

**Mathematics: The Language of STEM**  
"All Stacked Up"

**CONTENT AND TASK DECISIONS**

**Grade Level(s):** 1st

**Description of the Task:** Students in groups of 2-4 will be given two white unifix cubes (Molly Lou's teeth) and a collection of pennies. Students will keep count of the pennies as they stack them on top of the unifix cubes. They will continue adding pennies until they fall over. Student groups will then create a representation (graph, table, etc.) to show the comparison of the number of pennies that each group was able to balance on Molly Lou's teeth.

**Indiana Mathematics Content Standards:**

**1.NS.1** Count to at least 120 by ones, fives, and tens from any given number. In this range, read and write numerals and represent a number of objects with a written numeral.

**1.DA.1** Organize and interpret data...

**Indiana Mathematics Process Standards:**

PS4: Model with Mathematics; PS5: Use appropriate tools strategically

**Mathematics Content Goals:**

Students will count the number of pennies that they stack.

Students will compare the number of pennies that each group was able to successfully stack on Molly Lou Melon's teeth.

Students will create a representation of each group's stack of pennies, and will be able to identify stacks of pennies as the most, least, or equal.

Students will explain the representation that they created.

**Language Objectives:**

Students will verbally count the pennies as they are stacked on top of Molly Lou's teeth.

Students will create and explain how they represented each group and the number of pennies they were able to stack successfully.

**Materials:**

White Unifix Cubes ( Molly Lou Mellon's teeth)

Pennies

Sticky Notes

Blank Paper

Writing tools (pencils, crayons, markers, etc.)

**THE LESSON**

**Before:**

- **Student Actions**

Students will listen to the reading of Stand Tall Molly Lou Mellon by Patty Lovell. You may read the book or you may wish to have students watch and listen to the story being told via your favorite video option.

Students will discuss the characters, and the moral of the story.

Students will listen as the tasks are explained.

Students will ask questions for clarification of how to proceed with group work.

- **Teacher Actions**

**Ask**, “Who were the characters in Stand Tall Molly Lou Melon? What do you think that we can learn from this story?”

Listen as students answer the above questions. Encourage students to give details, adding to what their peers have already said.

**Ask**, “What were some of the things that Molly Lou Melon was made fun of for, but it turned out were fun and cool? (Ex: Ronald Durkin called her “BUCKY-TOOTH BEAVER!”, but she could stack pennies on her teeth.)

**Say**, “Today, you will work with your math partner to see how many pennies you can stack on Molly Lou’s teeth!”

**Show and Say**, “Each partner group will get two white cubes, some pennies, and a sticky note. You will work with your partner to stack pennies onto the cubes. You want to get as many to stack up as you can before your penny tower topples, counting as you go. When your penny tower falls, write the number of pennies that you last said on your sticky note. Make sure that you are working together and taking turns stacking.

**Ask**, “Any questions?”

**During:**

- **Student Actions**

Students will cooperate as partners to stack pennies onto the cubes, counting as they place each penny onto the stack. Each student will have opportunities to add pennies and to count. Students will write the number of pennies they were able to stack on their sticky note.



- **Teacher Actions**

Walk around, noticing how partners are working together and any “strategies” that they may be using for placing the pennies to keep their tower from falling.

**After:**

- **Student Actions**

Students will come together for Math Congress, bringing the sticky note with the number of pennies that they were able to stack before the tower fell over. Each partner team will place their sticky note on the board. Students will discuss ways that we can process and represent the numbers (least to greatest; which number is the least; which number is the greatest; are there any that are equal; graph, etc.)

- **Teacher Actions**

Encourage respect and listening as peers present their thinking and learning.

Ask questions to extend thinking and promote discussion.

Summarize thinking/main ideas/connections.

Assist students in graphing the results of penny towers.

## **ASSESSMENT**

**Observe:** Listen for one-to-one counting and ability to write the corresponding numeral.

**Ask:** “What are some ways that we could show the results of each group’s penny tower? How can we find out who had the most pennies, the least pennies, or an equal number of pennies?”