

# Exploring Maple Seeds

Giving students time to explore and experiment with maple seeds *before* reading this book can help them better engage with the text and will make the book more meaningful and memorable.

## Materials (per student)

- Handful of maple seeds
- Hand lens
- Clipboard
- Exploring Maple Seeds Journal (Copy page 7 and the cover back-to-back with pages 1 and 6, and copy pages 3 and 4 back-to-back with pages 5 and 2.)
- Pencil

## Procedure

1. Draw a question mark on a brown paper lunch bag, then put a maple seed inside the bag. Tell students that you have a mystery object inside the bag and today they will explore this object. Give a few hints and allow students to guess what the object is. Here are some sample hints:

- It is found outdoors.
- It can fly.
- It has one wing.
- It spins.
- It comes from a tree.

2. After students have made several guesses, reveal the maple seed inside the bag. Tell students they probably have seen many maple seeds—something they might think is ordinary but you hope they will consider extraordinary after their experience today.

3. Give each student copy of the Exploring Maple Seeds Journal, a clipboard, pencil, a hand lens, and a handful of maple seeds. (If possible, allow students to collect their own maple seeds.) Have each student write his or her name on the cover of the journal. Tell students they will draw the cover picture of themselves exploring maple seeds at the end of the lesson.

4. Take students to an outdoor area where they can do the activities described in the journal. Allow them to complete the activities in pairs or small groups, but have each student record observations and findings in his or her own journal.

## Exploring Maple Seeds Journal

This exploration journal is intended to be self-guided, but here are a few things to check as you are visiting each group.

- **Page 1—Maple Seed Observations:** Encourage students to label any parts of the maple seed they know, even if they are not sure of the names at this point (e.g., wing, seed).
- **Page 2—Maple Seed Names:** Students will learn later from the book that what we commonly call maple seeds are actually fruits of the maple tree called *samaras*. At this point, encourage students to use their senses and imaginations to come up with their own names for these whirling wonders.
- **Pages 3 and 4—How Do They Fly?** Encourage students to try these activities several times and record their findings in their journals. Ask them why they think maple seeds fly.
- **Page 5—What's Inside?** Visit the groups and demonstrate how to gently pull off the wing and remove the seed. Then, show students how the seed splits into two sections. If you look *very* closely, you can see the part of the seed that will grow into a maple tree! The bigger the seed, the easier it is to see.
- **Page 6—What Do You Wonder About Maple Seeds?** If students are having trouble coming up with questions, share some of your own wonderings about maple seeds (e.g., Why does a maple seed have a wing? Why does it spin? How does a small seed grow into a towering tree?).  
At this point, gather the students together (either indoors or outdoors) and have them share some of the wonderings they wrote on page 6 of the journal. Tell them that you have a book to share with them that might answer some of their questions. Show the cover of *Next Time You See a Maple Seed*. Tell them that the author created this series of books to inspire kids and adults to experience the wonders of nature. (You may want to have students hold maple seeds in their hands as you read.) Pause when you read something that answers one of their wonderings.
- **Page 7—What Did You Learn About Maple Seeds?** Have students share some things they learned from the book. Share some of your new learnings too. Then, ask students to record some of their learnings on page 7 of the journal.

## More Wonderings

Ask students if they have any other questions about maple seeds (which they now know are called *samaras*). Explain that new learning often leads to new questions, and invite them to add any new questions they have about maple seeds to their list of wonderings

on page 6. Encourage students to share their new wonderings and refer back to the text for the information that inspired those new questions.

### Revisit Page 5, What's Inside?

After reading the book, students may want another opportunity to open up a maple seed to see the embryo, or baby tree, inside. Give them the chance to do this, and invite them to add the word *embryo* to their drawing of the inside of the seed on page 5.

### Cover

Ask students to draw themselves doing their favorite maple seed activity on the cover of the journal. Encourage them to take their completed journal home, along with a few maple seeds, so they can share what they learned with their families.

