

# Pumpkins by the Pound

## Objective

Students will read about pumpkins and then answer questions to show comprehension. Students will use pumpkins to learn math skills such as estimation, counting, and measurement. Students will use pumpkins to conduct science experiments. Pumpkins will be used to create globes of the world.

## Background

The pumpkin is a vegetable, but most pumpkins grown today are sold for decorating and carving. They come in all sizes and shapes, from minipumpkins, the size of apples, to giant ones, weighing over 200 pounds. Some pumpkins are gray or pale green, but most are yellow or orange. Some are even white.

Pumpkin flowers are large and yellow. Some kinds of pumpkins are grown for cattle to eat. Cucumbers, squash, melons and gourds are all related to the great pumpkin.

The pumpkin is one of only a few foods we still eat today that is native to North America. The Pilgrims and other early New England settlers liked to use pumpkins because uncut pumpkins would keep for several months, if stored in a cool, dry place. Pumpkins were a main part of the early settlers daily diet.

Pilgrims and other early American settlers made the first pumpkin pies by burying pumpkin in the ashes of their fires. After a pumpkin had cooked, they would cut off the top, scrape out the pulp and add honey or maple syrup. The pulp was then made into pies and breads. Pumpkins had many different uses. Dried pumpkin shells served as bowls or containers for storing grains and seeds. Pumpkin seeds were dried and roasted for a high-energy treat. The Pilgrims' dependence on pumpkins is reflected in this poem, from 1630. (Notice the old English "undoon" for "undone.")

For pottage and puddings and custards and pies,  
Our pumpkins and parsnips are common supplies,  
We have pumpkins at morning and pumpkins at noon,  
If it were not for pumpkins we should be undoon.

## English Language Arts

1. Read and discuss background and vocabulary.
2. Hand out copies of the Reading Page and Worksheet B.
  - Students will read independently or in groups.
  - Students will answer the questions on the worksheet.
  - To help students develop reading fluency, time students for one minute as they read the passage to see how many words they are able to read in one minute. The page includes a running tally of the number of words line by line.

## Oklahoma Academic Standards

### GRADE 1

Science Process—1.1,2;  
2.1,2; 4.1,3

Physical Science—1.1,2

Social Studies PALS—2.A.1

Social Studies

Content—3.2,3

Physical

Education—1.1,3,4; 2.2,3;  
3.1,2; 5.1,3,4; 6.1,2,3; 7.1,3

### COMMON CORE

Math Practice—1, 2, 4

Math Content—1.NBT.2,3;  
1.MD.1,2,4

English Language Arts—1.  
RL.10; 1.RF.2e,4b; 1.W.1,2;  
1.L.1a,2bde

### GRADE 2

Science Process—1.1,2;  
2.1,2; 4.1,3

Social Studies PALS—2.A.1

Social Studies Content—3.1

Physical Education—1.1,2;  
2.1,3; 3.1; 5.2,3; 6.1,2; 7.2

### COMMON CORE

Math Practice—1, 2, 4

Math Content—2.NBT.1,2;  
2.MD.1,2,9,10

English Language Arts—2.  
RL.4; 2.RF.4abc; 2.W.2;  
2.L.1

### GRADE 3

Physical Education—1.1;  
2.1; 3.3; 5.1,2,3; 6.2

### COMMON CORE

Math Practice—1, 2, 4

Math Content—3.NBT.1;  
3.MD.4

English Language Arts—3.  
RF.4abc; 3.W.1,2; 3.L.1i,2f

## Materials

pumpkins in assorted sizes

string

scale

tape measure

1 large knife  
(for each group)

1 pumpkin

3 sheets construction paper

tape

10 small cups (muffin cup,

bathroom cup, or nut cup)

2 large styrofoam cups

## Vocabulary

**carve**—to cut with care or exactness

**decorate**—to make more attractive by adding something that is beautiful or becoming

**gourd**—any of a family of tendril-bearing vines (as the cucumber, melon, squash, and pumpkin)

**Pilgrim**—one of the English colonists who founded the first permanent settlement in New England at Plymouth in 1620

**pulp**— the soft juicy or fleshy part of a fruit or vegetable

**pumpkin**—the usually round orange fruit of a vine of the gourd family widely used as food

**settler**—a person who settles in a new region

**vegetable**—a leafy plant (as the cabbage, bean, or potato) usually without woody tissue grown for an edible part that is usually eaten as part of a meal

