

# POPCORN in Iowa



## History of the P-O-P

### Early History

The oldest known signs of popcorn were discovered in 1948 at an archaeological dig in New Mexico known as "Bat Cave." Amongst layers of trash and other remnants, many kernels were found, a few which had been popped. The kernels were so well preserved that they could pop even today. Carbon dating revealed these kernels to be approximately 5000 years old!

In southwest Utah, a kernel of popcorn was found in a dry cave inhabited by predecessors of the Pueblo Indians.

Hernando Cortes, Spanish explorer and conqueror of the Aztec Empire of Mexico, got his first sight of popcorn when he invaded Mexico and came into contact with the Aztec people. Popcorn was an important food for the Aztec Indians, who also used popcorn as decoration for ceremonial headdresses, necklaces, and ornaments on statues.

### 19th & 20th Century History

In 1914, Clويد H. Smith founded the American Pop Corn Company in the heart of corn county—Sioux City, Iowa! This was the launch of America's first brand name popcorn, Jolly Time.

The Depression Era was a hard time for many American families, but popcorn remained one of the few luxuries affordable by even the most down-and-out families. While many businesses failed, the popcorn industry continued to thrive as popcorn consumption in the states continued to rise, thanks to the introduction of movie theaters.

What's a favorite snack at the movies? POPCORN!  
Source: [www.ipm.iastate.edu/ipm/hortnews](http://www.ipm.iastate.edu/ipm/hortnews)

### Fun Popcorn Names:

Little Bow Peep, Dynamite, Papoose, Calico, Tom Thumb, Cutie Blues, Bear Paw, Lady Finger and Strawberry.

## Growing Popcorn

There are about 55 varieties of popcorn grown in North America, and some of them are grown here, in Iowa!

### You too can grow popcorn!

Sow seed directly in the garden in spring in several short rows to ensure good pollination. Thin the plants as recommended on the label directions. Do not plant in the same area as sweet corn as cross-pollination will reduce the quality of your popcorn.

Water, fertilize and weed regularly. Lack of water will stress the popcorn.

Allow kernels to dry in the field as long as possible. When harvested, the kernels should be hard and the husks completely dry. Place ears in mesh bags and hang in a warm, dry, well-ventilated location. Ideal moisture of kernels is 13-14%.

Store in air-tight containers.



### About Us:

This Farm to School project is part of the Northeast Iowa Food & Fitness Initiative (FFI). People in Allamakee, Chickasaw, Clayton, Fayette, Howard and Winneshiek counties are working together to create vibrant communities where the healthy choice is the easy choice.

Food and fitness is important because no matter where we are, the places where we live, learn, work and play affect our health and quality of life.

FFI is a partner of the W.K. Kellogg Foundation Food & Community program and one of one of nine initiatives in the U.S. This project is also funded by the Leopold Center for Sustainable Agriculture and the Iowa Department of Agriculture and Land Stewardship.

[www.iowafoodandfitness.org](http://www.iowafoodandfitness.org)



IOWA STATE UNIVERSITY  
University Extension

## Science Connection

Popcorn is grown for its tasty, exploding seed. Heating the kernel converts the moisture inside the kernel to steam and turns the seed inside out.

Each kernel of popcorn contains a small drop of water stored inside a circle of soft starch. Popcorn needs between 13.5-14% moisture to pop. The soft starch is surrounded by the kernels hard outer surface.

As the kernel heats up, the water begins to expand. Around 212 degrees the water turns into steam and changes the starch inside each kernel into a superhot gelatinous goop. The kernel continues to heat to about 347 degrees. The pressure inside the grain will reach 135 pounds per square inch before finally bursting the hull open.

As it explodes, steam inside the kernel is released. The soft starch inside the popcorn becomes inflated and spills out, cooling immediately and forming into the odd shapes we know and love!



