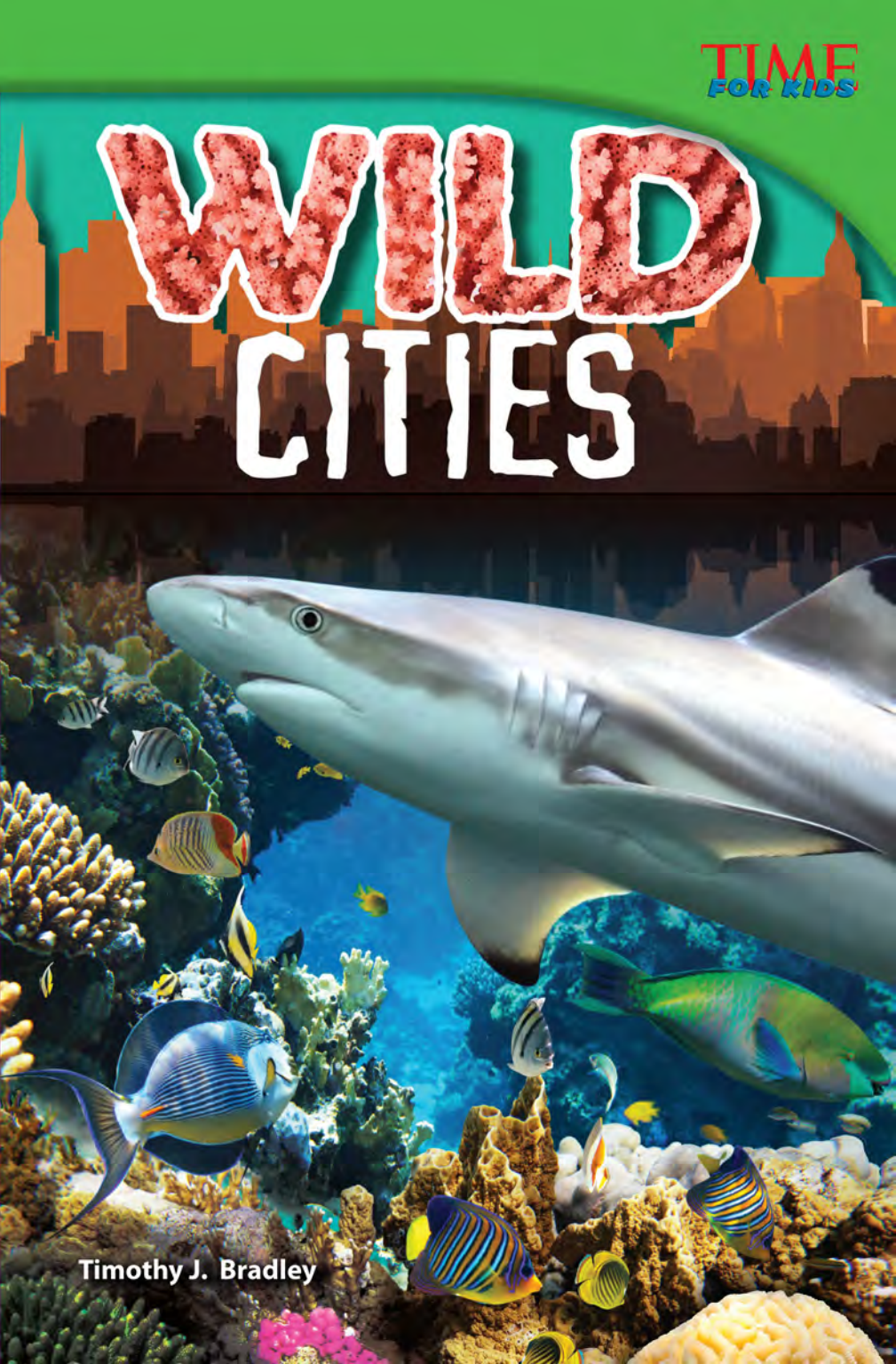

TIME
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CITIES
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CITIES IN NATURE

A city is a place where many people live together. Cities have everything humans need for work, play, and survival. And cities can be very fun places to live.

Humans aren't the only animals that build cities. Some animals live in large groups that are like human cities. Animals that live together can watch out for one another. They can sound a warning when there is danger. It's easier to find food and care for babies when there's help.

In cozy rabbit **warrens**, busy beehives, and action-packed **anthills**, animals live together. The world is full of wild cities.



Meerkats live in groups.

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New York City is the largest human city in America. Over 8 million people live there.





Thousands of ants live in and below one anthill.



- In what ways do you think animal communities are like human cities?
- What do you think are the advantages of living in a city?
- How can we learn from the way animals build their cities?

INSECT CITIES

Some insects live together in groups. Thousands of ants share a single **anthill.** Hundreds of hornets may live in one nest. Together, they can find food. In large numbers, they can defend the **colony** against attacks.

