

Community Garden Planner

Name: _____

Date: _____

Class: _____

My level: ☐  Explorer ☐  Investigator ☐  Legend

Mission: The community garden committee divides the land again and again: part for vegetables, then part of that for tomatoes. Use an area model to find what fraction of the WHOLE garden each crop gets.

Big question: How does an area model show multiplying a fraction by a fraction?

 Warm-up: Quick sketch

Draw a rectangle for each. Shade and answer.

Shade $\frac{1}{2}$ of a rectangle. Then shade $\frac{1}{2}$ of that half. What part of the whole is double-shaded?

What is half of a half of a pizza?

Key vocabulary

Area model	A rectangle split into parts to show multiplication.
Product	The answer to a multiplication problem.
"Of"	In math, " $\frac{2}{3}$ of $\frac{3}{4}$ " means $\frac{2}{3} \times \frac{3}{4}$.
Overlap	Where the two shadings cross.

 Box 1

Tomato land

In the simulator: Now cut into 3 rows and shade 2 rows ($\frac{2}{3}$ of the vegetable land).

What fraction of the WHOLE garden is tomatoes?

Answer: _____

 Box 2

Find the shortcut

How do the 6 tomato squares and 12 total squares connect to $\frac{3}{4} \times \frac{2}{3}$?

☐ $3 \times 2 = 6$ squares and $4 \times 3 = 12$ squares ☐ $3 + 2 = 6$ ☐ $4 + 3 = 12 \times 1$

 Box 3

Garden 2

In the simulator: Model $\frac{3}{5}$ of $\frac{1}{2}$ for sunflowers.

What fraction of the whole garden is sunflowers?

Answer: _____

4 Box 4

Garden 3

In the simulator: Model $\frac{1}{4}$ of $\frac{5}{6}$ for carrots.

What fraction of the whole garden is carrots?

Answer: _____

5 Box 5

Smaller than both

In every garden, the product was smaller than BOTH fractions. Why?

- ☐ You take a part of a part, so it keeps shrinking ☐ Multiplication always makes numbers smaller
☐ The garden got smaller

6 Box 6

Legend: backwards 🏆 Legend only

Tomatoes are $\frac{1}{6}$ of the whole garden and they got $\frac{1}{2}$ of the vegetable land. What fraction of the garden is vegetables?

- ☐ $\frac{1}{3}$ ☐ $\frac{1}{12}$ ☐ $\frac{2}{3}$ ☐ $\frac{1}{2}$

7 Box 7

Committee report

Explain to the committee how the area model shows $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12}$.



Exit ticket: answer the big question in your own words

How does an area model show multiplying a fraction by a fraction?

Completion code:

Shown on the last screen of the simulator.