## Math

1. Bring several pumpkins to class in assorted sizes.
  - Set the pumpkins out in random order.
  - Introduce the terms “weight” (a measure of the heaviness of an object) and “perimeter” (the measure of the whole outer boundary of a body or figure).
  - Students will lift the pumpkins one by one and estimate their weights.
  - Students will arrange the pumpkins according to their weights—from lightest to heaviest.
2. Pass out copies of Student Worksheet B.
  - Students will weigh the pumpkins and record their findings in pounds and kilograms.
3. Students will estimate the perimeter of each pumpkin by cutting lengths of string they think will reach around the pumpkin.
  - Students will measure the pumpkins with a tape measure.
  - Create a classroom graph on the board with the words “too long,” “too short,” “same.”
  - Students will tape the string estimates in the correct space on the graph.
  - Discuss the graph. Ask how many pieces of yarn were too long? Too short? The same? Most estimates were \_\_\_\_\_
  - Students will draw a model of the graph in a journal or on a separate sheet of paper.
4. Introduce the abbreviation for pounds (“lbs.”) and the pound symbol (“#”).
5. Students will estimate the number of seeds in a pumpkin.
  - Divide class members into groups of four or five students.
  - Provide one pumpkin for each group. allow students to handle the pumpkins.
  - Review the term “estimate.”
  - Each group will estimate the number of seeds in their pumpkin.
  - Write the group estimates on the chalkboard.
  - Hand out three sheets of construction paper.
  - Groups will tape the construction paper together in a row to create place value boards.
  - One member of each group will write the place value terms:
    - “ones” across the top of the first sheet of construction paper,
    - “tens” across the top of the second sheet
    - “hundreds” across the top of the third sheet.
  - Cut the top from each pumpkin.
  - Give each group 10 small cups and two large styrofoam cups. Keep extra containers handy in case any of the pumpkins have unusually large numbers of seeds.
  - Students will scoop the seeds from the pumpkins with their hands and place them on the construction paper labeled “ones.”
  - Students will count the seeds into groups of ten and place them in the small cups.

- Students will place the filled cups on the construction paper labeled “tens.”
- When students have counted ten groups of ten they will dump those cups into the larger cups and place them on the construction paper labeled “hundreds.”
- Continue the activity until all the seeds have been counted.
- Students will write and read the exact number of seeds in their pumpkins.
- Students will compare exact numbers with estimates.

## Science

1. Students will guess whether the pumpkins will sink or float. Test guesses in a tub of water.

## Social Studies

1. Use pumpkins as globes to represent the earth.
  - Students will draw latitude and longitude lines on their pumpkins at 10 degree increments.
  - Students will find north, south, east and west hemispheres.
  - Students will paint continents on their pumpkins with tempera paint.
  - After the continents have dried, students will paint bodies of water.

## Visual Art

1. Make pumpkin seed art.
  - Bake clean seeds in a 300-degree oven for 30 minutes, or until golden.
  - Let the seeds cool completely.
  - Provide students with tempera paint in autumn colors. Students will dip the pumpkin seeds in the paint.
  - Let the seeds dry.
  - Students will draw tree trunks with branches and glue seeds to the branches to make full trees.
2. Students will draw Jack-o-lanterns, color them and use different kinds of seeds to make their features.

## Get Up and Move

1. Play Pumpkin Man:
  - Teach the following chant:
    - Pumpkin man, pumpkin man, catch a brownie if you can,
    - Yes I will, Yes I will, if the brownie will stand still.
  - Divide students into two groups—a Pumpkin group and a Brownie group.
  - Students will form a circle, facing inward.
  - Pumpkins step forward and put their palms together to make “windows.” (Don’t weave fingers.)

## Ag Career: Vegetable Farmer

Vegetable farmers plant, cultivate and harvest vegetable crops, including pumpkins, beans, tomatoes and squash for wholesale or retail distribution.

