Nice and Easy

Using doubling and halving to multiply

Purpose

In this game, the students are required to double and halve two factors to make a number sentence that is easier to calculate. In doing this, the students discover that the product remains unchanged. This is an efficient multiplication strategy when at least one factor in the equation is even.
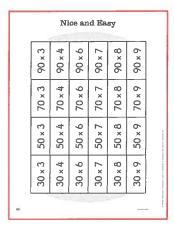
Materials

Each group of players will need

- A 'Nice and Easy' game board (page 22) as shown below.

- Two (2) number cubes made from blank wooden cubes. One cube should show the numerals 15, 15, 25, 35, 45, and 45. The other cube should show 6, 8, 12, 14, 16, and 18.

Each player will need

- Fifteen (15) counters (a different color for each player).

Nice and Easy

90 × 3	90 × 4	90 × 6	90 × 7	90 × 8	90 × 9
70 × 3	70 × 4	70 × 6	70 × 7	70 × 8	70 × 9
50 × 3	50 × 4	50 × 6	50 × 7	50 × 8	50 × 9
30 × 3	30 × 4	30 × 6	30 × 7	30 × 8	30 × 9

How to Play

The aim is to arrange three counters adjacently in a horizontal, vertical, or diagonal line.

- The first player rolls the number cubes.

- The player says the multiplication sentence represented by the cubes, then doubles one factor and halves the other to figure out an equivalent sentence.

  Example: Lincoln rolls 35 and 16. He says, 35 times 16 is the same as 70 times 8.

- The player states the product before claiming a corresponding space on the game board by covering it with a counter. If the space is unavailable, the player misses a turn.

  Example: Lincoln says, The answer is 560, and claims 70 x 8 on the game board.

- The other player(s) has a turn.

- The first player to make a line of three adjacent counters is the winner.

Reading the Research

There are different ways that students can be encouraged to move from inefficient to efficient thinking strategies. One technique is to talk about slightly more advanced procedures and why they work (Fuson & Kwon, 1992).