

Life; Ch. 11; Structure & Function of Invertebrates

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. Which of the following is a characteristic shared by all animals?
 - a. Their bodies have many cells.
 - b. They eat plants.
 - c. They reproduce asexually.
 - d. They have skeletons.
- _____ 2. The process by which a new organism forms from the joining of an egg cell and a sperm cell is called
 - a. asexual reproduction.
 - b. sexual reproduction.
 - c. adaptation.
 - d. budding.
- _____ 3. Major functions of animals include obtaining food and oxygen, keeping internal conditions stable, movement, and
 - a. adaptation.
 - b. reproduction.
 - c. classification.
 - d. fertilization.
- _____ 4. Which of these animals has radial symmetry?
 - a. a sea anemone
 - b. a butterfly
 - c. a rabbit
 - d. a fish
- _____ 5. An animal has bilateral symmetry if
 - a. no lines can be drawn to divide the animal into halves that are mirror images.
 - b. many lines can be drawn to divide the animal into halves that are mirror images.
 - c. one line can be drawn to divide the animal into halves that are mirror images.
 - d. any line through the center of the animal divides it into halves that are mirror images.
- _____ 6. A balanced arrangement of parts is called
 - a. radiality.
 - b. asymmetry.
 - c. symmetry.
 - d. bilaterality.
- _____ 7. An animal that has a backbone is called a(n)
 - a. cnidarian.
 - b. predator.
 - c. vertebrate.
 - d. invertebrate.
- _____ 8. Which of the following is NOT a characteristic that biologists use to classify animals?

- a. the animal's body structure
 - b. the animal's DNA
 - c. where the animal lives
 - d. how the animal develops
- _____ 9. Which of these is a function of spikes in a sponge?
- a. protect the sponge's body
 - b. to help the sponge reproduce
 - c. to digest and distribute food
 - d. to obtain oxygen
- _____ 10. How do sponges reproduce sexually?
- a. Sperm from one sponge fertilize eggs in the same sponge.
 - b. Water carries sperm from one sponge to eggs in another sponge.
 - c. Water carries eggs from one sponge to sperm in another sponge.
 - d. One sponge buds and forms a new sponge.
- _____ 11. What does a cnidarian use to capture prey?
- a. pores
 - b. stinging cells
 - c. collar cells
 - d. mouth
- _____ 12. At the beginning of its life, a coral polyp
- a. has the medusa body plan.
 - b. attaches to a solid surface.
 - c. burrows into the mud on the ocean floor.
 - d. feeds only on sponges.
- _____ 13. The bodies of cnidarians have
- a. no symmetry.
 - b. radial symmetry.
 - c. bilateral symmetry.
 - d. both radial and bilateral symmetry.
- _____ 14. Which of these is NOT a major kind of worm?
- a. a flatworm
 - b. a roundworm
 - c. a silkworm
 - d. a segmented worm
- _____ 15. Which of these characteristics is shared by all worms?
- a. They have separate sexes.
 - b. They are parasites.
 - c. They live in soil.
 - d. They have a brain.
- _____ 16. Which of the following describes a roundworm's digestive system?
- a. Food enters the body and wastes leave the body through the same opening.
 - b. Food enters through a feeding tube.
 - c. Food travels through the digestive system in two directions.
 - d. The digestive system is like a tube that is open at both ends.
- _____ 17. A segmented worm's circulatory system

