



Be a Scientist!

Compare a variety of types of seeds, and test how far each type can travel. Start by gathering different kinds of seeds. You may use seeds from a packet or those found in nature. Use a fan to test how far each type of seed travels by wind.

Test the same seeds to see if they can travel by water. Then come up with two other ways to test the best way to spread, or *disperse*, the seeds.



Beyond the Book

Interview a gardener at a nursery or a botanist to find out other ways seeds find new places to grow.

FOCUS Book

TRAVELING SEEDS



• Science A-Z 

TRAVELING SEEDS

FOCUS Question

How does the structure of seeds help plants survive?

Structure and Function

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Seeds

What do corn kernels, peas, and dandelion puffs all have in common?

They are all seeds!

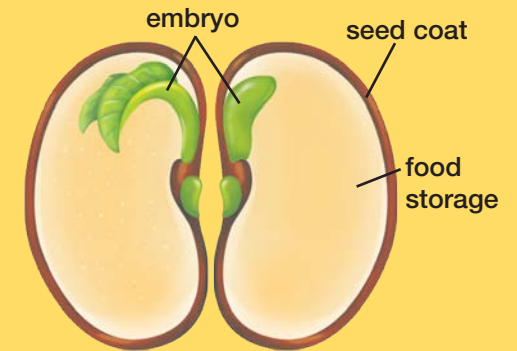
A seed is the part of a plant that can grow into a new plant. Each seed has a strong outer shell called the *seed coat*. Inside the seed is a tiny plant, or *embryo* (EM-bree-oh). The embryo grows into a new plant. The seed also contains food for the tiny plant. This food gives the growing plant energy until it can make its own food.

Before they can grow, seeds need to find the perfect place. Seeds can grow only in places with water, air, light, and space.

Animals move by using their legs, wings, or flippers.

How do seeds find the perfect place to grow? The way a seed moves depends on its size, shape, and the habitat where it grows.

PARTS OF A SEED



bean seed sprouting

Gravity

Many seeds move by falling to the ground. Gravity causes them to move. Think about an apple. The fruit gets heavy and falls off the tree. The fruit may roll a little, but it stays close to the tree. Inside the fruit are the seeds. The fruit may rot and release seeds. Softer fruits may break open when they fall.



Eventually, the seeds get buried in the soil. There they can sprout into new plants.



Passion fruit seeds fill the fruit.

Wind

Some seeds move farther away from their parents. This way, new plants do not have to compete with their parents for water, sunlight, and space.

The wind can blow seeds far away. Seeds that move by wind have special parts to help them lift up and blow away. For example, dandelion seeds are very small and light, with a puff of fluff on top. This makes it easy for them to fly in the wind.

Dandelion seeds are light enough to float in the wind.



Think About It

Why do you think a dandelion produces so many seeds?

If you have ever watched an old Western movie, you probably saw tumbleweeds rolling down a dusty street. Tumbleweeds are dried-up plants that still have seeds. As the tumbleweeds roll, seeds break off and land in new places. Tumbleweeds can spread their seeds very far.



tumbleweed

Math Moment

Winged seeds can travel 200 miles in the wind, while dandelion seeds can travel 500 miles. How much farther can the dandelion seeds travel?

Maple seeds also move in the wind. These seeds are sometimes called whirlybirds or helicopter seeds. They have thin wings that help them spin and fly in the wind.



maple seeds

Animals

Have you ever seen a bird with a berry or a squirrel with a nut? If so, you know another way that seeds move. Animals carry them.



Animals carry seeds to new places. Insects move seeds only short distances, but birds can carry seeds far away.

Ants that move seeds use them for food. They eat the seed coat and leave the embryo to grow.

Some animals, such as squirrels and birds, bury seeds in the ground to eat later. This keeps them from being eaten by other animals. Most of the seeds do get eaten, but some of the seeds grow into new plants.



wowser!

Scientists found 32,000-year-old seeds in an old animal burrow. Amazingly, the scientists were still able to grow the seeds!

Animals can move seeds in other ways. They eat fruits filled with seeds and move to a different place. The seeds go through the animal's *digestive system*. Then they are dropped as waste. The seeds grow where they are dropped.



Other seeds have special parts such as hooks, pins, and barbs. These parts help the seed attach to an animal's fur or feathers. The animal carries the seed until it falls off. Some seeds even have a layer of slime. It makes the seeds sticky so they stay on the animal for a long time.



What structure helps this seed move?

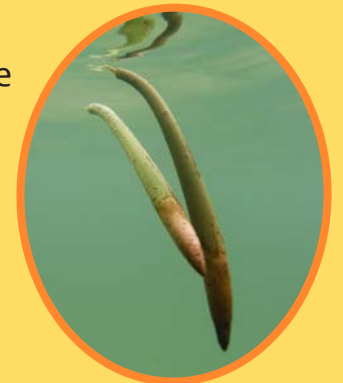
Water

Water lilies are plants that grow in water. They make fruit that drops to the bottom. Once there, the seeds inside grow.



a water lily

Mangroves also grow in and near the water. If the water is deep, the seeds may land in the water and be carried to another place.



a mangrove seed in water

You may be surprised to know that coconuts are seeds. If these trees are growing near the ocean, their huge seeds may fall into the waves. The hard shell, made of wood, helps them float. The moving water carries them far away. Once the coconuts wash up on shore, they can grow into new trees.



a floating coconut

Explosions!

Some seeds shoot out of their seedpods.

The seedpods of a geranium (djer-AY-nee-um) are one example. As the seedpod dries out in the sun, it begins to split apart until it suddenly stops.

The sudden stop causes the seeds to explode out of the seedpod.



geranium seeds



1. A geranium seedpod dries out in the sun.



2. The seedpod begins to split apart.



3. The sudden stop disperses the seeds.

The euphorbia (you-FOR-bee-uh) plant also spreads its seeds this way. When the seedpods dry, they split open in three places, and the seeds start flying.



euphorbia seedpod

Read-Think-Write

Write your answers on separate paper. Use details from the text as evidence.

- 1 Why do you think a *seed coat* is important to a plant?
- 2 Why might seeds that are moved by wind be different from other kinds of seeds?
- 3 How does hiding acorns help a squirrel? How does it help the seeds?
- 4 Why do some seeds move far away from their parent plant? Use an example from the book in your answer.
- 5 How does popping out of a seedpod help geranium seeds?

FOCUS Question

How does the structure of seeds help plants survive? Create a graphic organizer that shows how different seeds find new places to grow. Include information about how the structure of each seed helps its type of plant survive.

