

shelter

# Needs of Plants and Animals



plant needs



people and food

animal needs



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# Needs of Plants and Animals



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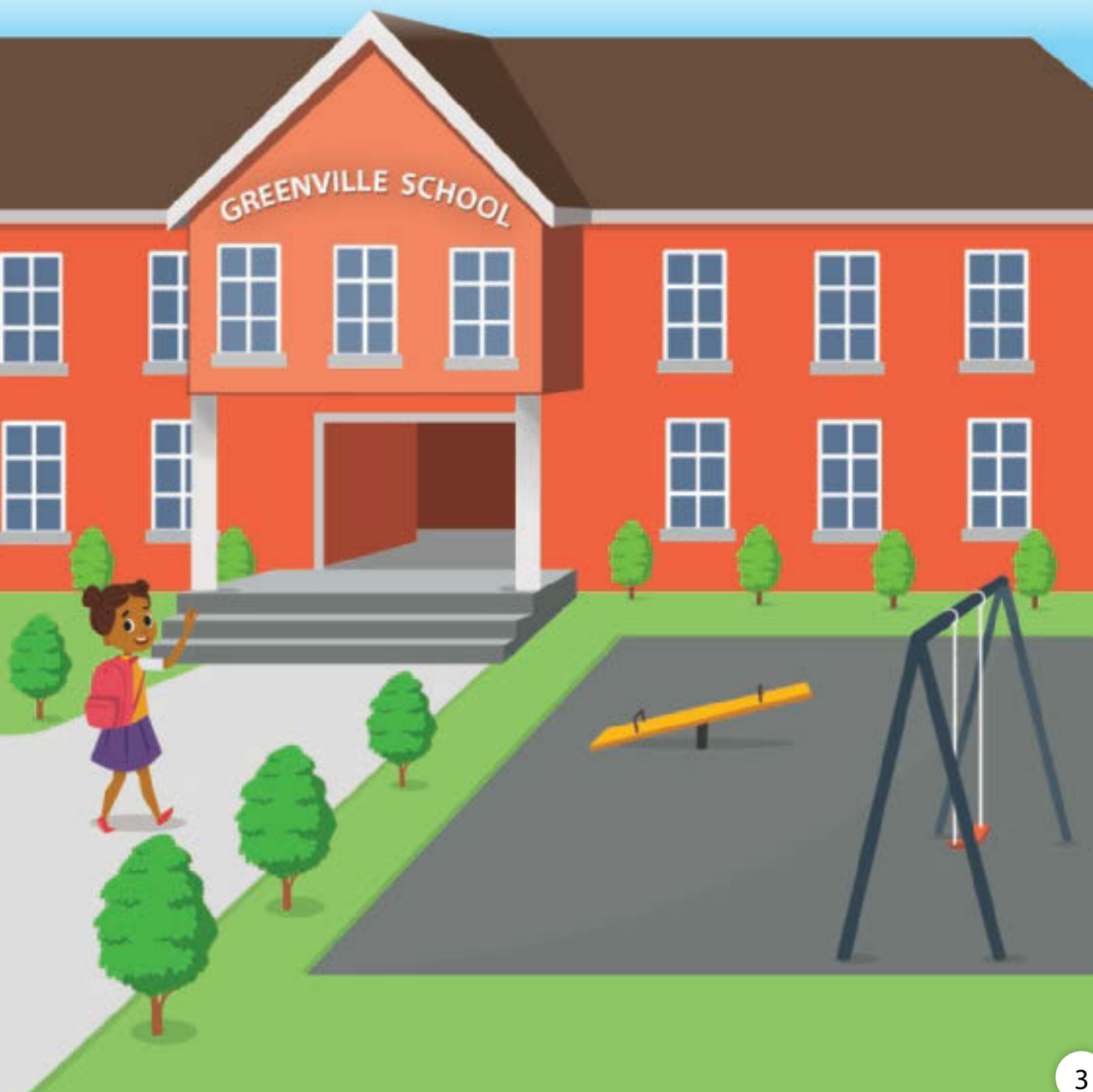
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# What to Do with an Old School

It is the first day of Kindergarten! Students wave goodbye to their families. They are excited to go to school.



