

1. What is the major chemical component of an insect's exoskeleton?
  - (B) Protein
  - (C) Lipid
  - (D) Chitin
  - (E) Cellulose
2. Which part the exoskeleton is composed of living cells?
  - (A) Procuticle
  - (B) Epidermis
  - (C) Cuticulin layer
  - (D) Basement membrane
3. Which is NOT part of the epicuticle?
  - (A) Cuticulin layer
  - (B) Wax layer
  - (C) Exocuticle
  - (D) Cement layer
4. What is the function of the wax layer?
  - (A) Protection – armor
  - (B) Muscle attachment
  - (C) Thermal insulation
  - (D) Water conservation
5. Rigid, inflexible regions of the exoskeleton are called:
  - (A) Sutures
  - (B) Apodemes
  - (C) Sclerites
  - (D) Segments
6. A suture is best described as:
  - (A) A junction between two sclerites.
  - (B) A thick ridge of cuticle.
  - (C) A point of attachment between segments.
  - (D) A membranous bridge.
7. What function do quinone cross-linkages have in the exoskeleton?
  - (A) They make it impermeable to water.
  - (B) They make membranes more flexible.
  - (C) They darken the color of the exoskeleton.
  - (D) They make the sclerites rigid.
8. An apodeme could NOT be described as:
  - (A) A point of attachment for muscles.
  - (B) An internal ridge of the exoskeleton.
  - (C) A brace to strengthen the exoskeleton.
  - (D) A flexible joint in the exoskeleton.

Which structure is unicellular?

- (A) Spine
- (B) Seta
- (C) Gland
- (D) Sclerite

10. An insect's head is specialized for:

- (A) Reproduction and digestion
- (B) Ingestion and perception \*
- (C) Orientation and locomotion
- (D) Adaptation and respiration

11. Which structure is NOT part of the head capsule?

- (A) Pronotum
- (B) Clypeus
- (C) Tentorium
- (D) Vertex

12. The frontal suture lies between:

- (A) The compound eyes and the gena.
- (B) The frons and the compound eyes.
- (C) The clypeus and the frons.
- (D) The labrum and the clypeus.

13. The frons and the clypeus are separated by the:

- (A) Epistomal suture
- (B) Labrum
- (C) Gena
- (D) Subgenalsuture

14. The clypeus is located between:

- (A) The gena and the frons.
- (B) The vertex and the labium.
- (C) The frons and the labrum.
- (D) The occiput and the gena.

15. The mouthparts include all of these structures EXCEPT:

- (A) Hypopharynx
- (B) Maxillae
- (C) Clypeus
- (D) Labium

16. Which mouthpart(s) lie(s) between the labrum and the maxillae?

- (A) Tentorium
- (B) Mandibles
- (C) Labium
- (D) Labrum



7. Which structure is NOT part of an insect's antenna?
- (A) Scape
  - (B) Flagellum
  - (C) Pedicel
  - (D) Coxa
8. Which part of an insect's antenna articulates with its head capsule?
- (A) Pedicel
  - (B) Arista
  - (C) Flagellum
  - (D) Scape
9. Which structure would NEVER be found on an insect's prothorax?
- (A) Leg
  - (B) Wing
  - (C) Spiracle
  - (D) Pronotum
10. To which body segment are the elytra attached?
- (A) Mesothorax
  - (B) Metathorax
  - (C) Prothorax
  - (D) First abdominal
11. In a discussion of insects, what would a **tagma** be?
- (A) A number of body segments that are grouped into a distinct, functional unit.
  - (B) Another name for thorax, the locomotion "section" of an insect.
  - (C) The form in which a male and female dragonfly connect to each other when mating.
  - (D) Another name for the body segment on which a leg or wing is located.
  - (E) A number of abdominal segments with head segments.
12. Which part of the leg lies between the femur and the tarsus?
- (A) Coxa
  - (B) Trochanter
  - (C) Arolium
  - (D) Tibia
13. Which structure would NOT be found on an insect's pretarsus?
- (A) Trochanter
  - (B) Claws
  - (C) Spines
  - (D) Sticky pads

