

LEVELED BOOK • 0

# Dragonflies!

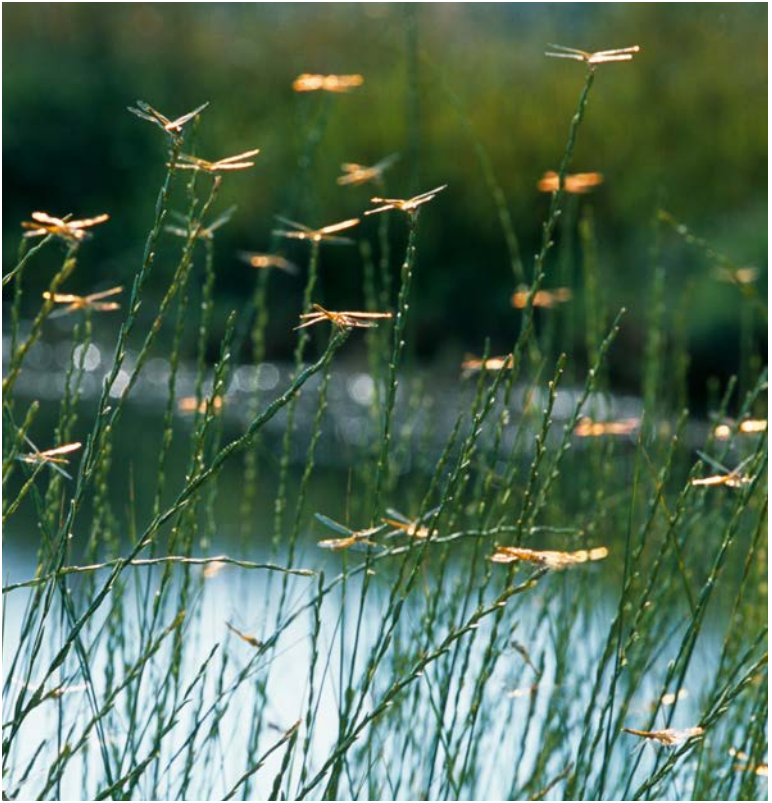


**Multi  
level  
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Written by Cheryl Reifsnyder

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# Dragonflies!



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## Focus Question

What makes the dragonfly an amazing insect?



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southern hawker dragonfly

## Amazing Dragonflies

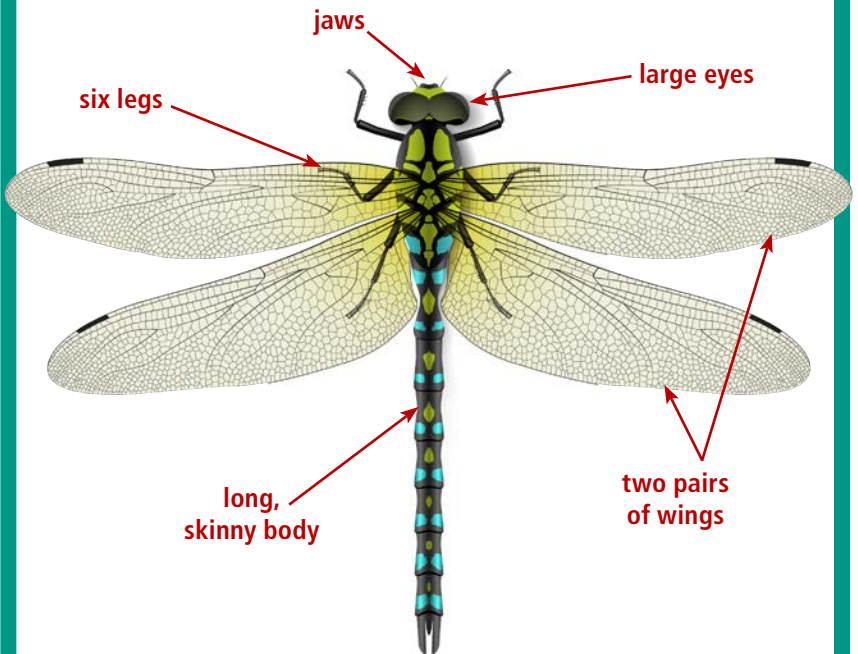
You're walking past a lake or stream when suddenly—*bzzt!*—something big, shiny, and green zooms past your head. It's bigger than a bumblebee. It's faster than a butterfly.

It's an amazing dragonfly!

## What Are Dragonflies?

Dragonflies are flying **insects** with long bodies and two **pairs** of wings. They come in every color of the rainbow: bright red, sunny orange, even metallic blue, green, and gold. Some dragonflies have colorful stripes on their wings or bodies. Some even change color over time.

### What Makes an Insect a Dragonfly?



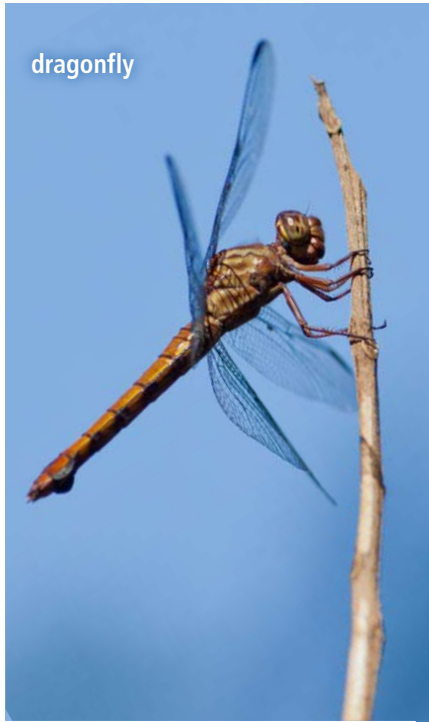
A dragonfly has a large head; a long, skinny body; and two pairs of wings.



damselfly



dragonfly



Dragonflies are often confused with damselflies because the two kinds of insects look like each other. You can tell dragonflies and damselflies apart when they land. When a damselfly isn't flying, it folds its wings together and holds them above its back. Dragonfly wings can't fold like a damselfly's. Dragonflies keep their wings stretched out to either side all the time.

