

How Many Seeds in a Pumpkin?

Overview: Children of every age love making Jack-O'-Lanterns. Older primary students can combine this Halloween tradition with a lesson in estimation.



OBJECTIVE: The student will be able to

- Estimate the number of seeds in a pumpkin based on the estimated seeds per section.
- Compare estimates to the actual number.

GRADES: 3-5

MATERIALS:

For this lesson you need one medium-sized or large pumpkin, preferably purchased from a farm market so that you can save the seeds to plant in the spring. (Pumpkins shipped in from elsewhere may be hybrids that won't grow well.)

PROCEDURE:

Have each student guess how many seeds could be in a pumpkin. Tell them that pumpkins can have between 100 and 700 seeds.

Next, divide the students into small groups of at least three. Ask the group to come up with an estimate for the number of seeds. A rough estimate for the number of seeds in a pumpkin is 16 seeds per fruited section. (A section is between two seams of the pumpkin.) Ask the students to figure out a way to find an estimate, not an exact count, of 16 multiplied by the fruited sections.

Bringing the whole class together again, ask the groups to report their estimates. Ask the class to find the median estimate and the mean estimate. Now cut the pumpkin open and have each small group scoop out a handful of seeds until all the seeds are taken. Ask the groups to count the seeds.

Next as a whole class, add up the total number of seeds. Ask the class if the estimate of 16 per fruited section worked or not. Ask each student to find the difference between his original guess for the number of seeds and the actual number. Ask each small group to find the difference between their estimate and the actual number. Who had the closest guess? Which group had the closest estimate?

EVALUATION:

The student is able to estimate the number of seeds in the pumpkin and can find the difference between their original guess and the actual number of seeds.

New Jersey Learning Standards

Math: 3.OA, 3.NF, 3.MD 4.OA.AB, 4.NF 5.NF