**Watch popcorn pop in slow motion:**  
[www.popcorn.org/ForTeachers/TeachingGuide/WatchPopcornPop/tabid/89/Default.aspx](http://www.popcorn.org/ForTeachers/TeachingGuide/WatchPopcornPop/tabid/89/Default.aspx)

## Web Resources & Game Sites

- All Things Popcorn: [www.popcorn.org](http://www.popcorn.org)
- Popcorn Balloon Game: [www.fredjones.com/PAT/PopcornBalloon.html](http://www.fredjones.com/PAT/PopcornBalloon.html)
- Popcorn Blaster games: [fandango.com/games/popcorn-blasters/](http://fandango.com/games/popcorn-blasters/)
- Popcorn Games: [www.popcorn.org/ForKids/PopcornGames/tabid/60/Default.aspx](http://www.popcorn.org/ForKids/PopcornGames/tabid/60/Default.aspx)
- Physical Activity Game: [www.creativekidsathome.com/games/popcorn.shtml#more](http://www.creativekidsathome.com/games/popcorn.shtml#more)
- Relay Race: [familyfun.go.com/playtime/popcorn-relay-race-708348/](http://familyfun.go.com/playtime/popcorn-relay-race-708348/)

Visit [www.iowafoodandfitness.org](http://www.iowafoodandfitness.org) for active links to these pages!



## Popcorn Words

POPCORN WORDS are words that POP-UP all the time in sentences. In 60 seconds, list as many popcorn words as you can.

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

## Math Connection

Lindsey pops 12 cups of popcorn. If 3 cups of popcorn is a serving, how many people can she feed one serving of popcorn?

If the average ear of popcorn produces 400 kernels, how many ears of popcorn would it take to get 2000 kernels?

Josh loves to snack on popcorn. He typically eats 3 cups of popcorn each day. In a weeks time, how many cups of popcorn would Josh eat?

Draw a shape (like a circle, square or triangle) on a sheet of paper. Estimate how many popped kernels of popcorn will fit within the shape you have drawn. After estimating, use popped popcorn to see if you estimated correctly. Then eat, and enjoy!

## Literacy Connection

**"If you take a mouse to the movies, he'll ask you for some popcorn. When you give him the popcorn, he'll want to string it all together. Then he'll want to hang it on a Christmas tree. You'll have to buy him one..."**

*If You Take a Mouse to the Movies*  
By Laura Joffe Numeroff,  
Felcia Bond (illustrator)  
Publish: Laura Feringer, 2000

*The Biggest Popcorn Party Ever in Center County*  
By Jane Hooper-Peifer  
Marilyn Peifer Nolte (Illust.)  
Herald Press (PA), June 1987

*Corn is Maize*  
By Ailiki Collins, January 1986

*Popcorn at the Palace*  
By Emily Arnold McCully  
Harcourt Children's Books, September 1997

*The Popcorn Book*  
By Tommie DePaola  
Holiday House, May 1984

## POPular Games

Can you unscramble the following words?

tscahr \_\_\_\_\_

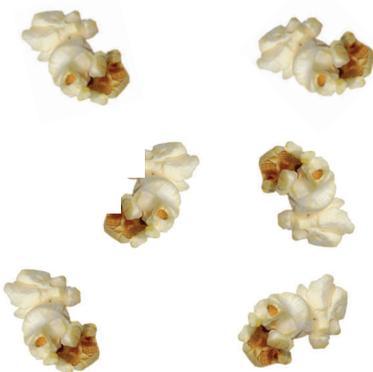
tsmea \_\_\_\_\_

lhul \_\_\_\_\_

leohw ngair \_\_\_\_\_

eelnkr \_\_\_\_\_

Which kernel is different from the others?



## Poppable Treats

- ◇ Top soup or salad servings with popped popcorn
- ◇ Season plain popcorn with garlic powder or seasoning salt
- ◇ Season the popping oil with spices to create a lightly flavored savory treat
- ◇ Create easy to prepare and tasty popcorn dessert bars; tint liquid mixture for different holidays.
- ◇ Combine popcorn with dried fruit and nuts to create your own custom snack mix

### Stove-Top Popping

To pop popcorn on a range-top, assemble the following:

- ◇ A 3 to 4 quart pan with a loose lid that allows steam to escape
- ◇ At least enough popcorn to cover the bottom of the pan, one kernel deep
- ◇ 1/3 cup of oil for every cup of kernels (Don't use butter!)

Heat the oil to 400 - 460 degrees Fahrenheit (if the oil smokes, it is too hot). Test the oil by dropping a couple of kernels into the pan. When they pop, add the rest of the popcorn, cover the pan and shake to evenly spread the oil. When the popping begins to slow, remove the pan from the stove-top. The heated oil will still pop the remaining kernels. One ounce of un-popped popcorn equals a quart popped.

