



ESTIMATION

10-20 MINUTES

Ages 6+

MATERIALS: A (SEE-THROUGH, OR CLEAR) JAR OF BEANS, MARBLES, PAPERCLIPS, ETC; A PEN, PAPER.

How to play

The goal of this activity is two-fold. The first goal is to think of as many questions as possible, using any/all language(s). The second goal is investigate some of the questions posed.

1

Place the jar on a table.

2

Brainstorm questions with each other. How many questions can you think of about the jar? Write each question down. see the maze.
Hint: if you do this with your child, it helps to already have a few questions ready... to get things moving!

3

Keep going for 5-10 minutes. If a minute or two go by with no questions, that's ok! Do you best to push yourselves.

4

When you have a good list of questions, look at the questions. Which questions could you answer if you did a bit of research?

For example: you may have asked "how much does the jar weigh?" or "how many marbles are in the jar?".

5

Step 5: Try to answer some of the questions. Get out a scale, open google, do some counting! You'd be surprised how many questions can be answered with a bit of further research.

6

At the end, look at the questions that you haven't answered. Even if you can't answer them, talk about how someone could potentially answer them.



ESTIMATION

Multi-STEM research findings related to this game

1

IN GROUPS OF CAREGIVERS, WE OBSERVED THAT MANY CAREGIVERS INITIALLY USED DUTCH TO POSE QUESTIONS, AND USED THEIR HOME LANGUAGE(S) TO MORE CHALLENGING QUESTIONS AS THE EXERCISE WENT ON.

2

WE OBSERVED THAT IN GROUPS OF CAREGIVERS WHO SPOKE THE SAME HOME LANGUAGE, CAREGIVERS MOVED BETWEEN DUTCH AND THEIR HOME LANGUAGE TO HELP EACH OTHER AND TO CONVERSE.

3

IN GROUPS OF CAREGIVERS, WE OBSERVED THAT CAREGIVERS WERE SURPRISED WITH HOW MANY QUESTIONS THE GROUP CAME UP WITH. MANY CAREGIVERS NOTED BEING AFRAID OF MATH OR NOT ENJOYING MATH, BUT BEING SURPRISED BY HOW MANY MATH-RELATED QUESTIONS CAME TO MIND.

4

IN GROUPS OF PARENTS/CAREGIVERS AND CHILDREN, WE OBSERVED THAT COMMUNICATION TOOK PLACE LARGELY IN THE HOME LANGUAGE. PARENTS/CAREGIVERS REPORTED FEELING MORE COMFORTABLE CONVERSING WITH THEIR CHILDREN AND ASKING QUESTIONS IN THE HOME LANGUAGE DURING THE ACTIVITY.

5

IN BOTH SETTINGS (GROUPS OF CAREGIVERS, AS WELL AS GROUPS OF CAREGIVERS AND THEIR CHILDREN) SOME GUIDANCE WAS NECESSARY