



## Game Screen

Test your understanding of the area model by finding missing partial products, dimensions, or total area.

**Level 1:** Find 1 partial product or total area

**Level 2:** Find 2 partial products or 1 partial product and total area

**Level 3:** Find 2 partial dimensions or 1 partial dimension and 1 partial product

**Level 4:** Find 2 partial dimensions or 1 partial dimension and 1 partial product

**Level 5:** Find factors of single x double or single x triple digit problems

**Level 6:** Find factors of double x double digit problems

**VIEW** status of the game level

**FIND** missing information stated

**START OVER** to reset progress

**SUBMIT** answers using the edit buttons

## Design Notes

- On the Explore screen, the area rectangle drag handle is useful for initial exploration, and the number spinners are useful for more precise configurations.
- On the Explore screen, multiplying numbers less than 10 in the 100x100 grid will result in very small areas displayed on the area grid.
- Multiplication of  $5 \times 7$  will not lead to as rich of a discussion as  $15 \times 7$  or  $15 \times 17$ . Encourage students to justify why partitioning dimensions larger than 10 is useful, and describe a useful partition strategy.

## Suggestions for Use

### Sample Challenge Prompts

- Look at each line of the calculation. Where is that represented in the area model?
- Given a total area, find the dimensions. Can you find other dimensions that produce the same total area?

See all published activities for Area Model Multiplication [here](#).

For more tips on using PhET sims with your students, see [Tips for Using PhET](#).