- a. moves blood in a network of blood vessels.
 - b. sloshes blood around freely inside the worm.
 - c. has blood vessels only in a few segments.
 - d. is shaped like a tube with two openings
- _____ 18. Organisms that grow on or in other organisms are called
- a. parasites.
 - b. hosts.
 - c. prey.
 - d. scavengers.
- _____ 19. Which of the following is true of all mollusks?
- a. They have shells.
 - b. They have soft bodies.
 - c. They have segments.
 - d. They have a closed circulatory system.
- _____ 20. Which of the following is a function of the mantle in many mollusks?
- a. It produces the shell.
 - b. It enables the mollusk to move.
 - c. It helps the mollusk digest food.
 - d. It removes wastes.
- _____ 21. Which characteristic is NOT common to all arthropods?
- a. a segmented body
 - b. an external skeleton
 - c. jointed appendages
 - d. a backbone
- _____ 22. An arthropod's tough outer covering is called
- a. an endoskeleton.
 - b. an exoskeleton.
 - c. armor.
 - d. a mantle.
- _____ 23. Which of these is NOT an arthropod?
- a. centipede
 - b. grasshopper
 - c. snail
 - d. lobster
- _____ 24. The bodies of all spiders have
- a. two body sections.
 - b. two antennae.
 - c. two wings.
 - d. six swimmerets.
- _____ 25. You find an arthropod on the ground under a log. Which characteristics should you look for to tell whether the arthropod was a crustacean or an arachnid?
- a. exoskeleton and legs
 - b. number of legs and presence or absence of antennae
 - c. presence or absence of wings
 - d. tube feet and endoskeleton

- _____ 26. Which of the following is a characteristic of insects?
- a. one pair of antennae
 - b. four legs
 - c. three pairs of wings
 - d. two body sections
- _____ 27. Which of the following is a characteristic of echinoderms?
- a. an exoskeleton
 - b. three body sections
 - c. radial symmetry
 - d. a segmented body
- _____ 28. How does an echinoderm use its water vascular system?
- a. to defend itself from predators
 - b. to reproduce
 - c. to sense when food is near
 - d. to capture food
- _____ 29. An echinoderm with long slender arms and flexible joints is a
- a. sea star.
 - b. brittle star.
 - c. sea urchin.
 - d. sea cucumber.
- _____ 30. Sea urchins move by using their
- a. tentacles.
 - b. arms.
 - c. spines.
 - d. tube feet.

Modified True/False

Indicate whether the statement is true or false. If false, change the identified word or phrase to make the statement true.

- _____ 31. Animals must maintain a stable environment within their bodies to survive.

- _____ 32. Most animals are invertebrates. _____
- _____ 33. Water enters a sponge through openings called collar cells. _____
- _____ 34. Cnidarians pull prey to their mouths with their stinging cells. _____
- _____ 35. The cnidarian body plan that is shaped like an upside-down bowl is called a polyp.

- _____ 36. A type of worm with many linked sections is a flatworm. _____
- _____ 37. Mollusks are vertebrates with soft bodies that are often covered by a shell.

- _____ 38. An arthropod's endoskeleton allows it to survive on dry land by protecting its body from water loss. _____
- _____ 39. Arachnids have six legs but no antennae. _____
- _____ 40. An echinoderm that uses tentacles to sweep food toward its mouth is a(n) sea urchin.

Completion

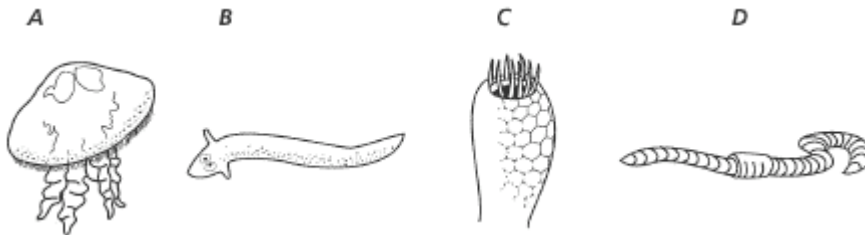
Complete each statement.

41. Tissues combine to form a(n) _____ that performs a specific job for an organism.
42. The process by which a single organism produces a new organism identical to itself is called _____ reproduction.
43. Animals without backbones are known as _____.
44. Classifying animals involves comparing their _____, a chemical that controls an organism's inherited characteristics.
45. Sponges reproduce sexually and form a(n) _____, which is an immature form of an animal that looks very different from an adult.
46. Cnidarians that have the _____ body plan can swim freely.
47. A sea anemone is an example of a cnidarian with the _____ body plan.
48. A cnidarian expels undigested food through its _____.
49. A tapeworm is a(n) _____ that lives inside more than one host during its life cycle.
50. Roundworms have a(n) _____ through which wastes exit.
51. In a(n) _____ circulatory system, blood moves only through tubes called blood vessels.
52. A thin layer of tissue called a(n) _____ covers the internal organs of mollusks.
53. Many arthropods have appendages called _____ that help them sense their environment.
54. In some arthropods, several body _____ have become joined into distinct sections.
55. Spiders, mites, and ticks belong to the group of arthropods known as _____.
56. The kind of arthropod known as a(n) _____ has more legs than any other kind of arthropod.
57. Crustacean larvae develop into adults by a process called _____.

