

# How Many Seeds in a Pumpkin?

## RIF EXTENSION ACTIVITIES FOR EDUCATORS

STEAM-THEMED: SCIENCE, TECHNOLOGY, ENGINEERING, ART, MATH

### SCIENCE

#### PUMPKIN PROPERTIES

Materials: pumpkins, scale, ruler or measuring tape, paper

Place students in small groups and ask them to be scientists by observing a pumpkin. Encourage them to look at, touch, smell, weigh, and measure the pumpkin. Have them draw a sketch of their group's pumpkin. Record their responses on a class chart labeled "Our Pumpkin on the Outside." As a class, have students guess what the pumpkins will be like inside based on the story and past experience. Cut the top off each group's pumpkin. Have students explore the inside of the pumpkin using their senses. Record their responses on a class chart labeled "Our Pumpkin on the Inside." Weigh the pumpkin without the seeds and compare to previous weight.



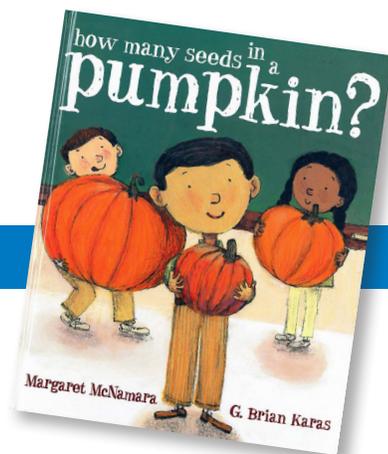
### TECHNOLOGY (E)BOOK 'EM

Visit <http://itunes.apple.com/cn/app/maria-counts-pumpkins-laz/id341378571?mt=8> to download a free app for *Maria Counts Pumpkins*, a Level A reader. Maria is sitting on the steps of her apartment building when her relatives decide to stop by and bring her pumpkins. She quickly runs out of room to sit!

### ENGINEERING PUMPKIN ROLL

Materials: at least 2 pumpkins, small hill or foam board/wood to make a ramp, scale, measuring tape

Explore the laws of gravity with a pumpkin roll! Use at least two pumpkins, which should be round enough to roll easily. Weigh and measure each pumpkin with the students. If you do not have a small hill, you can make a ramp from wood or foam board and blocks.



Have students predict which pumpkin they think will reach the bottom of the ramp first and explain their reasoning. Try several "runs" of this experiment to allow all students to participate and to accurately determine the fastest pumpkin. Compare results to student predictions and discuss. Why did the race turn out the way it did?

### ART SEED ART

Materials: pumpkin seeds, rubbing alcohol, food coloring, bowls, newspaper

Pour alcohol into bowls. Put a few drops of food coloring in each bowl. The more food coloring you use, the darker the seeds will be. Place seeds in each bowl and let them sit until they reach the desired color. Drain and place on newspaper to dry overnight. Use the colored seeds to create pictures and patterns.

### MATH PUMPKIN PROBLEM SOLVING

Use die-cut pumpkins to write personalized pumpkin problems. Use during small group math so problems can be differentiated. Let each student pick a pumpkin problem card to read to the small group to solve either alone or together. Encourage multiple strategy use and ask students to share solutions.

*Sample Problems:*

**Level 1** - Jaden has 1 pumpkin. His mom brings home 2 more pumpkins. How many pumpkins does Jaden have?

**Level 2** - Kristina has 8 pumpkins. Her brother has 2. How many pumpkins do they have together?

**Level 3** - Radha needs 7 pumpkins. She has 4. How many more does she need?



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