

Blockout

Topics: Multiplication, area, strategy, addition.

Materials: Crayons or colored pencils, Blockout game sheet

Common Core: 3.OA.A.1, 3.OA.C.7, 3.MD.C.6, 3.MD.C.7

Roll the dice and shade in a rectangle. How can you claim the most space on the board?

Why We Love Blockout

This is one of those rare games that reinforces both the skill of multiplication and the visual model that makes sense of it. Blockout can be played competitively or collaboratively, and is a wonderful game to introduce or reinforce the concepts behind multiplication.

The Launch

Take a volunteer and demonstrate the first several turns of a game of Blockout. Players choose colors, then take turns rolling the dice, and shading in a rectangle given by the dice rolls. If you roll a 2 and a 5, you can shade in a 2 by 5 (or 5 by 2) rectangle. No one can shade in a square that has already been colored. If there is no room to fit the rectangle you rolled on the board, you pass. If all players pass in a row, the game is over. Players get a point for each square they have colored in at the end of the game.

Students can play in groups of 2-4, though 2 is preferable. It is also possible to play individually or collaboratively. For a collaborative or solitaire game, players roll and try to cooperatively fill up as much of the board as possible. If every player must pass in a row, the game is over. The fewer the number of leftover squares, the better the game.

Prompts and Questions

- How many points does that roll give you?
- Who's ahead?
- What roll are you hoping to get this turn?

The Wrap

Discuss how students counted up their rolls. With a roll of 5 and 4, how would they have counted up the number of squares in their rectangle? (I.e., counting by 5s? counting by 4? Other strategies?) Discuss other possible rolls, and how they're counted. How many points to you get for rolling 6 and 6?

Tips for the Classroom

1. For the first time playing, students can play as above. For subsequent games, show students how to track their points as they go. For example, they can write $2 \times 5 = 10$ inside the 2 by 5 rectangle, and know that they have 10 points for that turn. This connects the game to multiplication without feeling too academic right away.
2. Once students are comfortable writing equations in the rectangles, you can abstract one step further and introduce the scoring sheet.

Blockout Scoring Sheet

Turn	Player 1 Equation	Player 1 Score	Player 2 Equation	Player 2 Score
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				