

## Invertebrate Quiz Answers

1. Explain the difference between radial and bilateral symmetry in animals, and give an example of each type.

**Bilateral symmetry is the left and right halves of a vertical divide which are mirror images of one another.**

**Radial symmetry means having no right or left side, only a top and a bottom. arranged around a vertical central axis.**

**Its evolutionarily advantageous to be bilaterally symmetrical, it improved movement and lead to the development of the head and concentration of the sense organs there.**

2. How does a sponge obtain food?

**Most sponges eat tiny, floating organic particles and plankton that they filter from the water the flows through their body. Food is collected in specialized cells called choanocytes and brought to other cells by amoebocytes.**

3. Compare the medusa and polyp forms of cnidarians.

**The polyp is a shaped like a tube and is generally sessile. (Translation: it anchors somewhere.) Cnidarians with a polyp body include sea anemones, coral, and hydra. The medusa is a free-swimming, reverse version of the polyp. The polyp is anchored with its mouth and tentacles facing up. The medusa is a flattened, more sack-like version of the polyp, floating with its mouth down and tentacles hanging below. A jellyfish (or sea jelly, since it isn't really fish) is a medusa.**

4. How are corals different from other cnidarians?

**Corals catch plankton. The coral is made up of a colony of polyps which function as a single organism.**

5. Coral reefs are being destroyed at a rapid rate. What effect would you expect the destruction of a large coral reef to have on other ocean life?

**Almost all the world's coral reefs will be gone in 50 years.**

6. A \_\_\_\_\_ is the name for an organism that has both male and female reproductive organs.

**tunicates**

7. In \_\_\_\_\_, eggs and sperm meet inside an animal's body.

**Bony fish**

8. What adaptations make cephalopods effective predators?

**Cephalopods can change their color and even their texture.**

9. Compare filter feeding with obtaining food by using a radula.

**A filter feeder takes in water and filters out food. The radula is a tongue-like organ that scrapes food from surfaces.**

10. Polychaetes actively swim, burrow and crawl. How do parapodia support the active life that most polychaetes pursue?

**Parapodia can be used for swimming or crawling and in gas exchange.**

11. Describe two features that are unique to arthropods.

**jointed appendages, segmented bodies, exoskeletons**

12. What are the advantages and disadvantages of an exoskeleton?

**An exoskeleton is advantageous because it protects against water loss and injury. Disadvantages include its weight and inflexibility.**

13. Molting occurs when an arthropod sheds its old \_\_\_\_\_ and grows a new one.

**Exoskeleton**

14. When water passes over gills, \_\_\_\_\_ and \_\_\_\_\_ are exchanged.

**Oxygen and Carbon Dioxide**

15. How does a sea star move? Explain in terms of the water vascular system of echinoderms.

**A sea star moves by regulation of its water vascular system. Tube feet attach to a surface, the sea star moves itself forward, and the suction is released**

16. Describe the differences in symmetry between larval echinoderms and adult echinoderms.

**Larval echinoderms are bilaterally symmetrical, whereas adult echinoderms are radially symmetrical.**

17. How do the various defense mechanisms among the echinoderm classes help deter predators?

**The rigid endoskeleton helps protect echinoderms from their enemies. Spines and poison glands also protect echinoderms. Adult echinoderms move by walking, whereas larval forms are free swimming. If an echinoderm such as a sea star loses part of a ray, it can be regenerated. Sea cucumbers can expel their digestive tracts and grow new ones.**

18. Describe four features of chordates.

**notochord, dorsal hollow nerve cord, pharyngeal pouches, postanal tail**

19. How are invertebrate chordates different from vertebrates?

**In invertebrate chordates, the notochord is not replaced by a backbone.**

20. What features of chordates suggest that humans have more in common with sea squirts than lobsters?

**These chordate traits appear in human embryos.**

21. An animal that is a filter feeder, takes in water through pores in the sides of its body, and releases water from the top is a \_\_\_\_\_.

**c. Sponge**

22. Nematocysts are unique to \_\_\_\_\_.

**d. Cnidarians**

23. Which of the following are invertebrate chordates?

**b. Lancelets**

24. An octopus belongs to phylum Mollusca because it has a mantle, bilateral symmetry, two body openings and \_\_\_\_\_.

**b. A muscular foot**

25. Which of the following characteristics is unique to arthropods?

**b. Jointed appendages**