#### *Next Generation Science Standards*

##### Science and Engineering Practices

- Asking questions and defining problems
- Obtaining, evaluating, and communicating information

##### Disciplinary Core Ideas

- **Kindergarten: LS1.C: Organization for Matter and Energy Flow in Organisms**  
All animals need food in order to live and grow. They obtain their food from plants and from other animals. Plants need water and light to live and grow. (K-LS1-1)
- **Grade 1: LS1.B: Structure and Function**  
All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.
- **Grade 2: LS2.A: Interdependent Relationships in Ecosystems**  
Plants depend on water and light to grow. (2-LS2-1)
- **Grade 3: LS1.B Growth and Development of Organisms**  
Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (3-LS1-1)
- **Grade 4: LS1.A Structure and Function**  
Plants and animals have both internal and external parts that serve various functions in growth, survival, behavior, and reproduction. (4-LS1-1)
- **Grade 5: LS1.C: Organization for Matter and Energy Flow in Organisms**  
Plants acquire their material for growth chiefly from air and water. (5-LS1-1)

##### Crosscutting Concepts for Grades K–5

- Energy and Matter
- Structure and Function

*Common Core State Standards, English Language Arts*

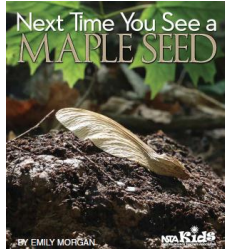
**Writing: Research to Build and Present Knowledge**

- **W.K.8.** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- **W.1.8.** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- **W.2.8.** Recall information from experiences or gather information from provided sources to answer a question.
- **W.3.8.** Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
- **W.4.8.** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.
- **W.5.8.** Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

**Reading: Informational Text—Key Ideas and Details**

- **RI.K.1.** With prompting and support, ask and answer questions about key details in a text.
- **RI.1.1.** Ask and answer questions about key details in a text.
- **RI.2.1.** Ask and answer such questions as *who*, *what*, *where*, *when*, *why*, and *how* to demonstrate understanding of key details in a text.
- **RI.3.1.** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.
- **RI.4.1.** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
- **RI.5.1.** Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

# What Did You Learn About Maple Seeds?



After reading *Next Time You See a Maple Seed*, record some of your new knowledge below.

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# Exploring Maple Seeds Journal

A large, empty rectangular box with a black border, intended for a student to draw a picture of themselves exploring maple seeds.

Draw a picture of yourself exploring maple seeds.

Name: \_\_\_\_\_

# How Do They Fly?

1. Throw a handful of maple seeds into the air. Watch them fall to the ground. How would you describe their motion?

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2. Drop one seed and count how many seconds it takes to fall to the ground. Try it several more times and record the times below.

1st drop \_\_\_\_\_

2nd drop \_\_\_\_\_

3rd drop \_\_\_\_\_

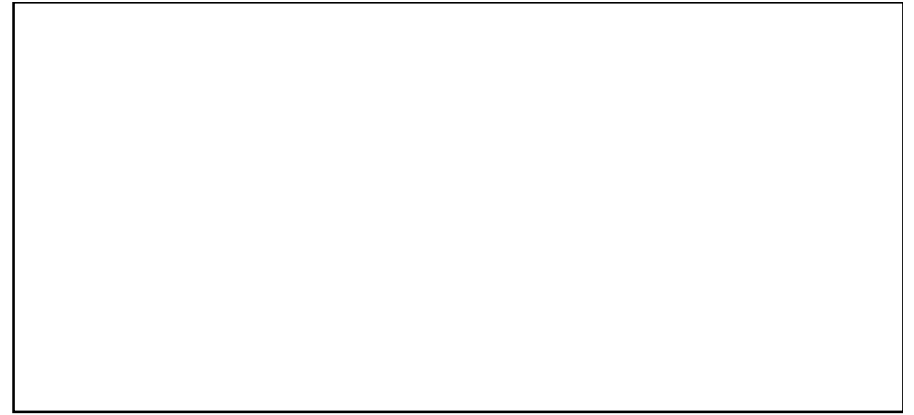
Were the times all the same, or were they different?  
Why do you think it happened that way?

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3. Find two seeds. Remove the wing from one seed and keep the wing on the other seed. Drop the seeds from the same height at the same time and compare the way they fall. Draw or write your observations.



