

## ACTIVITY 11 Cover Up!

**Texas Essential Knowledge and Skills:** 3.1B; 3.4E; 3.6C; 4.1B; 4.4C

**Objective:** Given a perimeter, students will create rectangles that will maximize the area to cover the most square-units on the game board. The goal is that students will discover a generalization for maximizing area given a certain perimeter. Secondly, students should recognize the perimeter formula of a rectangle as they work backwards from a given perimeter toward finding the length and the width.

**Number of Students:** Students can work in pairs or in two teams.

**Materials:**

- Two Cover Up game boards (one per person or team)
- Cover Up spinners or two blank number cubes marked with the numbers 2, 4, 6, 8, 10 and 12
- Cover Up game pieces or colored tiles
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**Steps:**

- Step 1: The first player will spin one spinner to see who goes first. The player with the highest number will go first.
- Step 2: The player going first spins both spinners. Add the two numbers to get the perimeter. Record this perimeter on your score card. Use this perimeter to create a rectangle. Sketch the rectangle in the space marked “Sketch” on your scorecard. It is possible for a player to spin the same two numbers.
- Step 3: Make sure that your perimeter is correct and record the area of the rectangle you created on your score card. Cover the spaces on your game board that match the sketch of the rectangle.
- Step 4: The game will continue until the game board is filled or no other moves are possible.
- Step 5: Each player totals the area on his or her score card or counts the number of game pieces on the game board. The student who covered the greatest area is the winner.

**Extensions/Modifications:**

- To add length to the game or to incorporate larger numbers, use sheets of one-inch grid paper for the playing areas and one-inch tiles to cover up the area.
- Use blank number cubes to allow students to use larger numbers.

***COVER UP!***  
***Team 1 Game Board***


***COVER UP!***  
***Team 2 Game Board***

# COVER UP!

**KERA**  
UNLIMITED

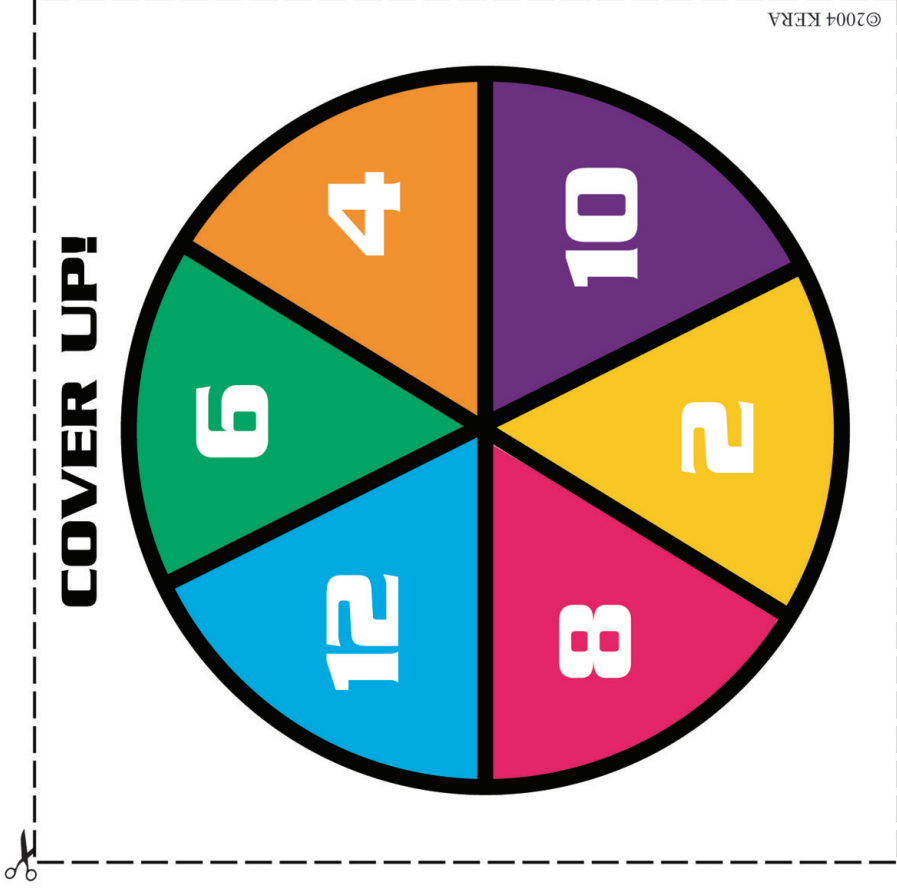
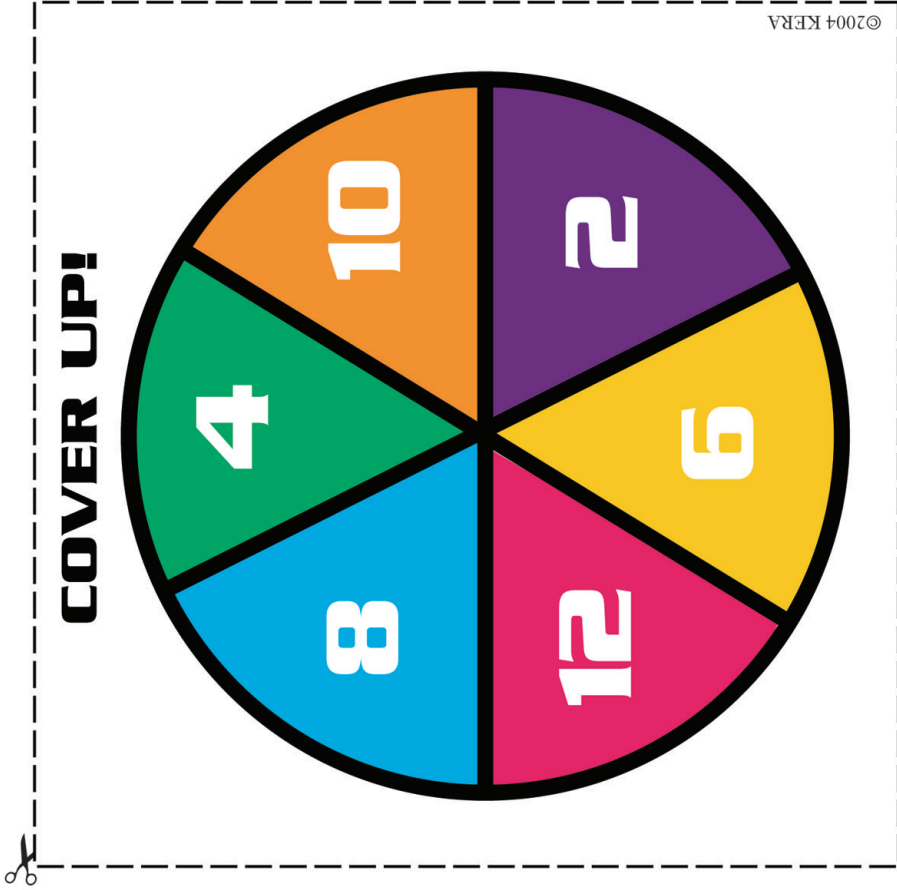
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**MATH**  
Can Take Your Places

