Multiplication games: build and explain

Start with facts the child can represent. Keep the answer table available for checking after a turn. These games are untimed; explaining a strategy counts as progress.

1. Roll, build, and turn

Use: Two dice, counters, and the array mat.

Roll two dice. Build that many rows and that many counters per row. Record both turn-around equations. Partners check each other; solo players check by grouping or counting. Play five rounds.

Example: 3 rows of 4: 3 × 4 = 12 and 4 × 3 = 12.

2. Cover a product

Use: Two dice, the product board, and counters.

Roll and multiply. Explain the product, then cover its square if it is free. Already covered? Take no square this turn. Partners alternate until someone has four in a row (horizontal, vertical, or diagonal). If the board fills first, share a draw. Solo: try to make one line in 12 rolls.

Example: Roll 3 and 5: cover 15. The board includes every possible product of two six-sided dice.

3. Double the known fact

Use: Number cards and the strategy mat.

Choose a fact you know, then double one factor and double the product. Keep factors at 9 or below. Record three connected equations. Partners take turns choosing; solo players check with the table.

Example: 2 × 6 = 12, so 4 × 6 = 24, then 8 × 6 = 48.

> Two ordinary dice only generate factors 1–6. Use the number cards on page 5 for 7, 8, and 9. With playing cards, use ace as 1, remove face cards and 10s, and agree the values first.

Multiplication games: connect the facts

4. Five and a bit

Use: Number cards, counters, and the strategy mat.

Choose 6, 7, 8, or 9 and a second factor from 1–9. Split the first factor into 5 and the rest. Build both groups and add their totals. Complete four different facts together or on your own.

Example: 7 × 4 = (5 × 4) + (2 × 4) = 20 + 8 = 28.

5. Missing factor detective

Use: The fact cards; fold each right column behind the card.

Read the equation without exposing its hidden factor. Work out the missing number, explain how you know, then unfold to check. Take turns being the detective or work alone. Revisit any uncertain card later.

Example: 6 × ? = 42. Since 6 × 7 = 42, the hidden factor is 7.

6. Same product hunt

Use: Number cards, paper, and the multiplication table.

Choose a target: 12, 18, 24, or 36. Find all unordered pairs of factors from 1–9. Write turn-around equations too, but count each pair only once. Work together or alone and check below.

Example: For 12: 2 × 6 and 3 × 4. Reversing the factors makes the same two pairs.

7. Make a multiplication story

Use: Number cards, paper, and counters if helpful.

Draw two cards from 1–9 and put them back after each turn. Make an equal-groups story using the factors. Your partner draws or solves it; alone, draw first and check with the table. Swap roles after each story.

Example: Four bags hold six apples each. There are 4 × 6 = 24 apples. Sharing 24 apples into four bags gives six per bag.

Full article: growmindgrow.com/blog/articles/multiplication-games-3rd-grade

Cover a product

Roll two dice. Multiply, explain, and cover one matching free square. If all matches are covered, take no square. Two players: alternate turns, using different counters; first to four in a line wins. A full board without a line is a draw.

Solo: can you make a line within 12 rolls? Keep a tally: _____

1	2	3	4	5	6
8	9	10	12	15	16
18	20	24	25	30	36
6	12	18	24	30	36
4	8	9	15	20	25
1	2	3	5	10	16

Check the reason, then the answer

For 4 × 6, a child might know 2 × 6 = 12 and double 12 to make 24. The explanation is useful even when the answer is not yet automatic.

All products of two ordinary six-sided dice appear on this board. Some appear twice; choose only one square per turn.

Build an array. Show a strategy.

Use counters or shade squares to make equal rows. Turn the page to see the factors swap.

Rows: _____ In each row: _____ Total: _____

_____ × _____ = _____ and _____ × _____ = _____

Double the known fact

I know _____, so twice as many groups makes _____.

Five and a bit

_____ × _____ = (5 × _____) + (_____ × _____) = _____ + _____ = _____

Number cards and a checking table

Adult: cut out these cards. Draw from 1–9 for most games and return each card after a turn. Include 0 when exploring what zero groups means.

0	1	2	3	4
5	6	7	8	9

Multiplication table: use after explaining

×	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

The row gives one factor, the column the other. Their meeting cell is the product. A table can check an answer; it does not replace building and explaining it.

Missing factor detective

Cut around each card. Fold its answer column behind it on the inner dashed line. Explain the missing factor, then unfold to check.

3 × ? = 12	4
6 × ? = 42	7
8 × ? = 24	3
4 × ? = 36	9
7 × ? = 56	8
9 × ? = 81	9
5 × ? = 30	6
2 × ? = 16	8

Same product hunt: complete answer key

Using factors 1–9 and counting each unordered pair once:

- **12:** 2 × 6 and 3 × 4.
- **18:** 2 × 9 and 3 × 6.
- **24:** 3 × 8 and 4 × 6.
- **36:** 4 × 9 and 6 × 6.

For example, 6 × 2 is a useful turn-around fact but does not create a new unordered pair for 12. A 1 × 12 answer uses a factor outside the 1–9 rule.