Vegetable farmers must understand produce, soil and weather conditions and the vegetable wholesale business. They must be knowledgeable of the market and of the selling/distribution processes needed to maximize their products. Vegetable farmers must understand how to plant, cultivate, harvest and store their crops. They also need to supervise and coordinate activities of all the farm workers. Vegetable farmers study crops to improve the quality and quantity of their produce. They seek to improve crop yield, while controlling pests and weeds. Vegetable farmers combine scientific knowledge and technical skills to grow and develop plants for better human nutrition. They should stay current on the latest varieties, production and nutrient management practices. Emphasis is placed on more environmentally-friendly production practices, including the use of ground covers for soil erosion.

Most work is performed outside in the fields or in greenhouses.

Education includes courses in agriculture, horticulture, biology, botany, agronomy, earth sciences, accounting and math. Vegetable farmers must have good organizational skills and scientific knowledge, manual dexterity, ability to work independently, good decision-making skills, computer skills, ability to work well with customers, etc.

- Brownies go in and out of the windows at least twice as everyone says the chant.
- When teacher says “stop,” Pumpkins lower the “windows.” all Brownies inside the circle become Pumpkins and join the Pumpkin circle.
- Play twice so everyone who started as a Pumpkin gets to be a Brownie.

### Extra Reading

Gibbons, Gail, *The Pumpkin Book*, Live Oak, 2004.

Levenson, George, and Shmuel Thaler, *Pumpkin Circle: The Story of a Garden*, Tricycle, 2002.

McKy, Katie, and Pablo Bernasconi, *Pumpkin Town! or, Nothing is Better and Worse Than Pumpkins*, Sandpiper, 2008.

McNamara, Margaret, and G. Brian Karas, *How Many Seeds in a Pumpkin?*, Schwartz and Wade, 2007.

Robbins, Ken, *Pumpkins*, Square Fish, 2007.

### Pumpkin Seeds

1. Wash pumpkin seeds.
2. Place seeds in a vegetable steamer with some water.
3. Cover and cook for 30 minutes.
4. Dry the seeds with a towel.
5. Spread seeds on a cookie sheet, brush with vegetable oil and sprinkle with salt.
6. Bake the seeds in a preheated 300-degree oven for 30 minutes, or until golden.

# Pumpkins by the Pound

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Name \_\_\_\_\_

# Pumpkins by the Pound

A

Write F for fact if the statement is a fact. Write o for opinions if the statement is an opinion.

1. \_\_\_ Pumpkins taste great!
2. \_\_\_ Pumpkins were eaten by Pilgrims.
3. \_\_\_ Pumpkins are vegetables.
4. \_\_\_ Pumpkin pie is my favorite kind of pie.
5. \_\_\_ Pumpkin seeds can be dried and roasted.
6. \_\_\_ Pumpkin flowers are large and yellow.

7. Write a fact about pumpkins: \_\_\_\_\_

\_\_\_\_\_

8. Write an opinion about pumpkins or pumpkin pie.

\_\_\_\_\_

\_\_\_\_\_

9. In the poem, the words at the end of lines 1 and 2 are pies and supplies. What do we call that sound pattern? Circle the correct answer.

rhythm      rhyme      syllables

10. Write as many words as you can that rhyme with the word "pie."

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

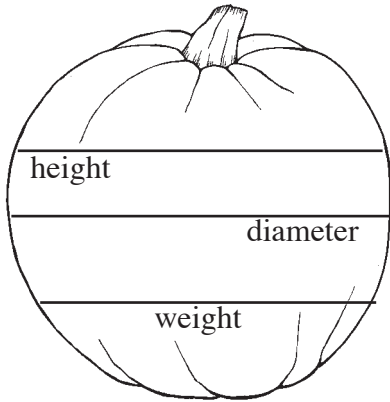
Name \_\_\_\_\_

# Pumpkins by the Pound

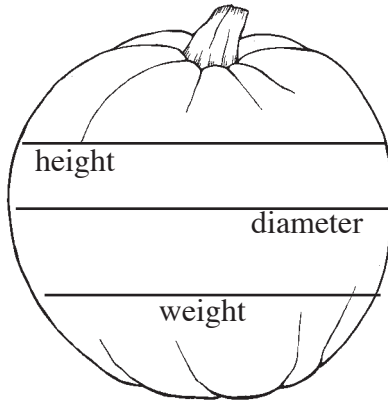
B

Measure and weigh several pumpkins. Record the facts below.

