

English Transcript
Desert Stories 2nd Grade
Wind Dispersal
Asombro Institute for Science Education

Hello everybody, It's Mr. Ryan from the Asombro Institute for Science Education.

And I'm Dr. H. In the Desert Stories videos, you will be learning about some of the different ways that seeds disperse.

Have you ever seen a plant in a strange place and wondered how it got there? Many seeds cannot grow under their parent plant, so they need to disperse, or move to a new place to be able to grow into an adult plant.

Just like we have feet that help us move, seeds have structures, that help them disperse. This first video and experiment will focus on structures that help seeds disperse by the wind.

One of the first things that scientists like yourself do when studying something new is gather some background research. To do that, in this video, we will read part of this book: *Flip, Float, Fly: Seeds on the Move* by JoAnn Early Macken and illustrated by Pam Paparone.

As we read, the video will pause and ask you to describe some of the seeds with adjectives.

Let's review what an adjective is using a bowl of ice cream as an example.

An adjective describes a noun.

A noun is a person, place, thing, or animal, and adjectives are used to describe them.

The bowl of ice cream is our noun.

Adjectives tell us about the number, size, color, and shape of a noun.

Number, it is one bowl of ice cream.

Size, it is a large bowl of ice cream.

Color, it is a yellow bowl of ice cream.

Shape, it is a round bowl of ice cream.

We could also come up with adjectives for the noun of ice cream. What are adjectives you could use to describe the ice cream?

Now that we're done with our review, let's get started on our book: *Flip Float Fly: Seeds on the Move!*

Take a breath and blow on a fuzzy dandelion. Whee! One puff sends seeds soaring. Like small, soft feathers they parachute up in the sky.

Which adjectives does the author use to describe the dandelion seeds?

Fuzzy?

Yellow?

Small?

Soft?

Or Round?

That's right! The book tells us dandelion seeds are fuzzy, small, and soft.

Maple seeds whirl and twirl in a breeze. Flip, flutter, float!

The wind lifts them up and off the tree. Away they fly like shiny green helicopters, spinning and spinning.

What adjectives does the author use to describe the maple seed?

Rough?

Green?

Shiny?

Sticky?

Or Square?

That's right! The book tells us maple seeds are shiny and green.

Tumbleweed plants grow as round as globes. In autumn their stems snap off.

On the flat, open prairie, they roll, roll, roll, sprinkling their seeds as they tumble.

Basswood tree fruit clusters twist in the wind. Dangle and dance!

In winter they drop. Like sailboats, they glide on the smooth, slick snow.

Locust tree pods look like long, brown smiles. They dry, split open, and curl apart. Carrying seeds, each side scoots along, sliding on slippery ice. Skitter and skate! Seeds bump off along the way.

This is a seed from a four-wing salt bush, a plant that grows in really sandy parts of the desert.

Now it is your turn!

Which adjective would you use to describe this seed?

Heavy? Winged? Large? Purple? (Students answer question in Edpuzzle)

That's all the background information we will need for our experiment today. Let's go check in with Dr. H to see what materials we need.

Wow! That was interesting. It seems like seeds of all shapes and sizes can be dispersed by the wind. Our experiment today will explore some of the structures of wind dispersed seeds.

In this experiment, you will model the wind by blowing the seeds across a piece of paper and measuring how far they fly.

You will need the black yucca seed and brown mesquite seed that are on the card from your Asombro kit. You'll need some paper, one sheet will do, a ruler, and something to write with.

When the video pauses, go grab these supplies from your Asombro science kit, then select the answer "I am ready!" to continue with the experiment. (Students answer question in Edpuzzle)

Let's take a look at both of the seeds.

First, carefully remove the seeds from the tape on the back of your museum card.

The yucca seed is black, flat like a pancake, and shaped similar to a capital "D." If it gets water and sunlight, it might become an adult yucca plant.

The mesquite seed is brown, round like a biscuit, and shaped like a diamond. If it gets water and sunlight, it might become an adult mesquite plant. You may have heard the Spanish name for this plant – mesquite.

These seeds are a similar size, have a similar shape, and both need to disperse.

The next thing a scientist does is make a hypothesis.

Now, a hypothesis is your best guess for the answer to the experiment question way before the experiment takes place. Our question is, which seed do you think has the structures to make it fly further in the wind? The yucca seed, or the mesquite seed?

Take a few seconds to think about that.

Well, there's one way to find out. Let's go set up our experiment!

First, find a flat surface to lay a piece of paper on. Next, make two large circles next to each other on the bottom edge of the paper. This will be where we put our seeds. Put a capital "Y" next to one circle, and a capital "M" next to the other circle.

Then, place your seeds on the circles. Put the yucca seed on the circle next to the "Y" and the mesquite seed on the circle next to the "M"

Hold down the edges of your paper and blow.

You do NOT want blow on your seeds like a dust devil. You want to be a small gust of wind.

If it helps you, imagine a birthday candle. A dust devil would blow out the flame. You want to just gently move the flame.

Be a small gust of wind.

Hold down the edges of your paper and blow a small gust of wind at the seeds.

Circle on your paper where each seed lands.

Write a “Y” in the circle where the yucca seed lands and write an “M” in the circle where the mesquite seed lands. Then put both your seeds back on their starting circle.

We want you to do this three times.

In a moment, the video will pause. You will go do the experiment.

Come back when you have 3 circles with a “Y” and three circles with an “M”

Ready, set, go!

When you finish the experiment, select the answer “I am done!” (Students answer question in Edpuzzle)

Welcome back! Now we need to measure how far our seeds flew. Here’s how we’re going to do that.

Let’s start with how far our yucca seeds flew first. We will show you how on this example.

Grab your ruler.

Place the zero end next to the “Y” yucca circle.

Use one finger to hold it in place

Swivel your ruler towards one of the “Y” circles.

Measure to the nearest whole inch, or what large number is your seed the closest to.

Write next to that circle how many whole inches that seed flew.

Now, measure all three yucca seeds and then answer this question...

How many inches did the farthest yucca seed fly? (Students answer question in Edpuzzle)

Now let’s measure how far our mesquite seeds flew. We will do the same thing you did for the yucca.

Grab your ruler.

Put the zero end next to the “M” mesquite circle.

Use one finger to hold it down.

Swivel your ruler towards one of the “M” circles.

Measure to the nearest whole inch.

And write that number next to the circle.

Here are a few more examples for you to watch.

I bet you know what I’m going to say now. Right? Measure all three mesquite seeds and then answer this question.

How many inches did the farthest mesquite seed fly? (Students answer question in Edpuzzle).

When the scientists at Asombro did this experiment, here’s what we found. Let’s take a look.

The three yucca seeds flew further than the three mesquite seeds.

Let’s take a closer look at the yucca and mesquite seeds again.

What adjectives could we use to describe the yucca seed and what helps it disperse farther in the wind?

Thin, thick, light, heavy, bumpy, or smooth?

What do you think?

If you look closely at the seeds you can see that the yucca seed is thin compared to the thick mesquite seed. The yucca seed is also light, while the mesquite seed is heavy. If you feel the seeds, you can tell the yucca seed is very smooth while the mesquite seed is quite bumpy.

Great work today, everybody! We’ve learned a lot about different seeds that use the wind to disperse and the structures that help them do that. In the next video we will learn about the ways animals can help seeds disperse. Select the next video, and I’ll see you there!