



## PUMPKIN MATH

Whether you are making a jack-o'-lantern for Halloween, a pumpkin pie for the holidays, or pumpkin soup for a cold, rainy day, here is a fun way to engage your child in estimation, measurement, and simple graphing activities.

### Materials:

one or more different-size pumpkins  
sharp knife  
tape measure, yardstick, or ruler  
string  
scissors  
markers

### Directions:

1. Before you tackle the task of cooking or carving, invite your child to help you **decide if this particular pumpkin is going to meet your needs**. If you are cooking, for example, decide together: Is the pumpkin going to be big enough? How could you figure this out? (One idea is to weigh it: a 3-pound pumpkin usually gives you 4 to 5 cups of pulp.) Or, if you are making a jack-o'-lantern, talk about any problems the pumpkin's shape might create as you make the face. What could you do to overcome those problems?
2. **If you are using more than one pumpkin**, talk about ways they are the same and different (height, circumference, color, overall shape). Invite your child to help you cut a length of string for each pumpkin that shows how tall it is. (To keep track of which string goes with which pumpkin, use a colored marker to mark both the pumpkin and the string.) Then compare their heights using a "bar graph." To make the "graph," lay the strings parallel to one another on a table or countertop, with the bottom ends lined up.

Similarly, you can ask how the height of a pumpkin compares to the distance around its middle -- the circumference. Is the circumference greater than the height? How could you find out? Invite your child to help you cut a length of string that measures the distance around the pumpkin's widest part. (Use the same markers to keep track, as explained above.) Now pair the height of each pumpkin with its circumference. What do you notice? (That the circumference is greater than the height.)

3. **If you like to bake the seeds for snacks**, before scooping them out, invite your child to estimate how many seeds are inside the pumpkin. To do this, use a sharp knife to open up the pumpkin and look inside. What strategies could you use to estimate how many seeds you see? (One way is to mentally divide the inside of the pumpkin into equal sections and count how many seeds are in that section. Then, using repeated addition, add that number to itself for all the sections.) Using your estimate, do you think you'll have enough seeds to give snacks to 10 friends?

## PUMPKIN MATH (continued)

4. **If you are making a jack-o'-lantern**, invite your child to suggest geometric shapes for the eyes, nose, and mouth, and then draw the shapes where they should go. (You can either cut out the shapes or have your child color them in.) Finish off the pumpkin by adding fun and wacky details, like string for hair, costume jewelry, etc.
5. **If you are cooking with your pumpkin**, invite your child to help you measure the pulp and other ingredients for your recipe.

### Parent Pointers:

- Use these activities to help your child develop skills related to counting, measurement, reasoning, estimation, and geometry.
- For younger children, use steps 2 and 3, but simplify. For example, compare which of the pumpkins is bigger or smaller, taller or shorter, fatter or skinnier to build vocabulary. And instead of estimating, invite your child to help you count out piles of seeds, 10 in each pile, before roasting them.