

PUMPKIN PATCH MATH

TIME REQUIRED: Minimum 1 hour

OVERVIEW

Gutting pumpkins is messy but a great tactile activity! Once the slimy job is done the seeds can be used for a number of math activities to reinforce estimating, measuring, counting, data collection and graphing skills. Consider conducting this activity outside if you are concerned about mess.

MATERIALS

- Pumpkins of various sizes and shapes from small to large
- String
- Ruler
- Bowls, bags and large spoons for scooping out pumpkins
- Paper towels for clean-up
- Newspaper
- Garbage bags
- Sharp knife (for teacher to carve tops)

PREPARATION

Purchase multiple pumpkins of different sizes and shapes. Carve the tops off of the pumpkins before class but do not let them open the pumpkins yet. Arrange the pumpkins in a line from smallest to largest.

PROCEDURE

1. Start with a class discussion. Have students estimate the number of seeds inside each pumpkin. Do they think that there is a relationship between the size of the pumpkin and the number of seeds within each?
2. Assign one pumpkin to each small group of 3 or 4 students. Have students use string to measure the circumference of their pumpkin, this may require a demonstration first with a couple of pumpkins of different sizes. Wrap the string around each pumpkin and then lay it along a measuring tape or large ruler to determine the circumference. Record each group's results on the board.
3. Using spoons, bowls and bags have them scoop out the seeds inside. Remove as much of the stringy flesh as possible. Lay the seeds out flat to dry on pieces of newspaper and label each with the group's name.

Counting Activities

- Review how to count by 2's, 5's, 10's etc.
- Have each group count their seeds by 2's to determine the total number.
- Confirm the number by counting with another method (by 5's or 10's) to determine the total number.

- Once the number of seeds in each pumpkin have been counted and confirmed, write each group's final numbers on the board.

Class Pumpkin Measurements

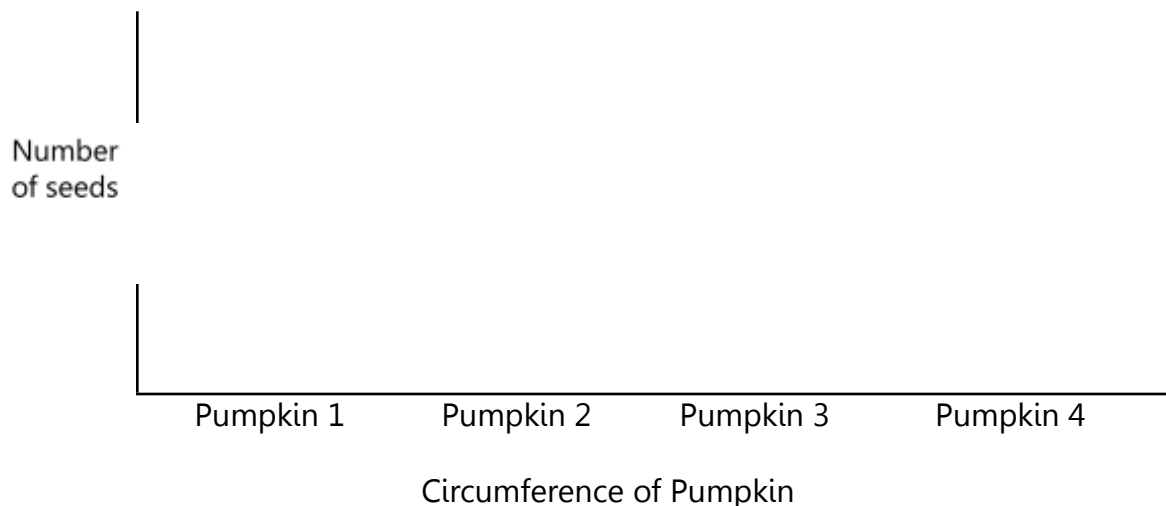
Copy this information onto a chalkboard for everyone to see.

Group Members	Circumference (measurement of the widest part around the pumpkin)	Number of seeds

Graphing

Create a simple class graph on the chalkboard based on the size of the pumpkin and the number of seeds within. Place the number of seeds on the y-axis and pumpkin circumference from smallest to largest on the x-axis.

Example



DISCUSSION

Which of the pumpkins would members of the class most want to buy? What do they look for in a pumpkin? Consumers look for different traits when buying pumpkins just like other fruits and vegetables. Some want pumpkins with dense, orange flesh to make pumpkin pie, others want lots of seeds to make roasted pumpkin seeds. Some look for a unique shape or exterior colour ranging from white to dark orange so that they can carve a fantastic Jack-O-Lantern!

Farmers and plant breeders need to take all of these facts into consideration when they are breeding pumpkins. Having a diversity of different pumpkin varieties allows us to satisfy all of our pumpkin needs, including the need for great Halloween Jack-O-Lanterns!

In many parts of the world pumpkins form an important part of peoples' diets. Some people are often shocked to find that in North America we use pumpkins for decorations at Halloween but don't always eat the edible insides. Challenge your students to make a meal out of their pumpkins in the fall and get creative—pumpkin pie, soup, curry, bread, cake or even pumpkin chips!

RESOURCES

Adapted from *How Many Seeds in a Pumpkin*, by Margaret McNamara