

Lesson Title: Division: Numerical Designer: Jason Lineberger
Discipline: Math Grade Level: 4-5

Activity 1: Stepping Up Partial Quotient Division - with Dice!
(Appropriate for *AFTER* the Broadcast Lesson)

Activity Goal: Practice the Partial Quotient Strategy

Targeted Math Skills: Division

Materials: White board, dry erase markers, and three dice.

Steps:

1. Start with only two dice.
2. Roll them and let one die represent the tens place and the other represent the ones place. This is better if ten-sided dice are used. This randomly-generated number becomes the dividend.
3. Then roll a single ten-sided die to generate a random divisor.
4. Write down the problem on the white board and solve, using the partial quotient strategy. When that becomes easy, go up to three dice to generate the dividend.

Bonus Challenge: Use four dice to create a dividend!

Activity 2: Teaching Partial Quotient Division
(Appropriate for *AFTER* the Broadcast Lesson)

Activity Goal: Practice the Partial Quotient Strategy

Targeted Math Skills: Division

Materials: A smartphone, tablet, or computer to utilize a white board app; refer to this website for instructions: [CRM](#).

Steps:

1. One of the best ways to learn a strategy is to teach it. In addition, students often perform better when given a real-world audience (one that's not just the teacher).
2. With the whiteboard app running, students should solve several division problems using the partial quotient strategy. As they work through the problems, they should talk through the steps they take. Leave the camera off to preserve student anonymity.
3. Publish the best recordings to one of the online lesson sharing platforms so students will have their videos used to instruct others!

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Additional Resources for Lesson-Related Extension Activities:

- **Student-Facing:**
 - Lesson sequence for partial quotient division (Khan Academy) - <https://www.khanacademy.org/math/arithmetic-home/multiply-divide/multi-digit-div-2/v/partial-quotient-division>
 - Partial quotient division with remainders (Khan Academy) - <https://www.khanacademy.org/math/get-ready-for-5th-grade/x01d8909412c13b9d:get-ready-for-multi-digit-multiplication-and-division/x01d8909412c13b9d:multi-digit-division/v/division-with-partial-quotients-example>
- **Teacher-Facing:**
 - Lesson Plan for teaching partial quotient division (Learnzillion) - https://learnzillion.com/lesson_plans/3652-14-partial-quotients-to-solve-division-problems-fp/
 - Partial Quotients Lesson Plan (Education.com) - <https://www.education.com/lesson-plan/partial-quotients-method/>