill filaments.

D) accessory or brachial hearts increase blood pressure before blood flows through the gills.

E) All of the choices are correct.

Answer: E

22) When cephalopods hatch from their eggs, they are

A) trochophore larvae.

B) glochidial parasites.

C) helpless, sessile larvae that must metamorphose into adult forms.

D) juveniles that resemble small adults.

E) There is much variation and all of the above occur among the various cephalopods.

Answer: D

23) The tongue-like, rasping organ in the head of many molluscs is the \_\_\_\_\_\_\_\_.

Answer: radula

24) The \_\_\_\_\_\_\_\_ is the layer on the outside of the clam or mussel shell that provides protection from acidic water and may be colored to hide the clam in the mud.

Answer: periostracum

25) The shell of Polyplacophorans is divided into \_\_\_\_\_\_\_\_ plates located on the dorsal side of the animal.

Answer: eight dorsal

26) Molluscs with a tubular shell that opens at both ends are in the class \_\_\_\_\_\_\_\_.

Answer: Scaphopoda

27) The \_\_\_\_\_\_\_\_ is the oldest part of the shell and growth occurs in concentric rings around it.

Answer: umbo

41) The \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ projects into a bivalve stomach to keep the contents whirling while releasing digestive enzymes.

Answer: crystalline style