

Information about Insects

Additional information can be found at the following web sites.

www.insects.org

<http://easyscienceforkids.com/all-about-insects/>

<http://www.ducksters.com/animals/bugs.php>

Insects are members of a larger group called **arthropods**. All arthropods have a rigid exoskeleton, and legs that are jointed (arthropod means "jointed foot"). In order to grow, arthropods have to shed their whole exoskeleton all at once; this is called "molting." All insects have bodies which are divided into three sections: the head, thorax, and abdomen. In some insects these sections are fused together so they may be hard to tell apart, and some baby insects (called immature) do not have all three sections until they become adults. Nearly all insects have a pair of antennae on their heads. They use their antennae to touch and smell the world around them. Insects have six legs that are attached to the middle section of the body, the thorax. Insects are the only arthropods that have wings, and the wings are always attached to the thorax, like the legs.

All insects lay eggs. There are two ways that insects grow: complete or incomplete metamorphosis. Insects that have **complete metamorphosis** have babies that look very different from the adults and often eat very different foods than adults. Butterflies, beetles, and true flies are some of the groups that have complete metamorphosis. The babies are called larvae. Caterpillars and maggots are examples of insect larvae. Larvae often have soft exoskeletons that stretch so they can grow fast, and they go through a resting stage called a pupa before emerging as an adult. Insects that have **incomplete metamorphosis** have babies that look like small adults with no wings. They usually eat the same kind of food as the adults do. Grasshoppers and cockroaches are two kinds of insects that have incomplete metamorphosis.

Fun Facts about Insects

- The number of insect species is believed to be between six and ten million.
- Insect bodies have three parts, the thorax, abdomen and head.
- Insects have two antennae.
- Insects have an exoskeleton
- Insects have three pairs of legs. (6 total)
- Some insects are able to walk on the surface of water.
- Bees, termites and ants live in well-organized social colonies.
- Only male crickets chirp.
- Insects are cold blooded.
- Silkworms are used as the primary producer of silk.
- Most insects hatch from eggs.
- The life cycle of a mosquito features four stages, egg, larva, pupa and adult.
- Spiders are not insects.
- Bees are found on every continent except Antarctica.
- Ants leave trails and communicate with each other using pheromones.

Bees and Wasps

Bees and wasps belong to the group Hymenoptera.

The key characteristics of this group are:

- Two pairs of transparent wings; the hind wings are smaller than the forewings.
- The middle of their body often has a constricted appearance.
- Chewing and sucking mouthparts
- Females often have a stinger
- Often live in colonies, but not all types do.

Beetles

Beetles are in the group Coleoptera. They are one of the most common living things on earth.

The key characteristics of this group are:

- A hard shell-like covering over their folded wings
- Chewing mouthparts
- Range in size from tiny to large
- Antennae are short and have a variety of forms

Crickets & Grasshoppers

These insects are in the group Orthoptera.

The key characteristics of this group are:

- Chewing mouthparts
- Leathery wings folded and flattened against their backs
- Usually fairly large compared to some other insect groups
- The young and adults look very similar
- Antennas are very long.

Butterflies

These insects belong to the group Lepidoptera.

The key characteristics of this group are:

- Adults have two prominent pairs of scaly wings.
- Larvae are wingless.
- Larvae have chewing mouthparts. Most adults have sucking mouthparts, although some adults have no mouthparts at all, they only live long enough in this stage to mate before they die
- Butterflies have antennae with knobs on the end; moths have feathery antennae.
- Most larvae form a chrysalis or cocoon for the pupa stage before tuning into an adult.

Ants

Ants are also in the insect group Hymenoptera.

- They have chewing mouthparts and live in colonies.
- However, most ants are wingless, only the queen of the ant colony and reproducing males have wings, the rest are wingless.

