

Interesting Insects

Insects belong to a special class of arthropods called **Insecta**. This class has more different kinds of species than all other life forms combined, including an estimated 500,000 different kinds of beetles. Although there is great variety among insects, some characteristics are common to them all. Insects are usually characterized by a body divided into three sections:

- a) **head**
- b) **thorax**
- c) **abdomen**

The thorax is where the moving parts like wings and legs are attached. All insects have **six legs** and therefore the eight-legged spiders are not insects. They range from lowly lice and fleas to spectacular dragonflies and butterflies. Like all arthropods, insects are protected by a hard **exoskeleton** made of **chitin**.

Insects have some specialized body systems that are not seen in other groups. The **tracheal** system which enables **gas exchange** is one of these. This system consists of a series of branched tubes that extend throughout the body and carry oxygen directly to cells. The tracheal system opens to the outside through **spiracles**, which are tiny pores capable of opening and closing. Insects also have a heart which pumps **hemolymph** throughout the body, but they do not have vessels like our arteries or veins. This is called an **open circulatory system**.

Many insects undergo an amazing change process called **metamorphosis**. Insects that go through **complete metamorphosis** progress from the **larval** stage, to the **pupal** stage, and finally to the **adult** stage. They look completely different as they change from one stage to another. Caterpillars, for example, are future butterflies at the larval stage. During their pupal stage they undergo a transformation until they finally emerge as adult butterflies.

Insects can be both beneficial and harmful to humans. Bees and other insects, for example, are needed to pollinate many of the crops that we harvest for food, but others are pests for farmers. Enormous amounts of time and money are spent on chemicals to kill insects that would otherwise eat our crops. Insects can also carry diseases. Mosquitoes are capable of carrying malaria and West Nile Virus, diseases that cause terrible sickness in humans. However, regardless of their relationship with humans, insects are the most successful form of life on earth.

Name _____

Date _____

Interesting Insects Questions

1. True or False. There are more different kinds of insects than of any other life form on earth.
2. Insects have three body sections: head, _____, and abdomen.
3. To which body section do wings and legs attach?
4. True or False. Spiders are insects.
5. The tracheal system opens to the outside through tiny pores called _____.
6. The circulatory system of insects is called:
 - a. closed
 - b. open
 - c. mixed
 - d. circular
7. Insects that go through the process of _____ look completely different as juveniles than they do as adults.
8. The life stages of an insect that does complete metamorphosis are _____, _____, and adult. (In order.)
 - a. pupal, larval
 - b. adult, larval
 - c. larval, pupal
 - d. larval, hemolymph
9. Name something that insects do that is beneficial for humans?
10. Give two examples of insects.

Name _____

Date _____

Interesting Insects Answers

1. **True** or False. There are more different kinds of insects than of any other life form on earth.
2. Insects have three body sections: head, **thorax**, and abdomen.
3. To which body section do wings and legs attach? **thorax**
4. True or **False**. Spiders are insects.
5. The tracheal system opens to the outside through tiny pores called **spiracles**.
6. The circulatory system of insects is called:
 - a. closed
 - b. open**
 - c. mixed
 - d. circular
7. Insects that go through the process of **metamorphosis** look completely different as juveniles than they do as adults.
8. The life stages of an insect that does complete metamorphosis are _____, _____, and adult. (In order.)
 - a. pupal, larval
 - b. adult, larval
 - c. larval, pupal**
 - d. larval, hemolymph
9. Name something that insects do that is beneficial for humans? **pollination**
10. Give two examples of insects. **Answers will vary.**