

Math 4 - Act. 08: Messy Cookies

Summary

This activity will help students better understand the idea of a missing factor in an equation.

Materials

- Rainbow cubes
- Recording sheet
- Adhesive dots

Background for Teachers

Students should have a basic understanding of visual patterns and arrays. They should be able to represent mathematical ideas with objects, pictures, and symbols. Use this lesson to strengthen the idea of a missing factor in an equation. Students also need to have a basic understanding of multiplication facts.

Intended Learning Outcomes

2. Become mathematical problem solvers.
3. Reason mathematically.
4. Communicate mathematically.
5. Make mathematical connections.

Instructional Procedures

Invitation to Learn

"We've been baking chocolate chip cookies and now we are ready to display them on our trays. It is important that we display them in equal rows. What are some different arrangements you can make on your tray?"

Instructional Procedures

Tell the students to make an arrangement of cookies (use the cubes as cookies) on their recording sheets in equal rows.

Ask volunteers to tell you about their arrangement. For example: "Three rows of five muffins, fifteen muffins altogether." Model how to write a multiplication equation on the board that tells about the cookies on the tray. Say, "Three times five equals fifteen." Model how to write the equation: $3 \times 5 = 15$.

Repeat the above steps encouraging students to tell the multiplication equation that describes their cookie picture. Continue until you have five or six models on the board (make sure the students are making their models on their work mats as you go along).

Erase one factor in each equation you have listed on the board. Tell the students that some frosting fell on the equation and covered some of the numbers.

Ask students to help figure out what the missing numbers are. Some may need to use the rainbow cubes, and others may be able to solve the problem with their knowledge of math facts. Students should now use their recording sheets to write new equations that tell about six different cooking arrangements

Have students pass their equations to another student. This student spills some frosting on one of the number equations by covering a number with an adhesive dot. Continue passing around until all six equations have frosting spilled on them.

Return Recording Sheets to original student. Allow time to figure out the missing numbers on their papers. They may again use the rainbow cubes to recreate the picture or use their math

facts to solve the problem.

Extensions

Possible Extensions/Adaptations

Try writing an equation that they have to balance. For example: $2 + 10 = 3 \times \underline{\quad}$ The missing number has the frosting on it and they need to find the hidden number to make the equation equal.

Assessment Plan

Evaluate the students' recording sheets. Also have them record in their Math Journals how they figured out what numbers were missing.

Authors

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