4. Which one hit the ground first, the one with the wing or the one without?

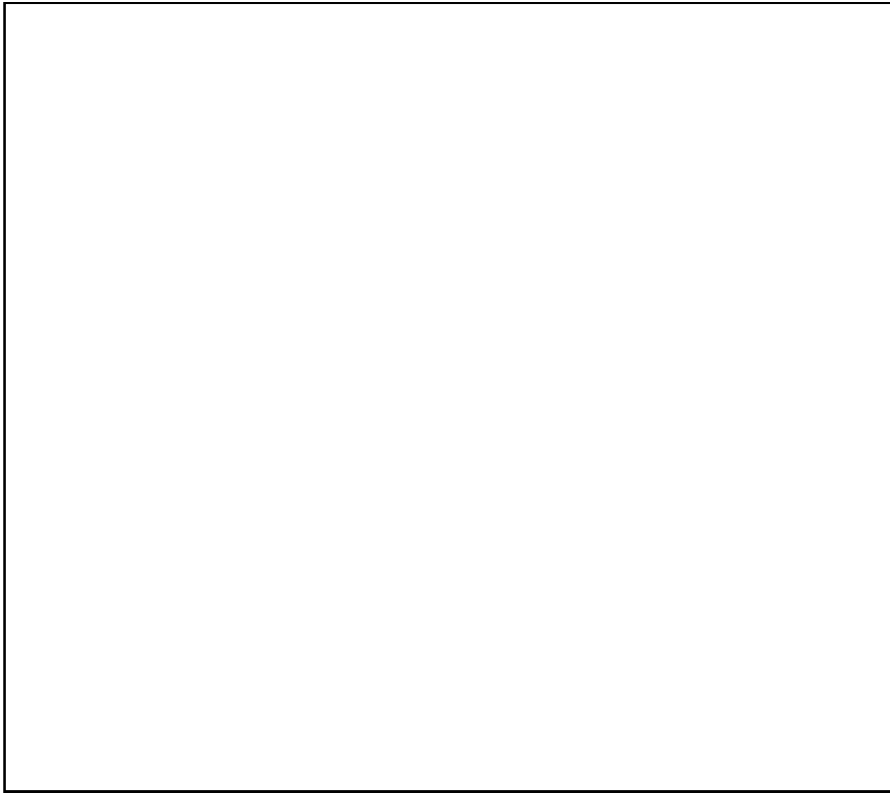
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5. Which one landed farther from you, the one with the wing or the one without?

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# What's Inside?

Gently open up the hard, round end of the maple seed. Use a hand lens to get a closer look. Draw and label what you find inside.



# Maple Seed Names

Maple seeds are known by many different names, such as helicopters and whirligigs. In fact, *maple seed* is not even its real name! You'll find out later what it is.

Imagine you were the first person to see a maple seed and you had to give it a name. What name would you give it? Think about the way it looks and moves. Then list your ideas.

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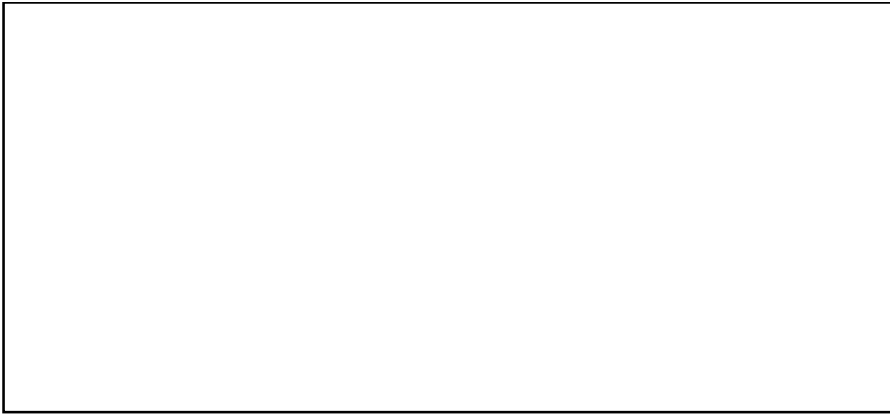
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# Maple Seed Observations

Use a hand lens to observe a maple seed closely. Draw and label any parts you know.



What words would you use to describe the maple seed?

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# What Do You Wonder About Maple Seeds?

List some questions you have about maple seeds.

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