*Revised 4/17/20*
*Neal Smith National Wildlife Refuge*

# Sticky Seed Situation

**3rd Grade**

**60 Minutes**

**Fall**

## Summary

After reading *What Kinds of Seeds Are These?* by Heidi Bee Roemer, students make predictions about different types of seeds they will find outside (e.g. possible seed sizes, shapes, colors, seed dispersal adaptations). Next, students head outside and collect and analyze different types of seeds. Students devise a strategy for grouping seeds based on similarities and differences. In their nature journal, students sketch, write and construct explanations as to why and how they classified the seeds. Students will reflect and are encouraged to share their discoveries with the class.

## Next Generation Science and Iowa Core Standards

### Next Generation Science

- **3-LS3-1**
  - Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents that variation of these traits exist in a group of similar organisms.
- **3-LS4-2**
  - Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

### Literacy

**Writing**

- **W.3.2**

- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.
- Develop the topic with facts, definitions, and details.

## Speaking and Listening

- **SL.3.1**
  - Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
- **SL.3.4**
  - Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
- **SL.3.6**
  - Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

## Materials and Resources

- White board
- Dry erase marker
- Blank paper or nature journals
- Pencils
- Petri dishes
- Magnifying glasses
- Colored pencils (optional)
- Clip boards
- Photo of sun
- Bison costumes or felt tunics (1 per group of 4-5)
- *What Kind of Seeds Are These?* By Heidi Bee Roemer (optional)

## Presentation

Gauge students background knowledge by asking questions like, "What do you already know about prairie seeds?" If students need extra guidance, ask them specific questions such as: What do they look like? What jobs do seeds do? What do you know about the parts of a seed? What do you know about adaptations of prairie seeds? Do seeds travel? How they travel? What do you know about the life cycle of prairie plant? You can tell students, "Today we are going to be investigating ***Seeds.*** " And then, write "seeds" on the board as you will be adding to that later in the lesson.

## Directions

1. (Optional) Read What Kind of Seeds Are These? By Heidi Bee Roemer. While reading, have students raise their hand to tell you how each seed is dispersed in the story.

2. Ask students to imagine they are a seed. What do they need to survive? Water, sunlight, soil/nutrients, and space. Space is one we tend to forget.

3. Have two students stand at the front of the classroom shoulder to shoulder. They are seeds dropped by a flower next to one another. They have sprouted. Stand to the side of the students with the sun, and ask the students to reach out their leaves (arms) towards the sunlight. What happens? Their leaves get tangled, and they must compete. Neither sprout will grow as well-- they need more space. Thank the students and have them sit down.

4. If flowers drop their seeds too close, it makes them less likely to survive. So, what are some ways plants can spread out their seeds?

5. Write down the five methods of seed dispersal on the board as students answer. Those methods are: wind, water (rain or body of water), hitchhiking (use the example of a cocklebur), eaten by animals, and explosion (such as the partridge pea plant).

6. Explain to the students that in a few minutes they will be going outside to find, explore, and investigate seeds. They will be writing about, drawing,

and categorizing seeds. Ask students if they have any questions about seeds that they would like to learn today before they get started with their investigation.

7. Explain to students that they will be working in groups to collect and categorize different types of prairie seeds. They will be collecting seeds by pretending to become fur-bearing animals and walking through nature. Each student will get a chance to wear bison fur or a felt tunic.

8. As they walk around outside, their fur will slowly collect seeds. Once everyone has a turn, the group will return inside and examine their seeds. How would you categorize your seeds? Biologists must do this all the time. Because there are so many different seeds on the prairie, they have to find ways to group them by similarities and differences. Ask students if they have any suggestions for traits or characteristics that they can look for to group the seeds. Perhaps they could look for size, shape, texture, color.

9. It is almost time to head outdoors, but first help students set up their journal page by including their name, date, weather, temperature, and location. Explain to the students that they should use numbers, words, and pictures to describe their seed discoveries. They should be as detailed as possible. The rest of the page will be left blank for students to create their own method of organizing their seed types.

10. Organize students into groups and head outdoors! Students should leave their journals and other materials at their spot inside. *Remind students that naturalists are happy outside, explorers, adventurers, respectful, and quiet. They ask questions, use words, numbers and pictures, and share their discoveries.

11. Once outside, have students get into groups and form a line behind their teammates- as if preparing for a relay race. Instruct the first person in each group to put on the "fur" (chaperones can help to speed the process). Explain that you would like the first person of each line to walk around in nature

until you tell them to switch (about 30 seconds). Do this until every student has used the furs to collect seeds.

**12.** Once this is complete, bring the students back inside. Each group should remove the seeds found on their fur, analyze the seeds and then collaborate to organize them into categories of the group's choosing. Petri dishes and magnifying glasses can be used. Categories may include – texture, size, color, etc. Groups should devise a strategy for grouping seeds based on similarities and differences.

**13.** In their nature journals, the students should sketch, write and construct explanations as to why and how they classified the seeds. Remind students to be as detailed as possible. Provide a sentence starter such as, "Prairie seeds are different because...".

**14.** After the groups have had enough time to classify their seeds, ask students to choose a spokesperson from their group to share their sentence and how they grouped their prairie seeds. Ask students what discoveries they made about prairie seeds today. Did they notice any similarities about the seeds each group found? Which method of spread do they think we found the most of? Can we make any guesses about common characteristics of hitchhiking seeds based on our findings?

**15.** At the end of the lesson, congratulate students on completing their investigation and remind them about how magical seeds can truly be if they just look closely at them and that this is something they can do it in their very own yard, at a park, or anywhere outside. The world needs more naturalists!

# Resources

## Journal Prompt

***Sticky Seed Situation***
**Journal Page Setup**

| | |
|---|---|
| Location | Name |
| Weather | Date |
| Temp | Time |

**Seed Discoveries**

Small Medium Large

Sticky Fluffy