58. An insect's wings and legs are attached to the section of its body called the _____.
59. Insects usually have two large _____ eyes, which contain many lenses.
60. A hydra is a cnidarian that has a body like a stalk with long tentacles at the top of the stalk. A hydra has the _____ body plan.

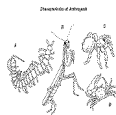
Short Answer

Use the diagram to answer each question.



61. Look at animals A, B, and D. For each of these animals, identify the type of symmetry it exhibits.
62. Identify animal C, and describe how it gets food.
63. Identify animal A. Describe its body plan.
64. Identify animal B, and tell whether it is parasitic or free-living.
65. Identify animal D, and tell what feature distinguishes it from other worms. Support your answer by referring to features that are visible in the diagram.
66. Contrast the digestive systems of animals B and D.

Use the diagram to answer each question.



67. Which major group of arthropods is represented by animal A? How do you know?
68. Which major group of arthropods is represented by animal C? How do you know?
69. How does animal C eat its prey?
70. Which major group of arthropods is represented by animal D? How do you know?
71. Which major group of arthropods is represented by animal B? How do you know?
72. How does animal B obtain oxygen?

Essay

73. Describe asexual and sexual reproduction. How do offspring produced by asexual reproduction differ from those produced by sexual reproduction.
74. Crayfish and butterflies are both members of one phylum. Hagfish and turtles are both members of a different phylum than the one to which crayfish and butterflies belong. Are crayfish more closely related to butterflies or to hagfish? Explain your reasoning.
75. Describe how sponges obtain and digest food.
76. Suppose you find a worm in the soil. How can you tell which of the three major phyla of worms it belongs to by looking at its body shape?
77. A tapeworm does not have a digestive system. Explain why a tapeworm can live without a digestive system but an earthworm cannot.
78. Compare and contrast gradual metamorphosis with complete metamorphosis. Give an example of an insect that goes through gradual metamorphosis, and one that goes through complete metamorphosis.
79. Compare the anatomy and physiology of an echinoderm to the anatomy of a cnidarian. Give an example of each.
80. Name the three body sections of insects, and tell which organs and appendages are found on or in each section.

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Answer Section

MULTIPLE CHOICE

1. ANS: A PTS: 1 DIF: L2
OBJ: CaLS.11.1.1 Describe levels of organization in animal bodies.
STA: S 7.5.a BLM: comprehension
2. ANS: B PTS: 1 DIF: L2
OBJ: CaLS.11.1.1 Describe levels of organization in animal bodies.
STA: S 7.2.a BLM: comprehension
3. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.1.2 Identify four functions that enable animals to meet their basic needs.
STA: S 7.5.a BLM: knowledge
4. ANS: A PTS: 1 DIF: L2
OBJ: CaLS.11.1.3 Define symmetry. STA: S 7.5.a BLM: comprehension
5. ANS: C PTS: 1 DIF: L2
OBJ: CaLS.11.1.3 Define symmetry. STA: S 7.5.a BLM: comprehension
6. ANS: C PTS: 1 DIF: L1
OBJ: CaLS.11.1.3 Define symmetry. STA: S 7.5.a BLM: knowledge
7. ANS: C PTS: 1 DIF: L1
OBJ: CaLS.11.1.4 Explain how animals are classified. STA: S 7.5.a
BLM: knowledge
8. ANS: C PTS: 1 DIF: L1
OBJ: CaLS.11.1.4 Explain how animals are classified. STA: S 7.5.a
BLM: knowledge
9. ANS: A PTS: 1 DIF: L1
OBJ: CaLS.11.2.1 Identify the characteristics of sponges. STA: S 7.5.a
BLM: knowledge
10. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.2.1 Identify the characteristics of sponges. STA: S 7.2.a
BLM: knowledge
11. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge
12. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge
13. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge
14. ANS: C PTS: 1 DIF: L2
OBJ: CaLS.11.3.1 Identify the main characteristics of worms. STA: S 7.5.a
BLM: comprehension