Greenville School is all new. The building is new. The playground is new. The parking lot is new, too.



“What will happen to the old school?” one child asks.

Mrs. Patel answers, “Our city will tear down the old school building. They will take away the playground. They will dig up the old parking lot.”

“What will go in that big empty place?” another student asks.





Everyone has ideas.

"All interesting ideas," Mrs. Patel says, "Keep thinking."

"Put a swimming pool there!"

"Build the tallest building in the world!"

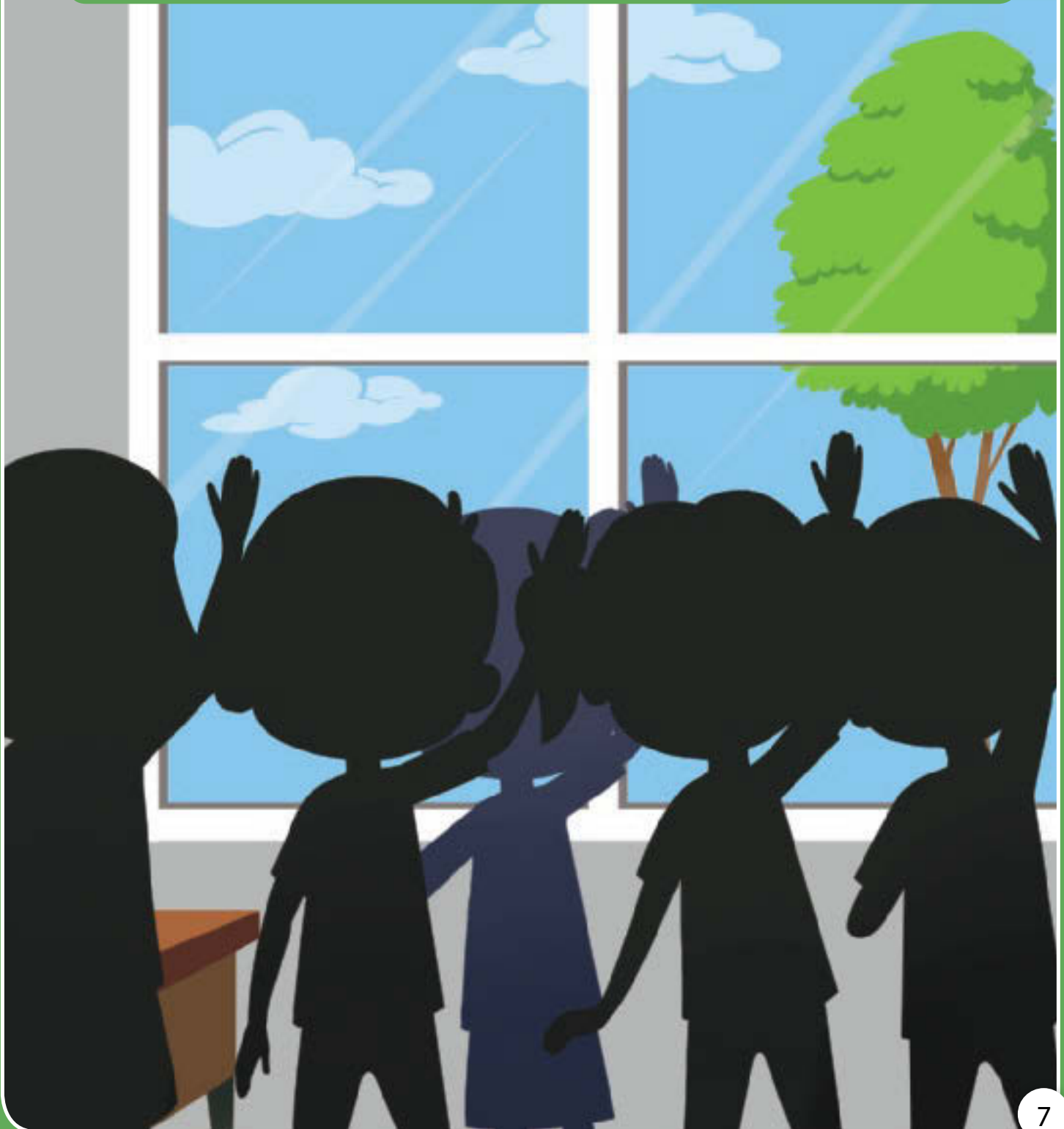
"Open a toy store!"



