

Multiplication Array Games

- 1) **Strive to Derive** – this game focuses on using the 2, 5, and 10 facts to help students with the 3s, 6s, and 9s facts.
 - a. Materials: Array cards (use arrays for 3s, 4s, 6s, and 9s)
 - b. Uncooked spaghetti or thin sticks
 - c. Two teacher labeled dice, one with 3,3,6,6,9,9; the other with 0, 1, 4, 6, 7, 8

Two to 4 players spread the array cards out so they can be seen. Players alternate taking a turn. Player 1 rolls the dice, then finds that array and partitions the array (using the uncooked spaghetti) into two arrays, one of them being a 2, 5, or 10 fact; says or writes how to find the fact that he or she rolled.

Students can record their arrays: $6 \times 7 = 5 \times 7 + 7 = 42$. If a student can illustrate and explain the fact using a derived fact, he or she scores a point. The player returns the array card to the middle of the table. Play goes to the next player. Play to 10 points.

- 2) **Cover it** – In this two-player matching game, students spread selected array cards so that all are visible (adapted from Russell and Economopoulos, 2008). Player 1 pulls an array from the middle and gives it to player 2, who must find two arrays that exactly cover the array he or she received. If player 2 does this successfully, he or she keeps the three array cards. If player 2 cannot find a pair, player 1 gets a chance and can also win the cards. Players switch roles and continue. Students say or write the combinations that they have found to cover the original array.
- 3) **Multiplication Tetris** – The goal is to stay in the game the longest by having room on your grid paper to fit a given rectangle. The teacher rolls two dice (regular dice, ten-sided dice, or teacher-labeled dice to emphasize particular facts such as 2s, 5s, and 10s). If the teacher rolls a 4 and a 6, each student decided where and in what orientation to best fit a 4 x 6 rectangle on the grid paper. Students trace either a 4 x 6 or a 6 x 4 array on their paper and write the multiplication fact. Play continues. When a student cannot fit a rectangle with the dimension rolled, he or she is out of the game. The last students in the game are the winners.