15. ANS: D PTS: 1 DIF: L2
OBJ: CaLS.11.3.1 Identify the main characteristics of worms. STA: S 7.5.a
BLM: comprehension
16. ANS: D PTS: 1 DIF: L1
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: knowledge
17. ANS: A PTS: 1 DIF: L1
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: knowledge
18. ANS: A PTS: 1 DIF: L1
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: knowledge
19. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.3.3 Identify the main characteristics of mollusks. STA: S 7.5.a
BLM: knowledge
20. ANS: A PTS: 1 DIF: L2
OBJ: CaLS.11.3.3 Identify the main characteristics of mollusks. STA: S 7.5.a
BLM: comprehension
21. ANS: D PTS: 1 DIF: L2
OBJ: CaLS.11.4.1 Describe the characteristics of arthropods. STA: S 7.5.a
BLM: comprehension
22. ANS: B PTS: 1 DIF: L2
OBJ: CaLS.11.4.1 Describe the characteristics of arthropods. STA: S 7.5.a
BLM: comprehension
23. ANS: C PTS: 1 DIF: L2
OBJ: CaLS.11.4.1 Describe the characteristics of arthropods. BLM: application
24. ANS: A PTS: 1 DIF: L1
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: knowledge
25. ANS: B PTS: 1 DIF: L3
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application
26. ANS: A PTS: 1 DIF: L1
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: knowledge
27. ANS: C PTS: 1 DIF: L2
OBJ: CaLS.11.5.1 List the characteristics of echinoderms. STA: S 7.5.a
BLM: comprehension
28. ANS: D PTS: 1 DIF: L2
OBJ: CaLS.11.5.1 List the characteristics of echinoderms. STA: S 7.5.a
BLM: comprehension
29. ANS: B PTS: 1 DIF: L1
OBJ: CaLS.11.5.2 Name the major groups of echinoderms. STA: S 7.5.a
BLM: knowledge
30. ANS: D PTS: 1 DIF: L1

OBJ: CaLS.11.5.2 Name the major groups of echinoderms. STA: S 7.5.a
BLM: knowledge

MODIFIED TRUE/FALSE

31. ANS: T PTS: 1 DIF: L1
OBJ: CaLS.11.1.2 Identify four functions that enable animals to meet their basic needs.
STA: S 7.5.a BLM: knowledge

32. ANS: T PTS: 1 DIF: L1
OBJ: CaLS.11.1.4 Explain how animals are classified. STA: S 7.5.a
BLM: knowledge

33. ANS: F, pores

PTS: 1 DIF: L1
OBJ: CaLS.11.2.1 Identify the characteristics of sponges. STA: S 7.5.a
BLM: knowledge

34. ANS: F, tentacles

PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge

35. ANS: F, medusa

PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge

36. ANS: F, segmented worm

PTS: 1 DIF: L1
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: knowledge

37. ANS: F, invertebrates

PTS: 1 DIF: L2
OBJ: CaLS.11.3.3 Identify the main characteristics of mollusks. STA: S 7.5.a
BLM: comprehension

38. ANS: F, exoskeleton

PTS: 1 DIF: L2
OBJ: CaLS.11.4.1 Describe the characteristics of arthropods. STA: S 7.5.b
BLM: comprehension

39. ANS: F, eight

PTS: 1 DIF: L1
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes,

millipedes, and insects. STA: S 7.5.a BLM: knowledge
40. ANS: F, sea cucumber

PTS: 1 DIF: L2
OBJ: CaLS.11.5.2 Name the major groups of echinoderms. STA: S 7.5.b
BLM: knowledge

COMPLETION

41. ANS: organ

PTS: 1 DIF: L1
OBJ: CaLS.11.1.1 Describe levels of organization in animal bodies.
STA: S 7.5.a BLM: knowledge

42. ANS: asexual

PTS: 1 DIF: L1
OBJ: CaLS.11.1.2 Identify four functions that enable animals to meet their basic needs.
STA: S 7.2.a BLM: knowledge

