

# Celebrate Sunflowers

## ***Math, History***

### **Materials**

Sunflower seeds  
Re-sealable plastic bags

### **Overview**

This lesson's purpose is to help students master skip counting. Students will use sunflower seeds to count by 1's, 2's and 10's.

### **Objectives**

1. Students will count by 1's, 2's and 10's.
2. Students will discuss the sunflower's role in Kansas' history.
3. Students will discuss sunflower uses.

### **Instant Expert**

*Exploring Plants, Kansas Crops Educator's Guide. Unit 4 (51-53)*  
*Exploring Kansas Natural Resources Educator's Guide. Unit 4 – Kansas Crops (57-84).* Kansas Foundation for Agriculture in the Classroom. To order, visit [www.ksagclassroom.org](http://www.ksagclassroom.org).

### **Background Information**

The state flower of Kansas is the wild sunflower that is native to North America. However, the seeds that are planted by Kansas farmers today have ties to Russian immigrants. Kansas ranks third in both sunflower acreage and production behind North Dakota and South Dakota. According to the Kansas Agricultural Statistics Service, around 150,000 acres of sunflowers are planted each year in Kansas. Those acres produce over 450,000 pounds of sunflowers valued at over \$46 million.

### **Sunflower History**

The sunflower plant is native to Central America, where it held a place of honor in the Aztec culture. From Central America, the domestication of sunflowers spread north and east. Native Americans used sunflowers for flour, seeds, oil and even as a dye for body paint and fabrics. In the 1500s, Spanish explorers carried sunflowers seeds back to Europe, where they became an ornamental plant in gardens. Before 1800, the sunflower reached Russia and became recognized as a food plant (oil).

During their expedition in 1805, Lewis and Clark noted how the American Indians used sunflower

**Grade Level:** K-2

**Time:** 30 minutes

**Standards:**

**Math**

Counting  
Simple addition and Subtraction

*For Kansas standards, visit [www.ksde.org](http://www.ksde.org)*

**History**



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plants. About the same time, the Russian sunflower seeds had found their way back to the United States, probably being carried to Kansas by Russian immigrants. Sunflowers gained popularity due to their presence in the state. In 1903, the sunflower was named Kansas' official state flower.

## Sunflower Uses

The oil content of an intact oilseed sunflower seed is over 42 percent. There are three different kinds of oilseed sunflowers, each with its own distinctive oil. The oils are NuSun®, high oleic and linoleic. NuSun® is an excellent frying oil, and it is used a lot in the snack food industry. High oleic is a commercial oil used for baking, frying, and in food products such as non-dairy creamers, crackers, and cereals. Linoleic oil is often found in margarine and salad oils. Oil is extracted from sunflower seeds by the process of "crushing." Oilseed sunflower seeds can be fed to dairy cattle or packaged for bird seed.

Non-oil (confection) sunflowers produce seeds for baking or eating raw. The largest kernels are sorted for human consumption, while the smaller seeds are sold for birdseed and pet food.

Information adapted from

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## Preparation

In varying increments of ten, place sunflower seeds in re-sealable plastic bags. Make enough for each student or groups of two students.

## Instructional Format

1. Share background information with students.
2. Students will do counting activity.
3. Students will discuss and answer conclusion questions (assessments).

## Procedures

1. Share sunflower history and uses with students.
2. Distribute re-sealable bags with sunflower seeds to students or groups of two students.
3. Practice counting by asking students to count how many seeds they have by ones.
4. Then have students put them in a row, and ask them to count by twos.
5. Finally, ask them to count their seeds by tens.
6. Once the students have counted the seeds in their re-sealable bags by ten, have them trade bags with another student or pair of students.
7. Students will discuss the answers to the conclusion questions.



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## Conclusion Questions

1. The sunflower is native to what region?

*Central America*

2. What group of people are likely responsible for the increased popularity of the sunflower in Kansas?

*Russian immigrants*

3. What is the official state flower of Kansas?

*The sunflower*

4. Name some uses of sunflower seeds.

*Oil for frying, baking, ingredients in foods like non-dairy creamers, crackers, cereal, margarine and salad oils.*

*Kernels: animal or bird feed*

*Raw sunflower seeds: human consumption*

## Want More? Extensions

Read Eric Carle's story The Tiny Seed, which conveys the miracle of a seed. The colorful graphics and exciting storyline will capture the attention of students.

This lesson could also be a great platform for simple addition and subtraction word problems. For example, this may be presented to the students: "A sunflower's seeds fell on the ground below. There were seven seeds that fell. A crow flew by, stopped and ate four seeds. How many sunflower seeds remain?" Use the sunflowers to illustrate the word problem.

For older students, this lesson plan can be adapted to meet their needs. Perhaps challenge them to count by fives or by threes. Or take it one step further, and have them count backwards by ones.

## Resources

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