Insects that live together are **eusocial**. Eusocial insects **evolved** to build complex cities. The ancestors of these insects that lived alone died easily. Those that worked together lived longer. For ants, wasps, and termites, living together means survival.

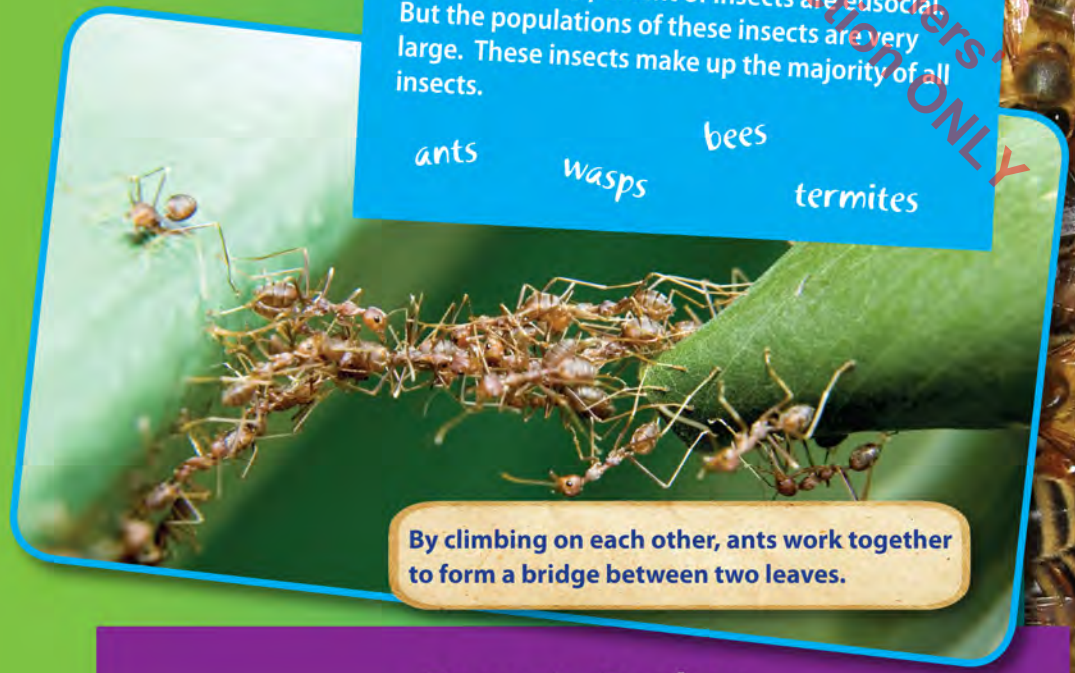


bees covering their hive

Friendly Fliers

Only about two percent of insects are eusocial. But the populations of these insects are very large. These insects make up the majority of all insects.

ants wasps bees termites

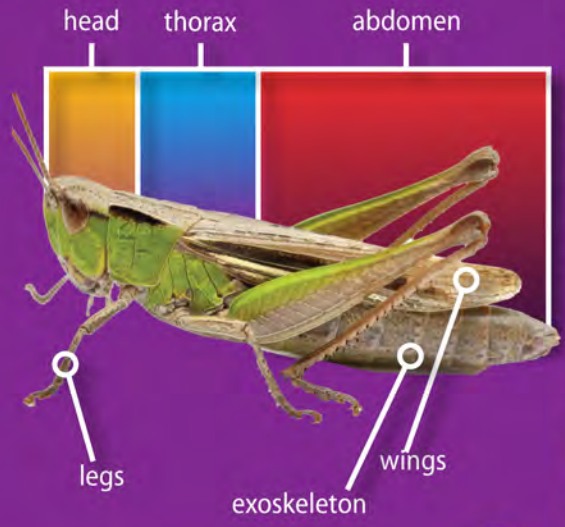


By climbing on each other, ants work together to form a bridge between two leaves.

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Insect Basics

An insect is a type of **arthropod**. Insects have an **exoskeleton**, segmented body, and jointed legs. Their bodies are divided into three parts: head, thorax, and abdomen. They have wings and three pairs of legs.



Inside the Hive

Honeybees build cities in the form of hives. A beehive is where bees make honey and raise their young. Worker bees fly away from the hive to look for flowers and gather **pollen** and nectar. They bring the pollen and nectar back to the hive. That is where nectar is made into honey. The bee **larvae** eat the honey. Worker bees do a dance to tell other bees where to find the flowers.

The honeycombs inside the hive are made up of six-sided **cells**. Bees eat the honey. They change the sugar into wax. The bees chew the flakes of wax until they soften. Then the bees use the wax to build more cells in the hive.



a bee collecting nectar



an enormous termite mound

Building Without a Plan

Instincts are actions that animals are born knowing how to perform. Instincts tell an animal to hunt. Instincts tell an animal to find a mate. Instincts drive tiny insects to work together to build a large home for themselves.

Some types of bees live alone. These solitary bees do not live as long as bees that live in groups.



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