



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, therefore, can make the book more meaningful and memorable.

Materials (per student):

Handful of maple seeds

Hand lens

Clipboard

Maple Seeds Journal (copy page 7 and the cover back-to-back with pages 1 and 6, copy pages 3 and 4 back-to-back with pages 5 and 2)

Pencil

Procedure

- Place a maple seed inside a brown paper lunch bag with a question mark drawn on it. Tell students that you have a mystery object inside the bag, and today they are going to be exploring this object. Give a few hints and allow students to guess what it is. For example,
 - It is found outdoors.
 - It can fly.
 - It has one wing.
 - It spins.
 - It comes from a tree.
- After several guesses, reveal the maple seed inside the bag. Tell students that this is probably something they have seen many times -something they might think is ordinary, but after their experience today you hope they will find it to be extraordinary.
- 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 collect their own maple seeds.) Have students write their name on the cover of the journal. Tell them they will draw the cover picture of themselves exploring maple seeds at the end of the lesson.

Next Generation Science Standards

Science and Engineering Practices

1. Asking questions

8. Obtaining, evaluating, and communicating information

Disciplinary Core Ideas

K: LS1.C Organization for Matter and Energy Flow

All animals need food in order to live and grow. Plants need water and light to live and grow. (K-LS-1)

1: LS1.B Structure and Function

All organisms have external parts. Plants have different parts that help them survive and grow. (1-LS1-1)

2: LS2.A: Interdependent relationships in Ecosystems

Plants depend on water and light to grow. (2-LS2-1)

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)

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)

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 K-5

Energy and Matter

Structure and Function

- 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, each recording their observations and findings in their 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 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 them to use their senses and imaginations to come up with their own name for these whirling wonders.

Pages 3 & 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 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 do they have a wing? Why do they 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 their wonderings they wrote on page 6 of the journal. Tell them

ELA Common Core Connections

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

K: RI.K.1. With prompting and support, ask and answer questions about key details in a text.

1: RI.1.1. Ask and answer questions about key details in a text.

2: 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.

3: RI.3.1. Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

4: 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.

5: RI.5.1. Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

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 a maple seed 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 that 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 (samaras they know to call them now). Explain that, often, new learning leads to new questions, invite them to add any new questions they have about maple seeds to their list 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, 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, and a few maple seeds, so they can share what they learned with their family.