The next day, the class talks again. "Let's make it a place for wild things to live," one child says. "Then people can go there to see flowers, butterflies, and birds."



Everyone agrees this is the best idea. Mrs. Patel says, "You can bring your idea to our city leaders. But, first, you will need to find out what living things need. Are you ready?"



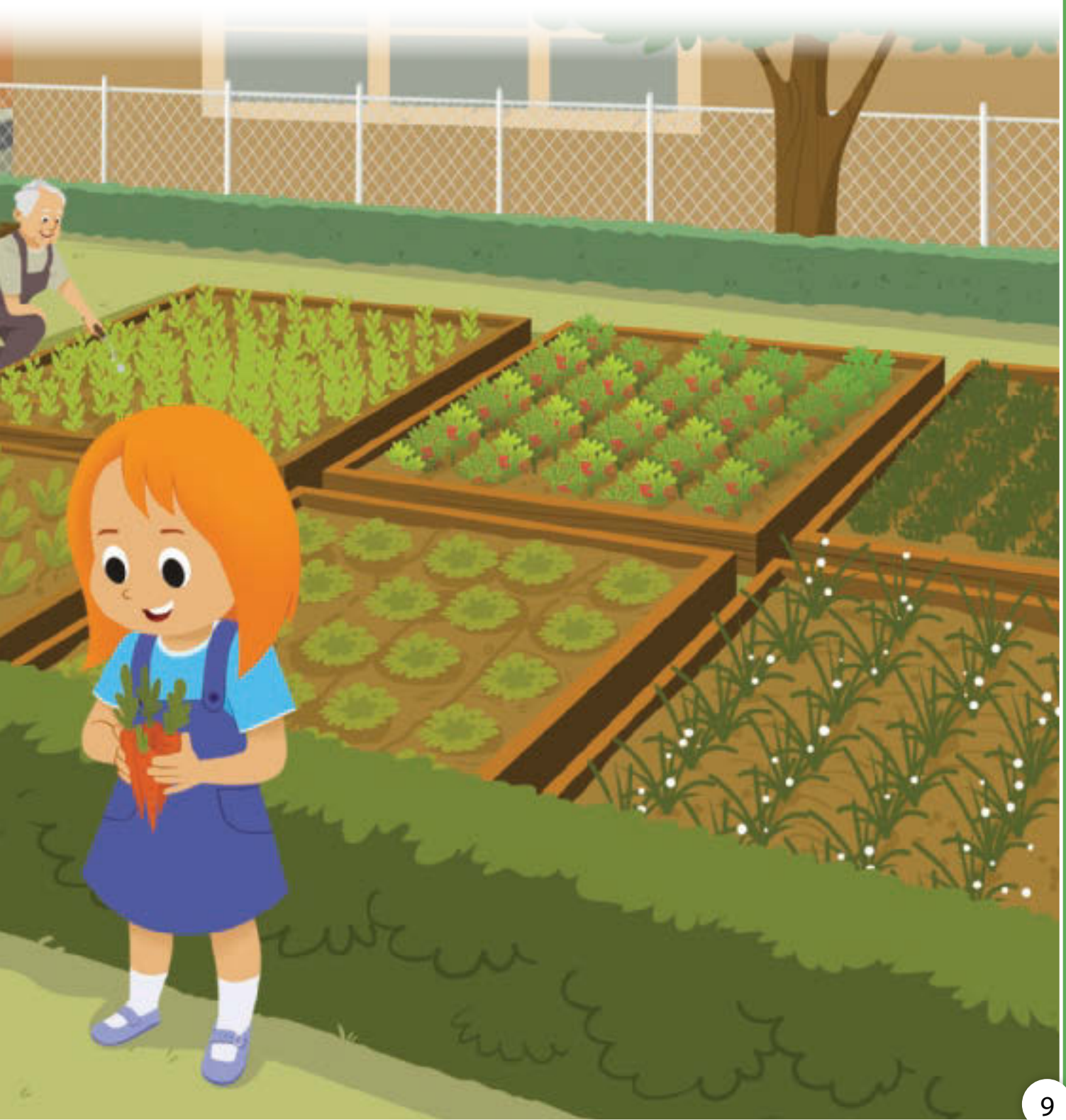
## Plants and Their Needs

Mrs. Patel's class takes a field trip! They walk to a city garden. There are many kinds of plants there.





People planned this garden. They found a sunny place. They prepared the soil. They planted seeds. They watered the plants. Why does the garden need so much care?



Plants are living things. Living things need certain things to live and grow. Plants need light. They get light from the sun.

