Grade Level: Second
Unit: Life Science
Lesson 9: Title: Seed Catchers

NGSStandard: 2-LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants

Learning Target: Justify how the model represents an animal moving seeds from one place to another.

Success Criteria:

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Disciplinary Core Ideas:

LS2.A: Biodiversity and Humans

- Plants depend on light and water to grow.
- Plants depend on animals for pollination or to move their seeds.

Science and Engineering Practices:

- Asking Questions
- Constructing Explanations
- Arguing from Evidence
- Obtaining, Evaluating, and Communicating Information

Crosscutting Concepts:

- Patterns
- Structure and Function
- Cause and Effect

Performance Expectations:

- LS2-2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants.

Materials
For the Teacher:

Trade Book Flip, Float, Fly, Seeds on the Move
Trade Book Who Will Plant a Tree?
http://www.pbslearningmedia.org/resource/tdc02.sci.life.stru.sockseeds/sock-seeds/

For each Student:

Student Activity Page “Tool Models for Moving Seeds”
Student Activity Page “How Animals Move Seeds”

For each group of 4 Students:

Student Lab Pack “Seeds”
Student Lab Pack “Animals Moving Seeds”
(tweezers, tongs, fur, feathers, eyedropper)

Procedure:

1. Revisit the chart from the previous module “How Do Seeds Travel?” to discuss students’ ideas about the variety of ways seeds travel. If students haven’t mentioned that animals can move seeds, **ask the question, “Can animals move seeds? Then ask students how animals might move seeds.** Add students’ ideas and evidence to the chart.

2. Tell students that they are going to work in their groups to investigate ways animals are able to move seeds. Show students the items that they will be using from the student lab pack “Animals Moving Seeds.” As you show each object tell students that they are models to represent a particular way an animal uses a body part to move seeds. **Ask students to think about the kind of animal and the body part that each model might represent.** Ideas might include: tweezers-small bird, tongs-duck or other large beaked animal, fur-bear, feathers-birds.

3. Distribute the student lab pack “Animals Moving Seeds” to each group of students. Allow students a few minutes to explore using each of the objects and discuss how each might work to move seeds.

4. Next, distribute the student activity page “Tool Models for Moving Seeds” to each student. Guide students through the page as needed. Monitor progress and encourage detailed descriptions and drawings.

5. Display a copy of the student activity page and compile students’ ideas for the class to see. Facilitate a discussion about each object, how it would model the way an animal would move seeds, and what animal’s body part each object might

Math Tip: Have students count the number of seeds each tool can pick up and move in one minutes. Graph and compare the data.

represent. Then discuss the students' ideas about the different animals that move seeds with their body parts.

6. Tell students that they will now use their models to see how each one works to move seeds from one place to another. Distribute the student pack "Seeds." Allow students time to explore using the models to pick up and move the seeds. It may work best to work as a class using only one type of a seed at a time with each of the tools.

7. After students have explored the tools on each of the different seeds facilitate a discussion about the similarities in difference of the tools and the seeds. Ask students to provide evidence that a particular tool works best to move a certain type of seed.

Distribute the student activity page "Ways Animals Move Seeds" to each student. Guide students through the activity then compile students' ideas on a class page for them to see. Lead students to conclude that animals use different body parts to move seeds in a variety of ways.

2RI.2.1 Ask and answer questions such as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

8. Show the pictures of the dandelions from the picture packet "Dandelions." Remind students that we discussed how seeds are blown by the wind and eventually start new plants. Then show the book Who Will Plant a Tree? Ask students to predict what the book might be about. (Animals that move seeds to start new trees.)

2RI.2.9 Compare and contrast the most important points presented by two texts on the same topic.

9. Use CCRS to read the book Who Will Plant a Tree? Ask the following questions:

What were some ways the animals in the book planted seeds?
Did these animals know they were planting seeds?
Did the animals plant the seeds on purpose?

What did the author want the reader to know? (Trees depend on animals to move their seeds around.)

10. Have students revisit the activity page "Tool Models for Moving Seeds." Ask students which additional animals from the book each of the five tools represented. (fur -bear, feather-goose, tongs-dolphin, tweezers-wren, and eye dropper-humming bird)

11. Show students the book Flip, Float, Fly: Seeds on the Move and ask how this book might be the same and different from the

2RI.2.6 Identify the main purpose of a text, including what the author wants to answer, explain, or describe.

book Who Will Plant a Tree? The first book told how animals move seeds and this book might tell other ways that seeds move.

12. Use CCRS to read and discuss the book. Then ask students to use evidence from the book to add additional information to chart "How Do Seeds Travel." Facilitate a discussion to help students conclude that seeds are moved in many different ways, but that some plants depend on animals to move their seeds and start new plants.

13. In their journals have students choose then draw and label one of the model tools and a specific animal that uses the body part the tool might represent. Then write a sentence or two in their journal to explain how the tool represents that animal's body part moving seeds to help a plant make a new plant.

Opportunities for evaluation in this model include:

1. Students' responses on the student activity page "Tool Models for Moving Seeds."

2. Students' responses on the student activity page "Ways Animals Move Seeds."

3. Students' journal response explaining how a tool model represents an animal's body part moving seeds to help a plant make a new plant.