43. ANS: invertebrates

PTS: 1 DIF: L1
OBJ: CaLS.11.1.4 Explain how animals are classified. STA: S 7.5.a
BLM: knowledge

44. ANS: DNA

PTS: 1 DIF: L2
OBJ: CaLS.11.1.4 Explain how animals are classified. STA: S 7.2.e
BLM: comprehension

45. ANS: larva

PTS: 1 DIF: L1
OBJ: CaLS.11.2.1 Identify the characteristics of sponges. STA: S 7.2.a
BLM: knowledge

46. ANS: medusa

PTS: 1 DIF: L2
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: comprehension

47. ANS: polyp

PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge

48. ANS: mouth

- PTS: 1 DIF: L1
OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: knowledge
49. ANS: parasite
- PTS: 1 DIF: L1
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
BLM: knowledge
50. ANS: anus
- PTS: 1 DIF: L2
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: comprehension
51. ANS: closed
- PTS: 1 DIF: L1
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: knowledge
52. ANS: mantle
- PTS: 1 DIF: L1
OBJ: CaLS.11.3.3 Identify the main characteristics of mollusks. STA: S 7.5.a
BLM: knowledge
53. ANS: antennae
- PTS: 1 DIF: L2
OBJ: CaLS.11.4.1 Describe the characteristics of arthropods. STA: S 7.5.a
BLM: comprehension
54. ANS: segments
- PTS: 1 DIF: L1
OBJ: CaLS.11.4.1 Describe the characteristics of arthropods. STA: S 7.5.a
BLM: knowledge
55. ANS: arachnids
- PTS: 1 DIF: L1
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. BLM: knowledge
56. ANS: millipede
- PTS: 1 DIF: L2
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: comprehension
57. ANS: metamorphosis

PTS: 1 DIF: L1

OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: knowledge

58. ANS: thorax

PTS: 1 DIF: L1

OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: knowledge

59. ANS: compound

PTS: 1 DIF: L1

OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: knowledge

60. ANS: polyp

PTS: 1 DIF: L3

OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5
BLM: synthesis

SHORT ANSWER

61. ANS:

B and D have bilateral symmetry. A has radial symmetry.

PTS: 1 DIF: L2

OBJ: CaLS.11.1.3 Define symmetry. | CaLS.11.2.2 Describe the characteristics of cnidarians. | CaLS.11.3.1 Identify the main characteristics of worms. STA: S 7.5.a
BLM: application

62. ANS:

C is a sponge. It filters food particles from the water that passes through its body.

PTS: 1 DIF: L2

OBJ: CaLS.11.2.1 Identify the characteristics of sponges. STA: S 7.5.a
BLM: application

63. ANS:

A is a jellyfish. Its bowl-shaped body plan is called a medusa. It has a mouth that opens downward and tentacles that spread out from around the mouth.

PTS: 1 DIF: L2

OBJ: CaLS.11.2.2 Describe the characteristics of cnidarians. STA: S 7.5.a
BLM: application

64. ANS:

B is a planarian. It is free-living.

PTS: 1 DIF: L2
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: application

65. ANS:

D is a segmented worm. These worms have bodies made up of many linked segments, which are visible in the diagram.

PTS: 1 DIF: L2
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: application

66. ANS:

B has a digestive cavity with a feeding tube. D has a tubelike, one-way digestive system with a mouth at one end and an anus at the other end.

PTS: 1 DIF: L2
OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.
STA: S 7.5.a BLM: analysis

67. ANS:

A is a centipede. Its body has many segments, and one pair of legs is attached to each segment.

PTS: 1 DIF: L2
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application

68. ANS:

C is an arachnid. It has eight legs, two body sections, and no antennae.

PTS: 1 DIF: L2
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application

69. ANS:

C uses its hollow fangs to inject its prey with venom, which turns the tissues of the prey into mush. It then sucks in the mush through its fangs.

PTS: 1 DIF: L3
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application

70. ANS:

D is a crustacean. It has five pairs of legs.

PTS: 1 DIF: L2
OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application

71. ANS:

B is an insect. It has six legs, one pair of antennae, and wings.

