

MAKING AND MEASURING MUD

P-W5A4

Children will work in teams to mix mud, compare the weight of dirt and mud in various containers, and compare the length of the handprints they make out of mud.



STREAM FOCUS



CORE SKILL OBJECTIVES

INTENTIONAL TEACHING PRACTICES

Children will:

Teachers will:

THINK - MATH



Inquiry
Measurement

- MATH: Measurement**
(Measure Objects)
- ◆ Observe and Describe Observable Phenomena
 - ◆ Compare and Categorize Observable Phenomena

- ◆ Use Measurement Words
- ◆ Prompt Children to Compare Objects
- ◆ Prompt Children to Compare, Contrast, And Categorize

RELATE



Peer Relationships

- ◆ Engage in Cooperative Play with Peers
- ◆ Collaborate and Work Together with Peers

- ◆ Acknowledge Positive Peer Interactions
- ◆ Join in The Play
- ◆ Provide Support During Teamwork

GET READY

MATERIALS

- ◆ Dirt (potting soil, if possible)
- ◆ Containers of water
- ◆ Various sizes of containers and measuring cups
- ◆ Pieces of poster board
- ◆ Markers

PREPARATION

- ◆ Thoughtfully group the class into small teams of 3-5 children.
- ◆ For each group, set out: 2 tubs, a set of containers/measuring cups, a pitcher of water, a bag of dirt, and a piece of poster board.

TEACHING TIPS



BIG PICTURE

SET THE STAGE

Through the activity, intentionally call the children's attention to the differences in weight and quantity of mud to help the children with the measurement skill of making comparisons.

Because children will be completing this activity in small groups, it is best to do this with at least two teachers, with teachers circulating to support each group, ask questions, and keep them focused.

EXPLORE

USEFUL VOCABULARY: heavy(-ier), light(-er), compare

1. INTRODUCE

- ◆ Say, “Today we will be scientists and explore what happens when we mix dirt and water. We will also be mathematicians as we compare and measure what we create!”

2. CREATE AND INVESTIGATE MUD; CREATE HANDPRINTS

- ◆ Invite children to pour some dirt in each tub, but only add water to one of them.
- ◆ Encourage children to mix the water and dirt together in their hands. Draw attention to how the dirt is changing.
- ◆ Teachers make a handprint on each group’s poster board, and write their own names underneath.
- ◆ Invite children to make handprints one at a time in their groups, either writing their name underneath independently or with support from a teacher.

Prompt to Compare, Contrast, and Categorize

123

“What’s happening as you add water to the dirt in that tub?”
“Feel the mud and now feel the dirt in the other tub. Describe what they feel like compared to one another.”

Acknowledge Positive Peer Interactions



“I see this team working together so nicely! You’re all sharing the containers and measuring cups and taking turns making your handprints!”

Join in the Play



“Who wants to watch me make my handprint? And who wants to go next?”

3. COMPARE WEIGHT OF MUD AND DIRT

- ◆ Invite children to use containers and measuring cups to scoop up dirt from one tub and mud from the other.

Prompt Children to Compare Objects

123

“If you both use the same size $\frac{1}{2}$ cup measuring cup, but you fill yours with dirt and yours is filled with mud, which one is heavier?”

Use Measurement Words

123

“Let’s compare how much each cup weighs. Hold this 1 cup measuring cup in your left hand, and this 1 cup in your right. Which one is lighter?”

Provide Support During Teamwork



“Maybe you can hold the measuring cup and your friend can use a spoon to scoop in mud?”

4. REVIEW

- ◆ Say, “Today, we worked in teams to make mud, see how heavy it was!”
- ◆ Prompt children to retell or summarize information. Say, “Tell me more about what you did to make the mud and how you compared and measured weight today.”

ADAPT

MORE CHALLENGE: Challenge children to compare the weight of various containers of mud to other objects outside, such as rocks or sticks, by holding one in each hand and describing which one feels heavier. Or have a scale available for children who want to weigh their cups of dirt and mud.

MORE SUPPORT: As necessary, use peer pairing thoughtfully so children can support one another to manipulate the materials and peers can model the comparisons for those needing more support.

Additional Resources: P-W5A4

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Listed below are additional resources, steps, or ideas for implementing this activity.

- ◆ N/A