



# MS. MIX UP: PLAYDOUGH ICE CREAM

## COMPUTATIONAL THINKING: DEBUGGING

Every child is different. Do what works best for encouraging each child's exploration of this suggested activity.

### OBJECTIVE OF THIS INVESTIGATION:

Children recognize and fix errors by checking the work of a mixed-up puppet.

### VOCABULARY:

- error
- mistake
- correct
- incorrect
- check
- order
- steps

### MATERIALS:

- Puppet
- Playdough (pre-cut into triangles for cones, circles for ice cream scoops, and small pieces for sprinkles)

### PROGRESSION STEPS (COMPUTATIONAL THINKING: DEBUGGING):

Visit [STEMIE Learning Trajectories](#) for details

- Guided Error Recognizer
- Simple Error Recognizer
- Simple Error Fixer

### THIS INVESTIGATION:

- Explain what Ms. Mix-Up is trying to do.  
**"This is Ms. Mix-Up. Today she wants to make ice cream cones with the playdough that look just like this."**
- Show the playdough ice cream cone picture.  
**"She sometimes makes mistakes. Can you tell her if she makes a mistake with the ice cream cones?"**
- Prompt
  - Place a scoop of ice cream, then lay a cone on top.
  - If the child doesn't notice the mistake, use Ms. Mix-Up to ask, **"Did I do it right?"**
- Response
  - If they notice that the picture doesn't match but aren't able to fix it (**Simple Error Recognizer**), model the steps so they see how the two processes differ. **"What could Ms. Mix-Up do to make it right? Show me!"**
  - Summarize the steps: **"First we put the cone down, then we put the scoop above it."**

### ADAPTATIONS:

See [A Guide to Adaptations](#) for general ideas and strategies

#### Materials:

- Use cardboard pieces rather than playdough to support easier grasping.
- Plastic gloves for children reluctant to touch playdough.

#### Instruction:

- Alternate the activity with time to play in open-ended ways to increase engagement. **"First, Ms. Mix Up is going to do it and then you can have a turn!"**





## ADAPTATIONS (CONTINUED)

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- Support steps with a first/then visual board.
- Encourage children to use verbal language, sign, gesture, or AAC to let you know they see a mistake. Sign "Stop" while saying "**Tell Ms. Mix-Up 'Stop!'**" if you see a mistake.

## HOW TO CONTINUE THIS INVESTIGATION:

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- For more of a challenge:  
If they can fix the simple error (**Simple Error Fixer**), increase the complexity of the designs to include more than two steps. (See Ms. MIX-UP: PLAYDOUGH PIZZA)
- For more support:  
If they do not see the mistake, bring attention to each piece to help them see or feel the error "**We have two scoops and one cone here. Here, the cone is under the scoop. Is that right?**" (**Guided Error Recognizer**)
- Repeat the steps of the investigation with other playdough designs or other mistakes using the same design.

## SUPPORT MATERIALS:

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**Outcome:**

**Visual of Simple Design**



**Outcome:**

**Visual of Complex Design**