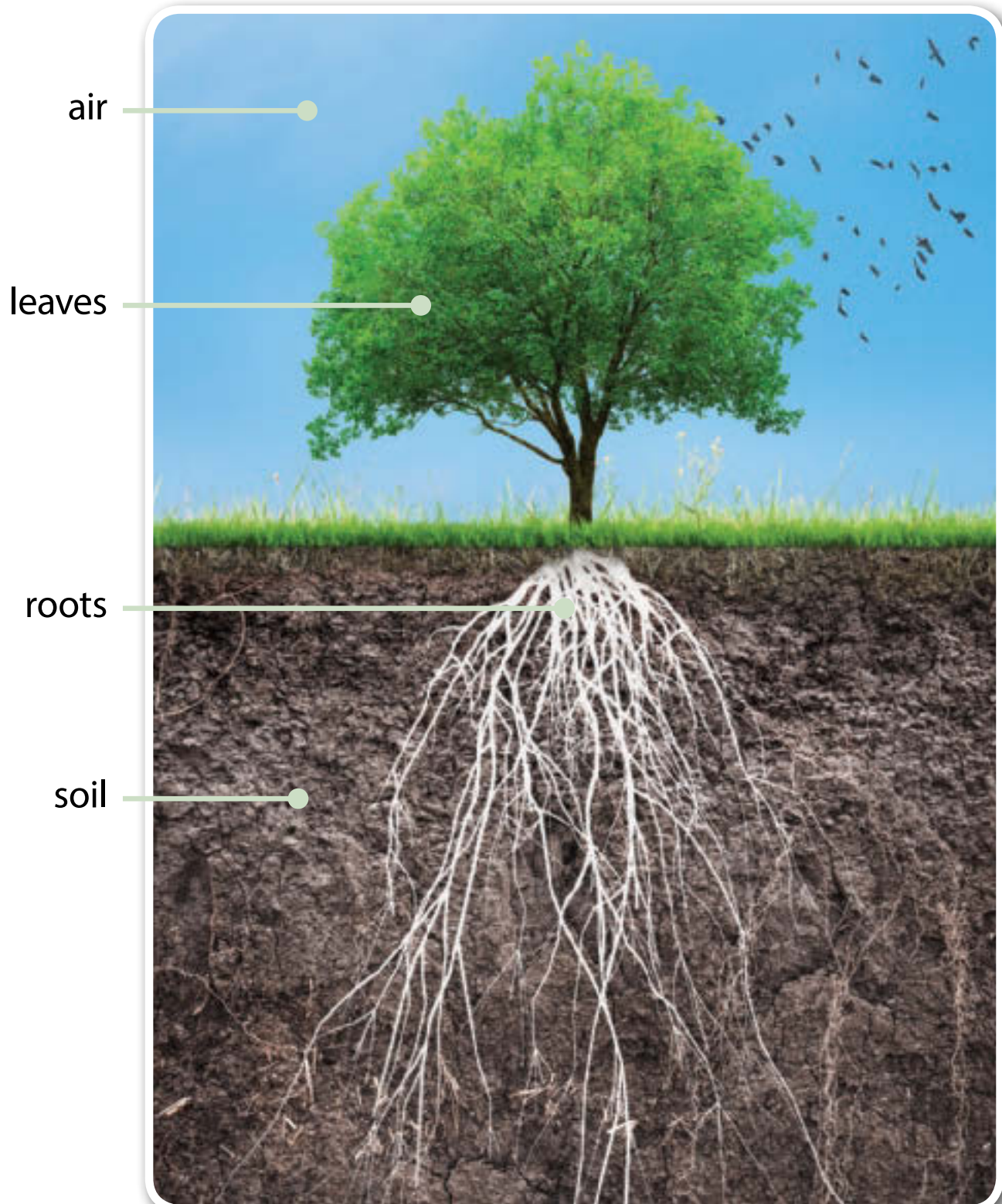




Plants also need water to live and grow. They get water from rain. They cannot live if there is no water.



Plants need air and soil, too. Their leaves take in air. Their roots take in water from soil.





Many kinds of plants live in nature.

Huge trees are plants. Many of them live where there is plenty of rain.



These round cacti are plants. They can live where there is little rain.

Tiny duckweeds are plants. They need to live ON water! They float on the surface of the water.



Mrs. Patel asks, "What kinds of plants can meet their needs in our old school lot?" The children think about patterns in their weather. How much sunshine is there? How often does it rain?



The class searches online. They look at books. They find out what kinds of plants can live and grow in the old school lot.





## Animals and Their Needs

Now Mrs. Patel's class wants to learn about what animals need. They take another field trip. This time, they ride a bus to the city zoo. The animals at the zoo came from many places.





The children watch the zookeepers work. The animals get food, but different kinds. The animals get water, but some get more than others. Why is this so?



