Research Lesson: OPERATIONS

# **MOUSE COLLECTIONS**

**Big Idea Focus**: A collection can be made larger by adding items to it and made smaller by taking some away from it.

### In this lesson, children:

- Model joining and separating situations with their bodies and with concrete objects
- Describe changes to a collection as objects are added or taken away
- Count objects with one-to-one correspondence
- Count on to solve simple problems (KG goal)

#### **Materials**

- o Mouse Count by Ellen Stoll Walsh
- Yarn or masking tape
- o Tube sock or snake puppet
- o Clear, wide container
- o 5 to 10 "mice" (stones, pompoms, or other small objects)

#### **PART 1: DRAMATIZATION**

# 1. Review Mouse Count and Introduce Large Group Activity

Gather at least 10 children in a circle on the rug. Review *Mouse Count* and explain to children that they will act out the story and help count the mice.

Tell children that you will be the "snake" and put a tube sock or puppet on your hand. (Children can have turns as the snake in subsequent retellings.) Create a "jar" in the middle of the rug using a long length of yarn or making tape. This defined space should be sized to snugly fit 10 seated children. Tell children they are "mice"—and the snake is hungry!

#### 2. Model the Joining and Separating Situation

Read or retell the story, pausing each time the number of mice in the jar changes. Collect the number of children to be the mice and put them in the jar.

Ask questions that focus children's attention on how the collection of mice changes.

- What is happening to the jar? Can we add any more?
- ➤ How many mice are in the jar? Is this more or less than before?
- ➤ What does the snake mean when it says, "Ten mice are enough?"

### **Planning Tips**

Read *Mouse Count* at least once prior to this lesson.

This lesson has two parts, and can be done several times over multiple days.

**Part 1 is for a large group** of at least 10 children.

Part 2 is for small groups, and once introduced, the materials can be in the Math Center for continued exploration.

#### **Instructional Decisions**

Are children ready to work with 10 objects? Modify to suit children's needs.

What materials will you select to emphasize the container filling up like the jar of mice in the book?

## **Facilitation Tip**

If children have little experience with dramatization, you may want to spend time establishing behavioral expectations for actors and audience.

### **Observation**

Are children able to use the terms **more** and **less** to describe the changing collection of mice? What other math language do you hear?

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Finally, have the children "uncount" themselves from the jar and return to the circle. Ask:

- ➤ What happens when the jar tips over?
- ► How many mice are in the jar at the end?

Repeat the dramatization with other children as actors and audience. Vary the numbers as appropriate.

#### PART 2: NUMBER STORIES WITH PROPS

### 1. Introduce Small Group Activity

Show children the snakes, mice, and jar props. Tell them that they will use the props to tell number stories like *Mouse Count*.

Demonstrate how to tell a number story using the props. For example:

One day a very hungry snake went looking for food. It found 3 mice and put them in the jar. Next, it found 2 mice and put them in the jar. Then, the snake found 1 more mouse and that was enough. But the mice tipped over the jar and ran out: 1, 2, 3, 4, 5, 6. All 6 mice got away. There were no mice left in the jar. The End

# 2. Scaffold Children Telling Number Stories

Give each child a turn to tell a number story with the props.

Assist children, as needed, to describe with words the joining situation they are showing with their actions. Follow the child's lead, but **keep your narration focused on the joining situation and how the collection of mice in the jar changes**. (Counting on to find the total is <u>not</u> the primary goal of this activity, though some children may be ready to do so.)

Help children generalize in their own words what happens when the snake puts the mice in the jar and what happens when the jar tips over.

#### 3. Close the Lesson

Remind children what makes a story a *number story*, and encourage them to listen for number stories at home and in other books.

Tell children that the *Mouse Count* book and materials will be in the Math Center to use during center time.

## **Math Language Learning**

Help children distinguish between *number stories* and other kinds of stories. Explain that number stories always have numbers and a problem to solve.

#### **Instructional Decisions**

How will you group children? You will want to consider the math abilities of children as well as their language skills.

How can you support English Language Learners to tell number stories in their home language?

# Teacher as Learner

Number stories are a common source of math anxiety for adults.

What is your comfort level in solving number stories? What kind of experiences did you have in the early grades with number stories?