

Estimation Jars



Overview

Estimation jars challenge children to use mathematical thinking and reasoning abilities. They are fun, and engage children's curiosity about numbers. The objective is to provide children with opportunities to sharpen their skills in estimating quantities. After children make their estimates, they count the objects and compare their guesses with the actual amount. The more they practice, the better they will become at estimating.

Materials

- A medium sized clear jar with lid
- Fun objects such as pom-poms, counting bears, Legos, uniform sized beads, poker chips, Unifix cubes, plastic eggs, marbles, corks, pasta shells etc.
- Writing utensils and paper for recording estimates

Getting Ready

Fill the plastic jar with items of your choice, but don't mix items. For example, if using pom-poms, don't put anything else besides pom-poms in the jar and use all the same size (different colors are fine). Avoid very small items.


Activity

1. Talk with the children about what it means to estimate (to make your "best guess"). Emphasize that it's a guess, so it doesn't have to be right. You might make connections to real life. For example, if you're buying grapes, you probably wouldn't count how many are in the bag. You would just estimate and guess if there are enough for everyone to share at snack time.
2. Show students the estimation jar you prepared. Ask them to estimate how many objects are in the jar. You might want to pass the jar around for them to hold and see up close.
3. Record their estimates (either on the white board or sticky notes. etc.). Some children will be able to write their own estimate. Others will need an adult to write it for them.
4. When everyone has estimated, ask them to share how they came up with their estimates.
5. Post the estimates where everyone can see them. Talk about which estimates are the lowest and highest numbers. Depending on the group, you may want to have the children help you arrange the estimates on sticky notes from lowest to highest. Make observations about the estimates. Did some people estimate the same amount?
6. Count the objects in the jar together. Write the actual number where children can see it and compare it with their estimates. Talk about which estimates were closest.

Remind children that estimating is not about being right, it's about trying to make a close guess.

Suggestions

- You can do this activity with children as young as two years olds, but adapt it accordingly. With very young children, bigger objects are better and stick to 5 or fewer objects. As they get older, the items can be smaller and the amounts can be more challenging.
- Try using the same objects in a different container, or use the same container with different objects.
- Do a weekly estimation jar and set it up on a table where children can record their estimates on slips of paper during the week. Then, at the end of the week, as part of circle time, open the jar and involve children in counting the objects.
- Give children turns to fill the jar with classroom items or send it home each week with a different child. Provide a note to parents with directions, such as the example below.



Estimation Jar

Dear Parents,
Help your child fill this jar with something you have at home (cotton balls, bouncy balls, legos, dry pasta shells, unbroken crayons, ponytail holders, dog biscuits etc.). The objects must all be identical in size and shape, but can be different colors. As you fill the jar, count the objects with your child. Write the number of objects on a sticky note and put it on the **INSIDE** of the lid and close the jar.

Put at least _____ in the jar but no more than _____. The other students will estimate how many objects are in the jar. Please return the jar to school by _____.

HAVE FUN! BE CREATIVE!