Animals are living things. They need certain things to live and grow. Animals need to eat food.

At a zoo, zookeepers give animals the kinds of foods they need.



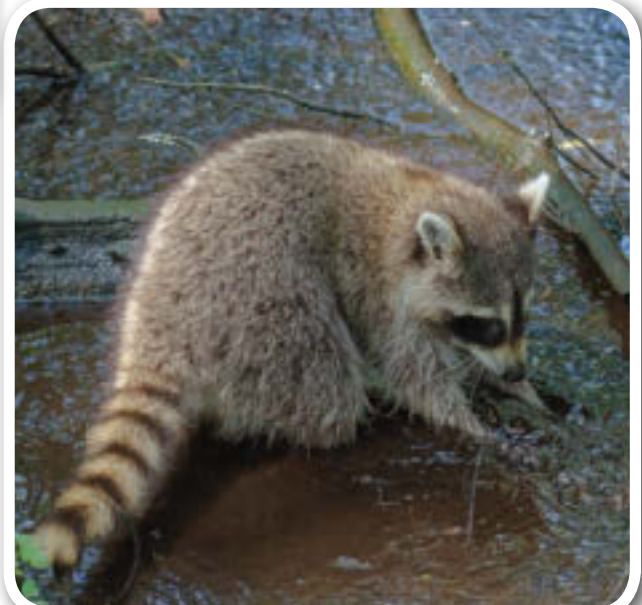


In nature, animals get food from the places where they live.

Some kinds of animals  
eat plants for food.



Some eat other animals.



Some eat both plants  
and animals.



Animals also need water to live and grow. At a zoo, zookeepers give them water. This camel drinks from a hose.



In nature, animals live where they can find the water they need. This lion drinks from a rain puddle.



Animals need air, too. They get air from the places they live. Fish get air that is in the water. Worms get air that is in the soil. Birds get air above the land.





Animals also need shelter. They find or make shelters in the places where they live.



A mother bear dug this underground den.



This mother bird used tall grasses to make a nest.



This crab found a shell on the beach and moved in!



This cheetah finds shelter from the hot sun under a tree.



Mrs. Patel asks, "What kinds of animals can meet their needs in our old school lot?" The children think about the place and its parts. How much water is nearby? What plants or animals must they eat? How can animals make shelters?



