



# The Factor Game

Game 36 from *Math Fact Fluency*

## Math Fact Fluency Background:

- Purpose: derived fact strategy game for multiplication and division
- Purposeful, frequent practice is needed for students to develop the fluency to progress to Phase 3 for multiplication and division.
- Be sure to incorporate strategy discussions, such as “Think Multiplication” before or after the game.
- The key is to make practice through games as meaningful and strategy focused as possible.

## About Games and Math Fact Fluency:

Games are fun. But, more importantly, games are effective ways to support *learning*. Games provide opportunities for:

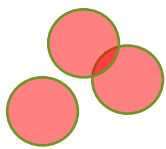
- low-stress practice of (1) facts and (2) strategies (both outcomes are critical to math beyond the basic facts!).
- think aloud, an effective learning strategy. Therefore, students should develop the habit of verbalizing their mathematical thinking out loud.
- student listening and learning from peers. Therefore, discussing strategies before and after playing allows students opportunities to learn from each other.
- teachers to formatively assess and plan instruction. Therefore, at times, use an observation tool to record how students are progressing.

Effective math fact fluency games remove time pressure and allow students time to think. That means no time component. **Each** player has their own cards or dice to roll, so they are not racing each other. Scoring is de-emphasized. **Thinking strategies are front and center.**

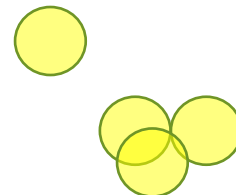
## The Factor Game

2 players

**Materials:** one Factor Game board (5 x 6 grid, numbered 1 to 30), pencil, markers or counters to mark out or cover spaces.



1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30





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### How to Play:

1. Player 1 chooses a number on the game board and marks it/covers it. This will be Player 1's score for Round 1. For example, if Player 1 selects 10, they get 10 points and records on their score card.
2. Player 2 marks/covers all the proper factors of Player 1's number.
3. Player 2 adds all of the factors they found. This is player 2's score for Round 1. For example, if Player 1 selects 15, Player 2 may cover 1, 3, and 5, scoring 9 points. Record factors and score on the game card.
4. Player 2 goes first for Round 2, selecting a value that has not been taken. Player 1 then covers all the factors of the selected number (that have not yet been crossed out). Note: If Player 2 marks/covers a number that has no factors left on the board, Player 1 gets 0 points.
5. Play continues in this manner with players taking turns selecting values and the other player collecting available factors.
6. The game ends when all numbers are taken.
7. Players sum their totals from each round; the player with the larger sum wins.

**Game in Action:** Players take turns selecting a number, finding their partners factors, and scoring their turn each round. Play continues until the all numbers are used or time is up. The person with the highest score wins.

For example: In round 2 player 2 scores 21 points for covering 21 and player 1 scores 10 points for covering 7 and 3.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30

Scorecard

Player 1	Points
24	24
7 x 3	10

Player 2	Points
8 x 3 6 x 4	21
21	21



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## Possible Variations:

1. Use a 7x 7 game board with values 1 through 49.
2. Older students use 10 x 10 game board with values 1 through 100.