Numbers	Perimeter (Units)	Length	Width	Sketch	Area (Units <sup>2</sup> )
2,8	10	2	3		$2 \times 3 = 6$

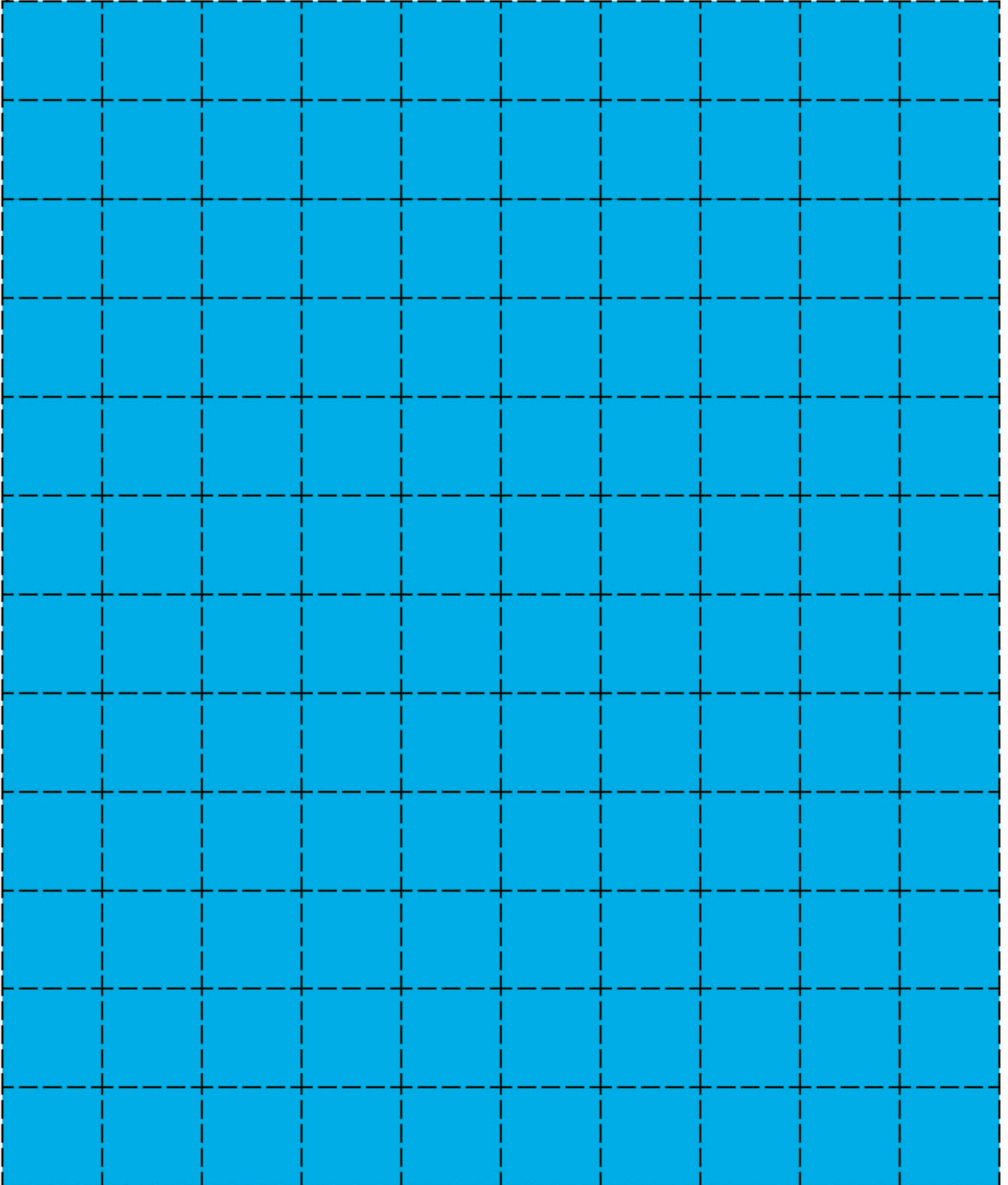
# COVER UP!

## Spinners



# **COVER UP!**

## **Game Pieces**



# COVER UP!

## Extra Spinner

