Multiply Screen

In the Multiply screen, users can answer multiplication problems and receive immediate feedback on their arithmetic board.

SELECT more difficult levels with larger boards

ANIMATE answer to the board

REFRESH board and try again for a higher score!

STRATEGIZE how to answer the problem

ENTER answer using the number pad

Factor Screen

In the Factor screen, users drag their cursor or finger around the arithmetic board to find two numbers that multiply to equal the given product.

DRAG the corner of the grid until you make the product

FIND two numbers that make this statement true

McGarry, Dalton, Hanson, June 2016

Divide Screen

In the Divide screen, users can use division to find the missing factor in a multiplication problem.

ANIMATE answer to the board

HIGHLIGHT the given factor

DIVIDE to find the missing factor

Insights into Student Use

- Students can use the purple highlighted cells to answer a multiplication problem, whether it is using an area model for multiplication, an additive strategy, or skip-counting.
- The problems posed on the Divide screen are framed as a multiplication problem. This might be different from what students are used to, but can also be powerful in helping students see the connection between multiplication and division.

Suggestions for Use

Sample Challenge Prompts
- Why can two numbers be multiplied in any order?
- On the Multiply screen, how can you use the purple squares to help you answer a multiplication problem?
- On the Division screen, there is no division symbol. How is this a division problem? Re-write one of these problems as a division statement.
- Which numbers form a purple square on the arithmetic board?
- Which numbers do not appear on the arithmetic board?
- After you complete a board, what patterns do you notice? How do those patterns compare on differently sized boards?

See all published activities for Arithmetic here.
For more tips on using PhET sims with your students, see Tips for Using PhET.