PTS: 1 DIF: L2

OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application

72. ANS:

B obtains oxygen from air, which travels through a system of tubes that lead directly to the insect's cells from openings on the abdomen.

PTS: 1 DIF: L2

OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects. STA: S 7.5.a BLM: application

ESSAY

73. ANS:

In asexual reproduction, a single organism produces a new organism identical to itself. In sexual reproduction, a new organism develops from the joining of a male sperm cell and a female egg cell. Offspring produced by asexual reproduction have the same characteristics as the parent. Offspring produced by sexual reproduction have characteristics from both parents.

PTS: 1 DIF: L2

OBJ: CaLS.11.1.2 Identify four functions that enable animals to meet their basic needs.

STA: S 7.2.a BLM: analysis

74. ANS:

Crayfish are more closely related to butterflies than to hagfish because hagfish belong to a different phylum. Organisms in the same phylum are always more closely related to each other than to organisms in other phyla.

PTS: 1 DIF: L2

OBJ: CaLS.11.1.4 Explain how animals are classified. STA: S 7.5.a

BLM: application

75. ANS:

Sponges feed by straining food particles from the water that enters their central cavity through pores. The water carries tiny organisms that are food for the sponge. Collar cells on the inside of the central cavity trap the organisms. Jelly-like cells farther inside the sponge digest this food.

PTS: 1 DIF: L2

OBJ: CaLS.11.2.1 Identify the characteristics of sponges. STA: S 7.5.a

BLM: comprehension

76. ANS:

If the worm has a flat body, it is a flatworm. If it has a cylindrical body with pointed ends, it is a roundworm. If it has a body made up of many linked sections, it is a segmented worm.

PTS: 1 DIF: L2

OBJ: CaLS.11.3.1 Identify the main characteristics of worms. STA: S 7.5.a

BLM: application

77. ANS:

A tapeworm lives inside the digestive system of its host, where it absorbs food that has already been digested. In contrast, an earthworm lives in the soil. It needs a digestive system to break down the food that it gets from the soil.

PTS: 1 DIF: L2

OBJ: CaLS.11.3.2 Describe the main characteristics of each worm phylum.

STA: S 7.5.a BLM: analysis

78. ANS:

During complete metamorphosis, an insect goes through four distinct stages: egg, larva, pupa, and adult. At the pupa stage, major changes occur in body structure. The stages of gradual metamorphosis are egg, nymph, larger nymph, and adult. Nymphs do not change their body structure significantly, but they do grow larger, and may molt several times as they become adults. Beetles, butterflies, flies, and ants undergo complete metamorphosis. Grasshoppers, termites, cockroaches, and dragonflies undergo gradual metamorphosis.

PTS: 1 DIF: L3

OBJ: CaLS.11.1.2 Identify four functions that enable animals to meet their basic needs.

STA: S 7.5.b BLM: analysis

79. ANS:

Cnidarians have either a polyp or a medusa body plan. Both body plans have radial symmetry. Polyps are anchored to one spot for most of the time, whereas medusas are mobile. In both body plans, tentacles extend from a body cavity, and are used to bring food to the mouth. Cnidarians use stinging cells to capture their prey. Some examples of cnidarians are jellyfishes, sea anemones, and corals.

Like cnidarians, echinoderms have radial symmetry. Unlike cnidarians, however, echinoderms have internal skeletons and a water-vascular system that allows them to move. Some examples of echinoderms are sea stars, sea urchins, brittle stars, and sea cucumbers.

PTS: 1 DIF: L3

OBJ: CaLS.11.5.1 List the characteristics of echinoderms. STA: S 7.5.a

BLM: analysis

80. ANS:

The first body section is the head, which contains sense organs, such as antennae and eyes. The second body section is the thorax, to which wings and legs are attached. The third body section is the abdomen, which contains many internal organs and the insect's air holes, which lead to the system of tubes that bring gases to the insect's cells.

PTS: 1 DIF: L2

OBJ: CaLS.11.4.2 Describe the distinguishing structures of crustaceans, arachnids, centipedes, millipedes, and insects.

STA: S 7.5.a BLM: comprehension