

ACTIVITY IA7.8: The Factoring Game

Intended learning: To develop facility with a family of division facts.

Instructional mode: Shorter, rehearsal mode for pairs.

- Materials: Multiples spinner, Factoring Game Board, and two kinds of markers (dried beans, bingo chips, etc.).

Description: Each spinner focuses on the multiples of one factor in the range of 2–9. The player spins the spinner and then divides the spun number by the focus factor of the spinner. (See Figure 7.20 for the *multiples of 3 spinner* sample.) Players alternate spinning the spinner and covering the resulting factor until one player has three markers in a row, horizontally, vertically or diagonally. If the factor resulting from the spin is no longer available, the player may spin again.

(a)

Factoring Game Board

1	5	7	4	9
3	0	6	2	7
5	4	8	1	4
9	8	5	3	6
7	6	2	9	8

How to play: (Use the "Multiples of 3" spinner).

1. Divide the number you spin by the factor listed above the spinner. Use a marker to cover the unknown factor (quotient).
2. Winner is the player who covers 3 in a row.

For example: if you are playing Factoring by 3 and you spin 24 on the "Multiples of 3" spinner, you would cover 8.

(b)

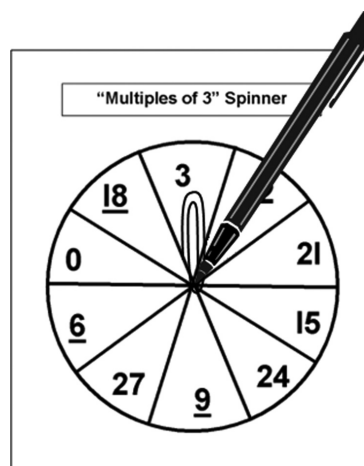


Figure 7.20 (a) Factoring game board, and (b) spinner

Responses, variations and extensions:

- These games are most effective with students who have a concept of division as repeated subtraction.
- Students may use materials to calculate the facts as needed.

- Students should be cautioned not to guess. Rather, they should use strategies to determine the factors.
- For an extension, encourage students to select strategically the factor if it is available in more than one location. Moves may either advance a player's own cause or block the opponent from achieving three in a row.
- To encourage students to use the inverse relationship, ask *What would you need to spin in order to win the game?*