Lesson 15: New Room (Optional)

Standards Alignments

Addressing   3.MD.C.5, 3.MD.C.6, 3.MD.C.7.b, 3.MD.C.7.d
Building Towards   3.MD.C.7.b, 3.MD.C.7.d

Teacher-facing Learning Goals

- Solve problems involving the area of ungridded figures composed of rectangles, including figures with missing side lengths.

Student-facing Learning Goals

- Let's fit furniture into a room.

Lesson Purpose

The purpose of this lesson is for students to use their experience with areas of figures composed of rectangles to solve problems.

This lesson is optional because it does not address any new mathematical content standards. This lesson does provide students with an opportunity to apply precursor skills of mathematical modeling.

In previous lessons, students solved rectangular area problems. They connected area problems to multiplication. They learned that area is additive as they found the area of figures composed of rectangles by decomposing them into non-overlapping rectangles.

In this lesson, students find missing side lengths of a room and use their knowledge about areas of rectangles to solve a problem about fitting a bed and desk into a room. As students make decisions, they consider what space is really usable in the room or what is the best spot in the room for each piece of furniture.

There are several ways to approach this problem and students are given freedom to choose their own strategy to make a decision (MP1).

When students make choices and translate mathematics to real world contexts, they model with mathematics (MP4).
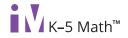
Access for:

♿ Students with Disabilities

- Action and Expression (Activity 1)

🌐 English Learners

- MLR5 (Activity 1)

Instructional Routines

Notice and Wonder (Warm-up)

Materials to Gather

- Grid paper: Activity 2
- Scissors: Activity 2
- Tools for creating a visual display: Activity 2

Materials to Copy

- New Bed and Desk (groups of 2): Activity 2

Lesson Timeline

Warm-up	10 min
Activity 1	10 min
Activity 2	25 min
Lesson Synthesis	10 min

Teacher Reflection Question

What unfinished learning or misunderstandings do your students have about the area of rectangles? How did you leverage those misconceptions in a positive way to further the understanding of the class?