## Popcorn Nutrition



### A POP Perfect Snack...

A healthy diet includes six, 1-ounce servings of grains every day. At least 3 servings should be whole grains.

Three cups of popped popcorn is one serving of whole grains.

Popcorn provides energy-producing complex carbohydrates and fiber.

Popcorn is naturally low in fat and calories.

Air-popped popcorn has only 31 calories per cup; oil-popped popcorn has only 55 calories per cup.

When lightly buttered, popcorn contains about 133 calories per cup.



Resources used in this folio:

The Popcorn Board: [www.popcorn.org](http://www.popcorn.org)

Iowa State University Extension  
[www.ipm.iastate.edu/ipm/hortnews](http://www.ipm.iastate.edu/ipm/hortnews)

**Popcorn is great in any season.**

**Let the seasons be your guide to healthy eating!**

**Look for Iowa popcorn and other Local Foods at your grocery store.**

Buy direct from the farm.  
Find a northeast Iowa farmer by visiting

**[www.iowafreshfood.org](http://www.iowafreshfood.org)**



# Farm to School Classroom Lesson: Power of the P-O-P



## Objectives:

- Engage students in conversation about a common food item.
- Educate students about health benefits of popcorn as a source of whole grain.
- Encourage youth to share local food source information with parents to increase family awareness and purchase of locally grown foods.

## Supplies:

- Popcorn kernels or popcorn on the cob
- Popped popcorn

## Optional Supplies:

Computer with LCD projector to show how popcorn pops video: [www.popcorn.org/ForTeachers/TeachingGuide/WatchPopcornPop/tabid/89/Default.aspx](http://www.popcorn.org/ForTeachers/TeachingGuide/WatchPopcornPop/tabid/89/Default.aspx)

## Food Tasting supplies:

- ◆ Paper products: napkin for each student
- ◆ Popped popcorn: 1/2 cup per student
- ◆ Optional: mix popcorn with dried fruit (like dried cranberries). Nuts could be added if there are no children with food allergies.

## Teaching Methods:

- ◆ Question and Answer
- ◆ Discussion
- ◆ Conversation

## Lead the Activity:

Prior to lesson, review the lesson folio for additional information.

After high school student introductions and review of group guidelines, begin the lesson with a series of questions.

**Tell me what you know about popcorn.** (Allow many responses.)

**How long do you think that popcorn has been around for people to enjoy?** (Allow many responses.) Share some of the history of popcorn from page 1.

**How do you grow popcorn?**

**Where is popcorn grown? Did you know that we grow popcorn here in Iowa?**

**What makes popcorn pop?** (Allow many responses.)

**Popcorn works a lot like people. Have any of you ever got upset with someone else—maybe a friend, or brother or sister?**

**Sometimes we call this “getting steamed” at someone. We can get really upset about something and then what happens? We pop! Well, popcorn also gets steamed up, but with popcorn it has to do with the kernel getting hot.**

(Share the Science Connection description from page 2 on how a kernel of popcorn pops. If you have access to a computer and LCD projector, show popcorn video.)

**Let’s all be like a popcorn kernel. Get out of your seats and squat down near the floor like you are a popcorn kernel in a popcorn**

**popper. Imagine you are getting hotter...and hotter...and hotter...until finally.....POP! You pop inside out.**

**Let’s try it one more time.**

**Great job!**

**Popcorn is a great source of nutrition for our bodies. Share nutritional information from page 1. Plus it is fun to eat!**

**Today, we are taste testing air-popped popcorn mixed with dried fruit which adds even more nutrition for our bodies. As we taste test this local food, we want to hear what you have learned today about this POPular snack!**

- **Now that you know more about popcorn, what do you think about it?**
- **How might you include more popcorn in your eating habits?**
- **What are some creative ways to eat popcorn?**
- **Where is popcorn grown?**
- **What are some of the good things about popcorn?**
- **How can we make popcorn so that it is most healthy for us?**
- **Why is it important for our families to purchase foods from local food producers?**

**Thanks for your time today! We can’t wait to see you next time!**

