

Lesson Title: A Model for Division Designer: Jason Lineberger
Discipline: Math Grade Level: 4-5

Activity 1: Graphing Division
(Appropriate for *AFTER* the Broadcast Lesson)

Activity Goal: Model division using the area model.

Targeted Math Skills: Division

Materials: Computer, graph paper, markers

Steps:

1. Visit PBS Learning Media's [*Area Model for Division*](#).
2. Create an area model for two division problems:
 - a. 187 divided by 11
 - b. 182 divided by 13
3. Note: The teacher support materials include additional instructions for using graph paper for students to solve division problems using the area model.

Activity 2: Number Jumping
(Appropriate for *AFTER* the Broadcast Lesson)

Activity Goal: Using a number line to model division.

Targeted Math Skills: Division

Materials: Sidewalk Chalk

Steps:

1. Using the sidewalk chalk, draw a number line outside. The numbers should be a few inches apart.
2. Start your student at zero and give the dividend and divisor.
3. Students will step on the number line, using increments the size of the divisor, until they reach the dividend.
4. The number of steps they take is the solution to the problem (the quotient). For example, ask students to model 81 divided by 9. The student will step to 9 on the number line, then step again to 18, then to 27, etc. until reaching 81. The student would have taken nine steps to get there, so the solution to the problem is nine. While number lines are sometimes hard for students to visualize, stepping/jumping from point to point can make this abstract activity more concrete.

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Additional Resources for Lesson-Related Extension Activities:

- **Student-Facing**
 - Area model for division (PBS LearningMedia) - <https://unctv.pbslearningmedia.org/resource/d9410298-b7a3-4ac8-86a0-4fc407923dc4/area-model/>
 - Division using a number line video (Remy Melhem) - <https://www.youtube.com/watch?v=jfNlbiUtKis>
- **Teacher-Facing**
 - Lesson Plan on Measuring Area (PBS LearningMedia) - <https://unctv.pbslearningmedia.org/resource/vtl07.math.measure.polg.lpar/ea/measuring-area/>
 - Instruction resources for teaching area (Online Math Learning) - <https://www.onlinemathlearning.com/area-grade4.html>