

## Praying Mantis

**Activity:** Observe praying mantis, discuss the praying mantis life-cycle.

**Goal:** In this lesson, students will use praying mantis to explore the concept of balance in our home garden ecosystem and to learn the value of organic gardening and the importance of praying mantis for pest control. Students will study a live praying mantis anatomy and life cycles.

**Supplies:** In the shed: Praying Mantis, magnifying containers

### How to Proceed:

1. **Set-up: Each class only gets one praying mantis egg case.** Place two to three praying mantis into the plastic magnifying boxes (one box per child). You have to work quickly as the praying mantis can be fast. It might help to cool them down in the refrigerator. Students will have a chance to take a close look at their ladybugs after you read the book and discuss the facts seen below.
2. Discuss 'Praying Mantis Facts.' See below.
3. Distribute the insects to your students.
4. Students may release the praying mantis in the garden.
5. Return all collecting containers with their magnifying lids.

## Praying Mantis

The praying mantis is named for its prominent front legs, which are bent and held together at an angle that suggests the position of prayer.

**Hunting Adaptations:** By any name, these fascinating insects are formidable predators. They have triangular heads poised on a long "neck," or elongated thorax. Mantids can turn their heads 180 degrees to scan their surroundings with two large compound eyes and three other simple eyes located between them. Typically green or brown and well camouflaged on the plants among which they live, mantis lie in ambush or patiently stalk their quarry. They use their front legs to snare their prey with reflexes so quick that they are difficult to see with the naked eye. Their legs are further equipped with spikes for snaring prey and pinning it in place.

**Diet:** Praying Mantids eat flies, aphids, moths, butterflies, and many other insects (including other mantids). They catch their prey with their strong, barbed front legs.

Praying Mantids are useful in gardens, since they control the insect population. They will only eat live insects.

**Breeding and Behavior:** Moths, crickets, grasshoppers, flies, and other insects are usually the unfortunate recipients of unwanted mantid attention. However, the insects will also eat others of their own kind. The most famous example of this is the notorious mating behavior of the adult female, who sometimes eats her mate just after—or even during—mating. Yet this behavior seems not to deter males from reproduction. Females regularly lay hundreds of eggs in a small case, and nymphs hatch looking much like tiny versions of their parents.

**Life Cycle:** Mantises go through three life stages: egg, nymph, and adult. For smaller species, the eggs may hatch in 3–4 weeks as opposed to 4–6 weeks for larger species. The nymphs may be colored differently from the adult, and the early stages are often mimics of ants. A mantis nymph grows bigger as it molts its exoskeleton. Molting can happen five to 10 times before the adult stage is reached, depending on the species. After the final molt, most species have wings, though some species remain wingless or brachypterous ("short-winged"), particularly in the female sex. The lifespan of a mantis depends on the species; smaller ones may live 4–8 weeks, while larger species may live 4–6 months.

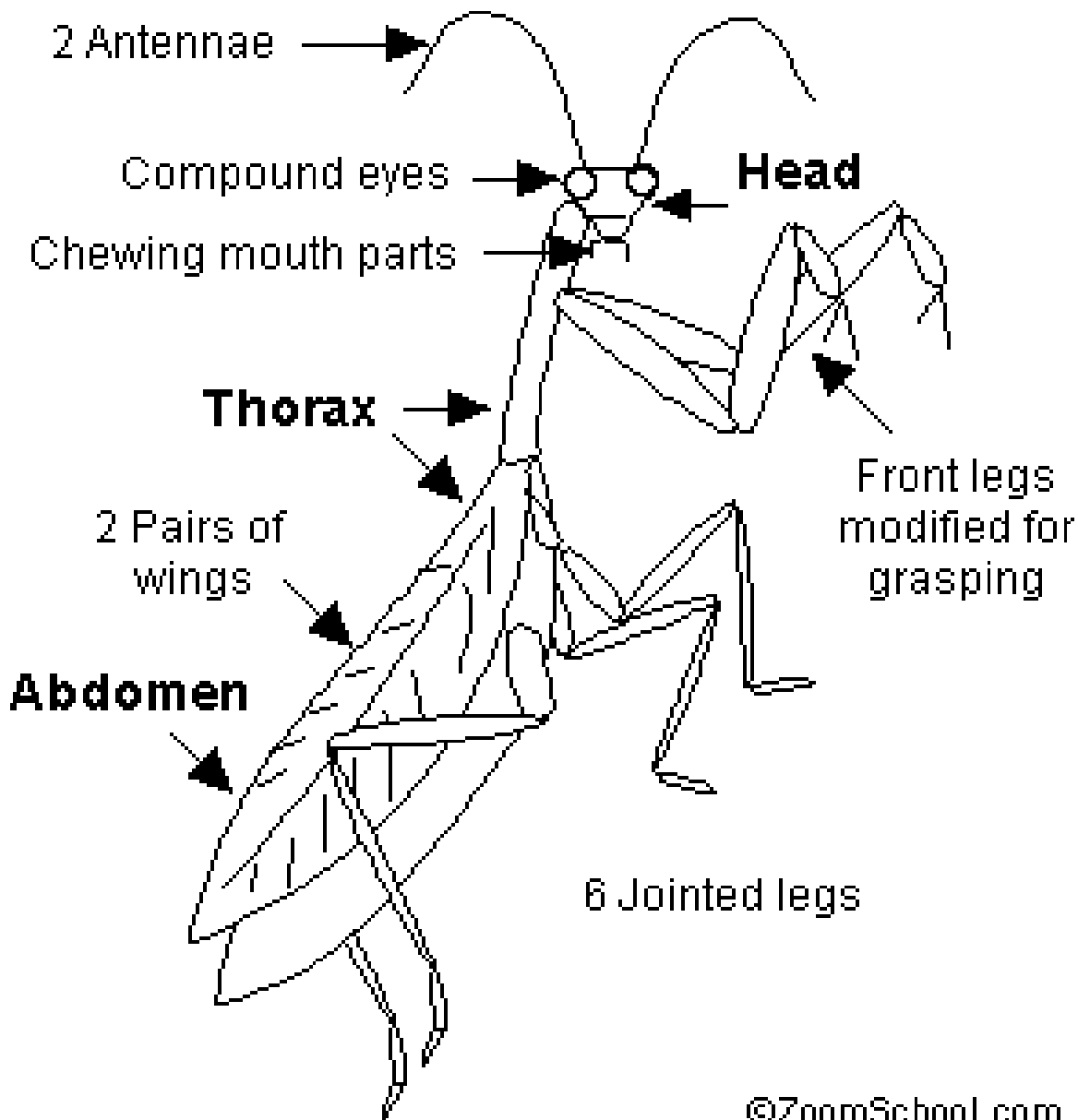
**Predators:** Praying Mantids are eaten by bats, birds and wasps.

**Anatomy:** Praying Mantids are green or tan, camouflaging them among plants. Like all insects, they have 6 jointed legs, a three part body (head, thorax, and abdomen), 2 antennae, large compound eyes, and a hard exoskeleton. Mantids can rotate their triangular-shaped head in almost a full circle. Praying Mantids have a flexible, elongated prothorax that looks like a neck and increases their head mobility. Most adult mantids are from 2 to 6 inches (5-15 cm) long. Females are larger than the males.



# Praying Mantid

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