

Day 9: Multiplication in Arrays #1

Lesson Target:

- Represent multiplication with arrays

| Process | Activities/Expected Students' responses | Teacher's Support |
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| Understand the Goal (5 min) | <p>Recall multiplication facts of 2s, 5s, 3s, 4s, and 6s</p> <p>Can you make different candy boxes for 6, 12, and 24 pieces of candies?</p> | <p>Provide Flash Cards, 100 Squares, or <i>Kumon</i> practice sheet</p> |
| Explore/ Investigate/Solve (25 min) | <p>Candy Box Research</p> <ol style="list-style-type: none"> 1. For each number, use the tiles to find all possible rectangles or squares. 2. Cut out each rectangular shape as you find it, using $\frac{1}{2}$ inch square graph paper. 3. Write the dimension in each box you find. 4. Write a memo to the president explaining what you've learned about boxes for each quantity and what shape box you recommend. Include your cutout boxes with your memo <i>(About Teaching Mathematics by Marilyn Burns)</i> <p>Discuss</p> <ul style="list-style-type: none"> • What does the number of candies represent? (Number of objects that I want to know) • What does the number of rows represent? (Number of objects) • What does the number of columns represent? (Number of groups) | <p>Color Tiles $\frac{1}{2}$ inch squares graph papers scissors tape bag with numbers</p> |
| Conclude (15 min) | <p>Presentation/ Discussion</p> <p>Can you show multiplication situations in array with some examples? S: You can say 2 by 3 and 2 times 3. S: Answers are same in both ways. S: Answers are also the same when a column and a row are flipped. $2 \times 3 = 3 \times 2$</p> <p>Can you tell how many candies there are just by looking at the size of the box? S: Yes, because columns and rows are representing the multiplication situation.</p> | <p>Facilitate the discussion</p> |

Assessment:

- **Create** one box for 6, 12, or 24 candies
- **Create** more than 2 boxes for 6, 12, or 24 candies
- **Represent** number lines and pictures with/without help

Extension: Make boxes for multiples of 2s, 3s, 4s, 5s, and 6s.