Lesson 5: Represent Products as Areas

Standards Alignments

Addressing   3.MD.C.7.b, 3.OA.B.5

Teacher-facing Learning Goals

- Relate multiplication to finding the area of rectangles.

Student-facing Learning Goals

- Let's connect multiplication expressions to area.

Lesson Purpose

The purpose of this lesson is for students to connect multiplication expressions to rectangular areas.

In previous lessons, students counted unit squares to find the area of rectangles. In this lesson they explicitly connect multiplication to rectangular areas. Students match multiplication expressions to rectangular areas, specifically relating the factors of the expressions to the rows and columns of squares in the rectangle. Then, students are given multiplication expressions and create matching rectangles with inch tiles and drawings on grids.

Access for:

⊙ Students with Disabilities

- Engagement (Activity 2)

Instructional Routines

How Many Do You See? (Warm-up)

Materials to Gather

- Inch tiles: Activity 2

Materials to Copy

- Match Expressions and Areas (groups of 30): Activity 1

Lesson Timeline

Warm-up	10 min
Activity 1	15 min
Activity 2	20 min

Teacher Reflection Question

In previous lessons students worked with arrays as a way to represent multiplication. How did students' previous work with arrays support them in representing products as rectangular areas?

Lesson Synthesis	10 min
Cool-down	5 min

Cool-down (to be completed at the end of the lesson)　　🕐　5 min
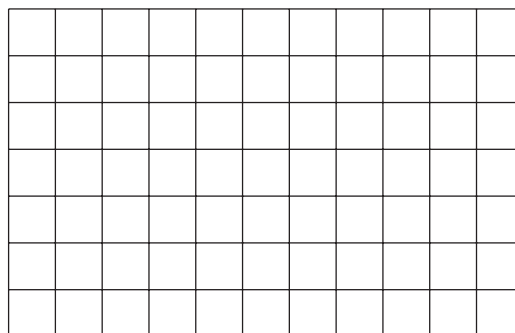
Create a Rectangular Area

Standards Alignments

Addressing　　3.MD.C.7.b

Student-facing Task Statement

Use the grid to create a rectangular area that represents the expression 7×4.

Explain your reasoning.

Student Responses

Sample response: There are 4 rows and each row has 7 squares, so it's 4 groups of 7.