24. What happens when you press down on the top of an insect's thorax?
- (A) The wings go up.
  - (B) The wings go down
  - (C) The wings go forward.
  - (D) The wings go backwards.
25. Which structures are ALWAYS associated with Coleoptera?
- (A) Furculas
  - (B) Stigmas
  - (C) Hamuli
  - (D) Elytra\*
26. To which insect order do crickets and grasshoppers belong?
- (A) Orthoptera
  - (B) Lepidoptera
  - (C) Hymenoptera
  - (D) Hemiptera
27. The pleural suture lies just behind the:
- (A) Trochantin
  - (B) Episternum
  - (C) Epimeron
  - (D) Trochanter
28. Chewing mouthparts are NOT found in:
- (A) Ticks
  - (B) Centipedes
  - (C) Lobsters
  - (D) Crickets
29. Axillary sclerites form points of attachment for muscles that control the:
- (A) Antennae
  - (B) Wings
  - (C) Legs
  - (D) Mouthparts
30. Which of the following insects does **not** possess a mandibulate mouthparts?
- (A) Cockroach
  - (B) Housefly \*
  - (C) Locust
  - (D) Grasshopper
31. Which of the insect mouthparts is least specialized?
- (A) Cutting- sponging
  - (B) Sponging
  - (C) Siphoning
  - (D) Piercing-sucking
  - (E) Chewing



32. The chewing-lapping type of mouthparts consists of  
(A) maxillae and labium  
(B) labium and mandible  
(C) labium and labrum  
(D) maxillae and mandible  
(E) mandible and labrum
33. Where are spiracles located on an insect body?  
(A) head and thorax  
(B) thorax and abdomen  
(C) abdomen only  
(D) antennae
34. Which of the following types of antennae is comb-like?  
(A) Pectinate  
(B) Serrate  
(C) Flabellate  
(D) Filliform  
(E) Moniliform
35. Which of the following order of insects has the largest number of species?  
(A) Coleoptera  
(B) Hymenoptera  
(C) Diptera  
(D) Dictyoptera  
(E) Isoptera
36. Chewing mouthparts are NOT found in:  
(A) Ticks  
(B) Centipedes  
(C) Lobsters  
(D) Crickets
37. Which of the following is not a characteristic of insects?  
(A) Possession of three body divisions  
(B) Three pairs of legs  
(C) A pair of antennae  
(D) Presence of cephalothorax and abdomen

8. Which type of leg is primarily designed for swimming?

- (A) Natatorial
- (B) Saltatorial
- (C) Raptorial
- (D) Locatorial
- (E) Fossorial

Generally, insects use antennae primarily as

- (A) tactile receptors and olfactory receptors.
- (B) olfactory receptors and humidity sensors.
- (C) tactile receptors and humidity sensors.
- (D) humidity sensors and sound detectors.
- (E) sound detectors and to gauge air speed.

Which of the following insect wings are half leathery

- (A) Thysanura (bristletails and silverfish)
- (B) Orthoptera (grasshoppers and relatives)
- (C) Mantodea (preying mantids)
- (D) Hemiptera
- (E) Isoptera

1. In the arthropod compound eye, each \_\_\_\_\_ is covered with a lens and lined to eight special cells and a light sensitive core.

- (A) Ommatidium
- (B) Ocellus
- (C) Rhabdom
- (D) Retina
- (E) Labyrinth

2. A good example of tagmatization is the

- (A) head
- (B) abdomen
- (C) Cephalothorax
- (D) Retina
- (E) Labyrinth

3. The most successful of all animal groups are the:

- (A) chordates
- (B) arthropods
- (C) annelids
- (D) mollusks
- (E) echinoderms

Which of the following are not arthropods?

- (A) earthworms
- (B) crayfish



- (C) spiders
- (D) butterflies
- (E) both a and c

Insect body is divided into ?

- (A) Two parts, a Cephalothorax and a Abdomen
- (B) Three parts, A Head, a Thorax and a Abdomen
- (C) One part, a True Body Section
- (D) Any or all of the above

Why have insects become so successful ?

- (A) Because they have wings
- (B) Because they are small
- (C) Because they have a skeleton and jointed legs
- (D) All of the above

Which of the following is true ?

- (A) All arthropods are insects
- (B) All Insects are Crustaceans
- (C) All insects are Arthropods
- (D) All Crustaceans are insects

Which insect order is most closely related to Diptera?

- (A) Hymenoptera
- (B) Plecoptera
- (C) Orthoptera
- (D) Thysanura

In which insect order do crickets and grasshoppers belong?

- (A) Hemiptera
- (B) Hymenoptera
- (C) Lepidoptera
- (D) Diptera
- (E) Orthoptera

Which common names are associated with insects in the order Hymenoptera?

- (A) Wasps and ants
- (B) Beetles and weevils
- (C) Flies and mosquitoes
- (D) Grasshoppers and crickets