Strive to Derive

Game 33, pg. 93 (Derived Fact Strategies - Multiplication and Division)

Game Goal: Be the first to earn 10 points by explaining how use the "Adding a Group" or "Subtracting a Group" strategy to multiply.
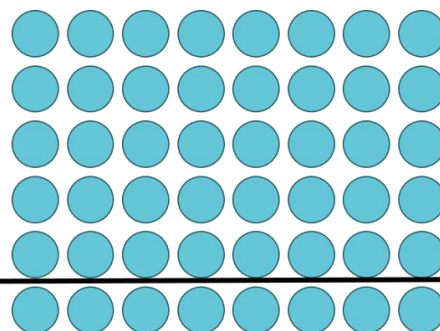
Materials: Array cards (labeled arrays for 3s, 6s*, 9s, and 10s; 11s arrays may also be included), a coffee stirrer (or an uncooked spaghetti noodle) and a recording sheet per player

How to Play (2-4 players):

1. Players spread out the 3s, 6s, 9s, (11s optional) array cards so they can be seen, placing any array where 10 is a factor into a separate collection. Players will select and use a 10s array as a "helper" array when solving 9s facts with the Subtracting a Group strategy.

2. Player 1 selects an array card from the main array collection for the person to their right.

3. Player to the right uses their coffee stirrer to illustrate and explain how to use the Adding a Group or Subtracting a Group strategy to find the fact.
   a. If using the Adding a Group strategy, player partitions their array into two arrays.
   b. If using the Subtracting a Group strategy (9s arrays only), player selects and uses a "helper" 10s array.

4. If the player successfully explains their strategy, the player earns a point.

5. The player returns the card to the table, then chooses a card for the player on their right.

6. Repeat steps 1-5 until a player earns 10 points.

Game in Action:

> I split six rows of 8 into five rows of 8 and one more 8. Five times eight is 40. One more row of 8 equals 48.

*Recommendation: Introduce game using the 6 arrays only. Players practice the Adding a Group strategy, deriving from known 5s facts.

Variations: Play "Strive to Derive by Five" -Require that players partition their array so that one arrays is a 5s fact. For example, 6x7 can be partitioned into 5x7 + 1x7 OR 6x5 + 6x2.