

Array Builder

Classroom-ready printable pack · Grades K–8

Pack contents

Grid mats, printable counters, challenge and equation cards, and keys. Two student sets are included.

Teacher directions

1. Give partners matching grids and counters.
2. The Describer states rows, items per row, and orientation.
3. The Builder creates the array.
4. Write equivalent addition and multiplication expressions.

Before class

- Print at 100% on US Letter paper. Use cardstock or laminate for reuse.
- Cut on the thick solid borders. Keep Set A and Set B separate.
- Give challenge/model cards only to the Describer.
- Use a folder, book, or tabletop barrier so partners cannot see each other's work.

Accessibility and accommodations

Begin at 5×5 . Consistently say number of rows and number in each row.

Storage-envelope labels

Array Builder

Set A — Descriptor

Count pieces before storing.

Array Builder

Set B — Builder

Count pieces before storing.

Array Builder

Challenge / model cards

Count pieces before storing.

Array Builder

Teacher reference

Count pieces before storing.

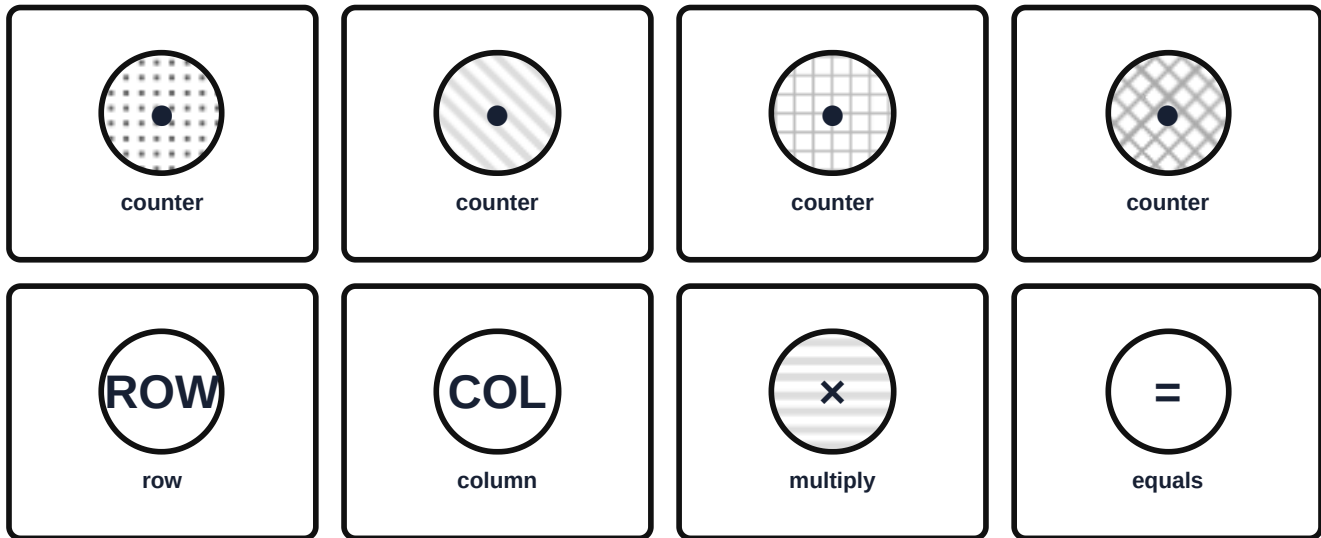
Student language supports

Position: above · below · beside · between · near · far · left · right · clockwise**Clarify:** “Please repeat...” · “Is ___ beside ___?” · “What should I place next?”**Compare:** same · different · rotate · move · replace · sequence

Movable pieces

Set A

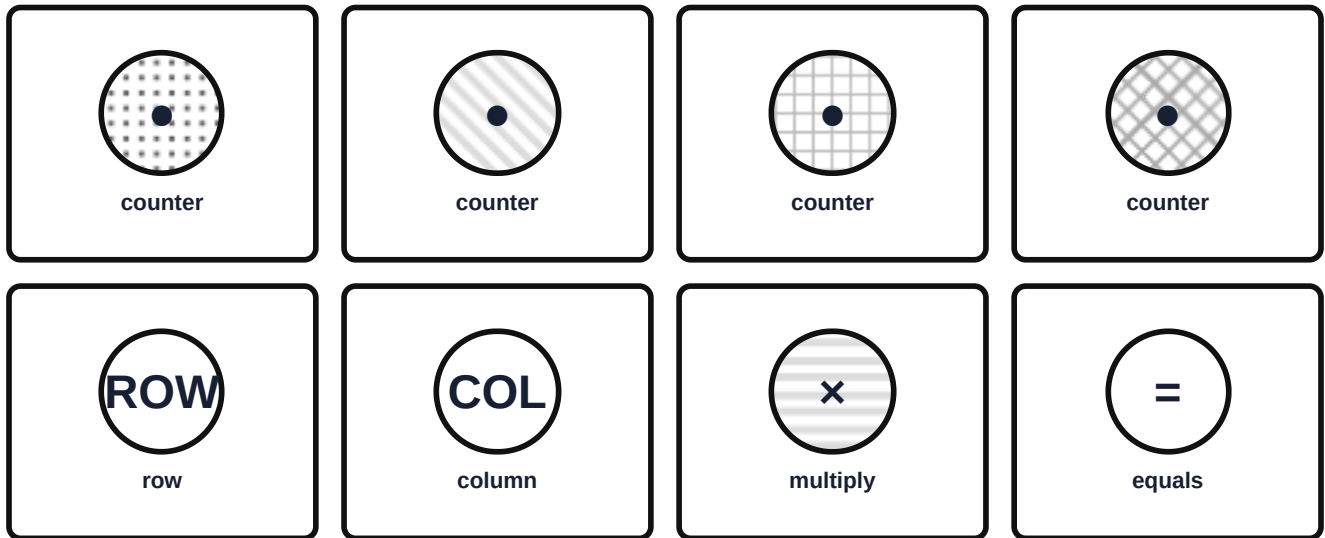
Cut on the solid borders. This set is identical to the partner set.



Movable pieces

Set B

Cut on the solid borders. This set is identical to the partner set.



Array grid

Cut the page in half. Both partner mats are identical.

Set A — Array grid

equal rows and columns • 10 × 10

top / far

center

bottom / near

Set B — Array grid

equal rows and columns • 10 × 10

top / far

center

bottom / near

Describer-only challenge cards

Keep these cards hidden from the Builder.

Challenge 1: 3 by 4

3 rows with 4 each.

12

Challenge 2: 5 by 2

5 rows with 2 each.

10

Challenge 3: Same product

Two orientations for 18.

3×6 and 6×3

Challenge 4: Mystery

Total 24; neither factor is 1.

multiple answers

Array Builder reference

Array key

Three rows of four shows $4 + 4 + 4 = 12$ and $3 \times 4 = 12$. Rotating gives four rows of three; the total remains 12. Printed counters substitute for classroom counters.

Quality check after a round

- Can each student identify pieces by shape or label without relying on color?
- Do both models match in pieces, order, orientation, and relative position?
- Which direction was most precise? Which should be revised?