Invertebrate Worksheet

1. Approximately what percentage of animals are invertebrates?

2. What are invertebrates?

3. Arthropod means _____ appendages.

4. Give 5 characteristics of all arthropods.

5. What is ecdysis and why is it necessary?

6. What is the exoskeleton of arthropods composed of?

7. What is meant by an open circulatory system?

8. Arthropods are divided on the type of _____ they have.
_____ have chelicerae or fangs and no_____,
_____ have pincers called _____, and
_____ have mandibles or jaws.

9. _____ are extinct, marine arthropods with a_____ and segmented _____ with a pair of legs on each section.

10. _____ arthropods like insects, centipedes, & millipedes breathe through hollow air tubes called _____; aquatic chelicerates like the _____ crab have _____ to breathe; spiders, ticks, and scorpions use _____ to get air; and crustaceans breathe through _____.

11. Terrestrial mandibulates are _____ with one-branched appendages; while aquatic crustaceans are _____ with two-branched appendages.

12. Arthropods have a nervous system with an anterior _____ and sensory organs that include compound eyes or simple eyes called _____; _____ membranes for hearing; and _____ for smelling, feeling, or tasting.

13. _____ tubules filter wastes in arthropods.

14. The subphylum Chelicerarta contains the class _____ with the horseshoe Crab and the class _____ with spiders, ticks, scorpions, & mites. Both classes have _____ body regions, the _____ and

abdomen, no _____, _____ legs, and _____ or fangs.

15. Appendages on the head of chelicerates called _____ are used for sensing the environment and getting food into the mouth.

16. Spiders have posterior glands called _____ that help make their silken webs to get prey. Spiders detect movement whenever their prey gets caught in their _____ and by sensory _____ on their body. Spiders produce _____ to kill their prey & are beneficial because they feed mainly on _____.

17. Spiders are unlike insects in that they have _____ not _____ legs, only _____ eyes and not compound, and _____ body regions and not _____.

18. Name the body regions of insects and spiders.

19. The _____ and _____ are two poisonous spiders in our area.

20. The class Crustacea is in the subphylum _____ and includes _____, _____, _____, _____, _____, and the terrestrial _____ & _____.

21. Crustaceans have a pair of sensory _____ and a pair of shorter _____ for balance. The head also contains three types of mouthparts - _____, _____, and _____. They also have pincers called _____ to help catch and eat food.

22. Aquatic crustaceans have an external shell or _____ that must be molted, and they are used by man for _____.

23. The class _____ contains predators called centipedes with _____, _____ glands, posterior_____, & _____ pairs of legs per body segment.

24. The class _____ contains millipedes which are _____ with _____ pairs of legs per body segment.

25. The largest and most successful group of arthropods are the _____.

26. Insects have _____ body regions, _____ legs, a pair of sensory _____, and a pair of _____ for flight. _____ & _____ are wingless insects, while flies have their second pair of wings modified into balancing organs called _____.

27. Insects have 4 mouthparts which include the jaw or _____, the _____, the lower lip or _____, and the upper lip or _____.

28. Insect mouthparts are modified according to their _____. Butterflies have _____ mouthparts, flies have _____ mouthparts, mosquitoes have _____ mouthparts, and grasshoppers have _____ mouthparts.

29. Wings and legs are both attached to the _____ on insects, and some female insects have an egg laying tube or _____ on the end of their abdomen.

30. Name 2 ways insects communicate.

31. Insects detect sound by _____ membranes on the abdomen and sensory _____ that cover their body.

32. _____ along the abdomen of insects open into their breathing tubes or _____.

33. Insects with _____ metamorphosis go through egg, larva, pupa, & adult stages; while those with incomplete metamorphosis go through _____, _____, and _____ stages.

34. Give examples of insects with complete and incomplete metamorphosis.

35. _____ control metamorphosis.