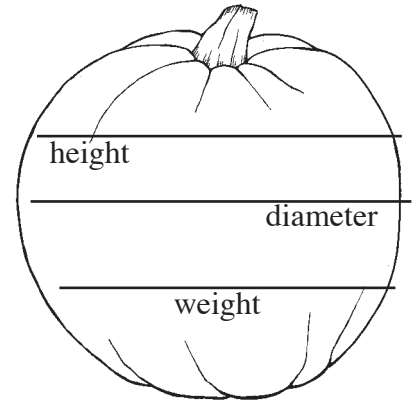
1.



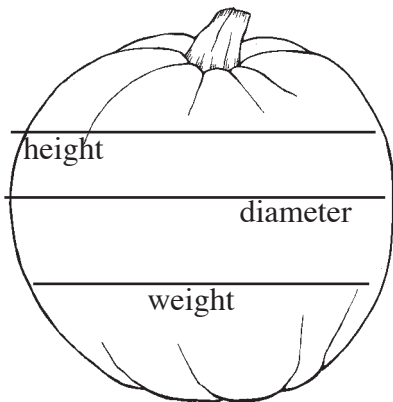
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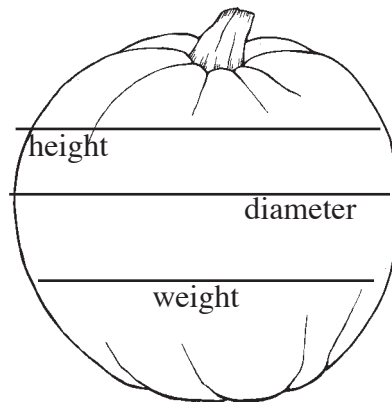
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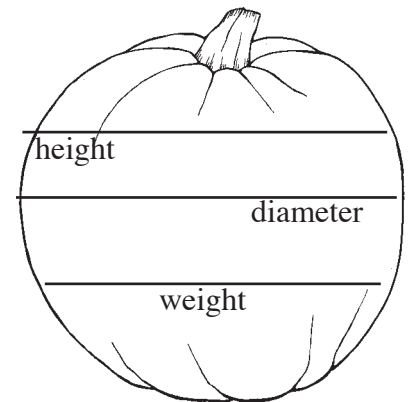
4.



5.



6.



1. Which pumpkin is biggest? \_\_\_\_\_
2. Which pumpkin weighs the most? \_\_\_\_\_
3. Does the biggest pumpkin weigh the most? \_\_\_\_\_
4. Does the smallest pumpkin weigh the least? \_\_\_\_\_
5. Which two pumpkins are closest in size? \_\_\_\_\_
6. Which two pumpkins are closest in weight? \_\_\_\_\_

# Pumpkin Pie in a Bag

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per two students:

1/8 cup milk  
2 T canned pumpkin (not pie filling)  
dash cinnamon  
dash ginger  
1 T vanilla pudding mix  
1 T graham cracker crumbs or two ginger snaps

quart-size zip freezer bag

1. Combine the milk and instant pudding in the bag. The mix should have the consistency of pudding. If it is too runny, add pudding mix. If it is too thick, add milk.
2. Remove the air from the bag and seal it.
3. Squeeze and knead with hands until the mixture is blended—about one minute.
4. Add the pumpkin, cinnamon and ginger.
5. Remove the air and seal the bag.
6. Squeeze and knead with hands until blended—about two minutes.
7. Place 1/2 tablespoon of graham cracker crumbs or one ginger snap in the bottom of each cup.
8. Cut the corner of the freezer bag, and squeeze pie filling into the cups.
9. Garnish the cups with whipped topping.
10. Provide spoons. enjoy.

Follow directions as above and squeeze mixture into tart-size premade graham cracker crusts, or place a ginger snap at the bottom of small cups to serve as crust.