## People and What They Need

Mrs. Patel says, "Today we are taking a field trip to City Hall!" The students and some parents ride a big bus. They get off at a building with a flag in front.



“We will investigate the needs of one more kind of animal here,” says Mrs. Patel. The children try to guess. “A bug?” “A bird?” “A lizard?” “No,” says Mrs. Patel. “It’s us! We are going to learn about the needs that people have.”





Another word for “people” is “humans.” Humans are a kind of animal. Humans need water, food, air, and shelter to live and grow. Workers at City Hall help meet human needs in a city.



First, the children visit the water office.

Water comes from nearby lakes.



Water moves through pipes to the city.

The city makes sure the water is clean.





Next, the children visit the food office. In a city, humans get food at markets. The food comes from farms. The food office makes sure the food in markets is safe to eat.





Humans eat foods from plants and other animals. Tomatoes, rice, and beans are parts of plants. Chili peppers are parts of plants, too.



Cheese, eggs, and fish come from animals. Milk also comes from animals.



Humans build shelters using things in nature. Many homes are made from wood. Wood comes from trees that grow in forests. Some schools are made of brick. Bricks are made from bits of rock and clay. A city's building office makes sure shelters for humans are safe.





Mrs. Patel's students are almost ready to present their ideas about what to do with the old school property. She asks, "How could we also make the old school lot a nice place for people to visit?" People enjoy places to be in nature. The class thinks of ways to welcome humans. Finally, they talk to the city's parks office.





Mrs. Patel's students have learned a lot about what plants, animals, and people need. They have a lot of information to share. They now know that making the old school lot into a nature area will take some work.



If animals are to live there, the natural area must have new plants so that animals can get what they need. The plants must be kinds that can get enough of the water and light they need to grow in the place where the school used to be. Mrs. Patel's students are ready to go to the city leaders and present their idea. They will be able to share how to make it happen!



## Science in Action

### Meeting an Ecologist

Mrs. Patel is proud of her class. The students worked hard on their presentation for the Greenville City Council. They planned a new natural home for plants and animals.

Mrs. Patel's students have learned a lot about what plants and animals need to survive. The students know that plants and animals get what they need from the places where they live.





How do people find out about what living things need? Mrs. Patel knows someone who can help explain. She invites her friend Mr. Hissong to visit the class at school.

"I am an ecologist," Mr. Hissong says. "An ecologist is a type of scientist. We ecologists study living things. We learn how living things relate to each other and to the places where they live."



Mr. Hissong explains that one important thing he does is collect data. He tells the class that he counts the types of living things in an area. He organizes groups of volunteers to help.

It isn't possible to count every living thing in a whole forest. But the volunteers list and count what they find in a small space. The small space is a sample of the bigger area. Ecologists can use samples to form ideas about the bigger area.





Ecologists sometimes count the living things in one area at different times. This lets them see how the numbers and types of living things are changing. For example, if a place once had a lot of rabbits but later had no rabbits, something must have changed. Scientists can investigate further to find out what caused the change.

Carson Woods Animal Survey Date: June, 2020		Carson Woods Animal Survey Date: June, 2022	
Rabbits	###	Rabbits	
Squirrels	###	Squirrels	
Robins	###	Robins	
Woodpeckers		Woodpeckers	
Cardinals		Cardinals	
Chipmunks		Chipmunks	



Places can change. When a place changes, the plants and animals that live there might not be able to get what they need anymore. That makes it important to protect the places from unwanted changes.

Mr. Hissong tells the students that he became an ecologist to learn about wildlife areas so he can help protect them. He learned this was important because of another scientist named Rachel Carson.

A wildlife area in Maine was named after Rachel Carson.



# Rachel Carson

Rachel Carson was a scientist who studied how certain chemicals affect plants and animals. She observed certain areas for a long time. She collected data about the living things. She wrote a book called *Silent Spring*. She wondered, what would spring be like if no birds were singing? Rachel Carson's data provided evidence that the chemicals were harmful to living things. She explained the evidence to lawmakers. Because of Rachel Carson's work, some dangerous chemicals were banned. Living things and their environments were protected from future harm.









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