## Young Dragonflies

Dragonflies need water during every stage of their **life cycle**. Adults lay their eggs in water or on plants near water.

The young dragonflies, called *nymphs*, live in water for one or more years after hatching.



Some dragonflies lay their eggs in rotting wood under water (main). Some dragonflies can lay hundreds of eggs at a time (inset).



dragonfly nymph

Nymphs look very different from adult dragonflies. They have **gills** inside their bodies, which allow them to breathe underwater. Dull green or brown coloring helps them hide from predators such as fish and frogs. To escape predators, they squirt a powerful stream of water through their gills. It launches the nymphs forward at high speed.

As nymphs grow, their skin doesn't grow with them. Instead, dragonfly nymphs **shed** their entire outer layer each time they need to grow. When a nymph is ready to become an adult, it crawls out of the water. The adult dragonfly comes out of the last shed layer.



## Super Sight

Dragonflies have amazing eyesight. Each eye is made up of about thirty thousand tiny sections. As adults, dragonflies have the largest eyes of any kind of insect. They can see in almost all directions at once. Dragonflies' super eyesight helps them catch **prey**. They can find a single target, even in a swarm of thousands.



Close up, dragonfly eyes look as if they are made of window screens.

## Tracking Dragonflies

How do scientists find out where a dragonfly swarm is headed? They glue on miniature radio transmitters. Then scientists use cars and an airplane to track the dragonflies as they move across the country.



## Amazing Flight

Adult dragonflies are among the world's fastest flying insects. They reach speeds of one hundred body lengths per second. That's more than 22 miles (36 km) per hour for a large dragonfly. When a dragonfly zips into high speed, it speeds up faster than the world's fastest race cars!

Male dragonflies defend their homes against other males. If they spot an intruder, they "fight" by performing high-speed flight displays. These contests let dragonflies show off their speed and size without being hurt.

Unlike most flying insects, dragonflies control each wing **independently**. They can **hover** like helicopters or swoop and dive like fighter jets. They can fly forward, backward, and even upside down.



Dragonflies are quick, nimble fliers.

## Do You Know?

Scientists study dragonfly flight in order to understand how to make better airplanes and helicopters. Scientists even hope to create a robotic dragonfly that they can send places too tricky or dangerous for humans to visit.



Damselflies make good meals for dragonflies.

## Amazing Hunters

An adult dragonfly is a high-speed flying predator, one of the most successful hunters in the animal world. Scientists say that a dragonfly catches its prey more than nine times out of ten. Compare that to a lion, which catches its dinner only one out of four tries.

Dragonflies can deliver rapid, powerful bites. They surprise mosquitoes and other small insects by attacking from behind and below. They often eat their catch without bothering to land.

## Dragonflies for Dinner

Dragonflies' flying skills help them avoid most predators. Many animals like to eat dragonflies—birds, lizards, frogs, spiders, and even other dragonflies. Not many can catch these speedy insects.

Humans eat dragonflies, too. In many parts of the world, dragonflies are a special treat. You can buy them threaded onto sticks like skinny corn dogs.



An adult bee-eater holds a dragonfly in its beak.





Scientists say that dragonfly swarms are hard to photograph.

## Swarms

Sometimes dragonflies gather in huge groups, or swarms. They may swarm to feed on large numbers of insect prey found in one place. They also swarm to fly south as the weather cools, the way birds travel south for the winter.

## A Safe Place for Dragonflies

In 1985, people in Japan created the world's first dragonfly park. Since then, dragonfly parks have sprung up in Europe and the United States as well. Dragonflies are amazing creatures—and people all over the world are starting to realize it!



The dragonfly park in Singapore has large statues of dragonflies in the lake.

## Dragonflies Worldwide

There are nearly three thousand kinds of dragonflies. They are found all around the world, in almost every kind of **habitat**. Check out a nearby stream, pond, or lake, and see if you can spot these fancy fliers for yourself!

## Glossary

<b>gills</b> ( <i>n.</i> )	the organs that fish and many other aquatic animals use for breathing (p. 8)
<b>habitat</b> ( <i>n.</i> )	the natural environment of a plant or animal (p. 15)
<b>hover</b> ( <i>v.</i> )	to stay in one place in the air (p. 11)
<b>independently</b> ( <i>adv.</i> )	in a way that does not rely on someone or something else to work or function (p. 11)
<b>insects</b> ( <i>n.</i> )	small animals with six legs, three body parts, and usually two sets of wings (p. 5)
<b>life cycle</b> ( <i>n.</i> )	the stages of change that an organism goes through during its life (p. 7)
<b>pairs</b> ( <i>n.</i> )	sets of two (p. 5)
<b>prey</b> ( <i>n.</i> )	an animal that is hunted and eaten by a predator (p. 9)
<b>shed</b> ( <i>v.</i> )	to drop skin, feathers, hair, or antlers (p. 8)

## Words to Know

gills

habitat

hover

independently

insects

life cycle

pairs

prey

shed

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### Correlation

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# Dragonflies!

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*Word Count: 658*



## Connections

### Writing

Using the information in this book, write a personal narrative from the perspective of a dragonfly.

### Science

Design a habitat for a dragonfly. Use facts from the book to create your habitat.

  
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