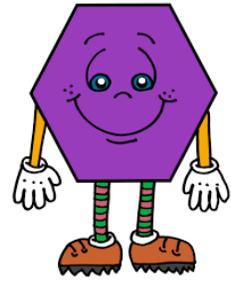# The Polygon Game

**Math Concepts:** geometry, spatial visualization, logic, and strategy
**Materials:** The Polygon Game game board, a sheet protector, 2 erasable pens of different colors, and pattern blocks for scoring.
**Players:** two
**Recommended Grades:** 2-8
**Time:** about 15 minutes per game
**Common Core Standards:** MP1, MP3, MP6

## Why We Love The Polygon Game

The Polygon game is played on a board of small, connected, congruent triangles which morph into other larger polygons as you connect them with your color. But there is more to this game than just coloring in triangles as players try to be the most efficient in completing polygons with greater point values while at the same time trying to prevent their opponent from doing so. Spatial visualization becomes critical and players soon get very familiar with the relationships between the 4 different polygons. Scoring the game is itself a challenging lesson in efficiency.

## How to Play

1. Players choose their color and take turns coloring in a triangle anywhere on the game board until the board is completely filled.
2. To score the game, one player places pattern blocks on the game board to cover all of the triangles of their own color and maximize their score using the point values from the bottom of the game board. Next, the second player removes the pattern blocks and places them on the triangles of their color to find their score.
3. The player with the highest score wins the game.
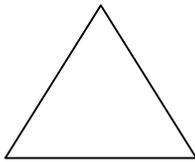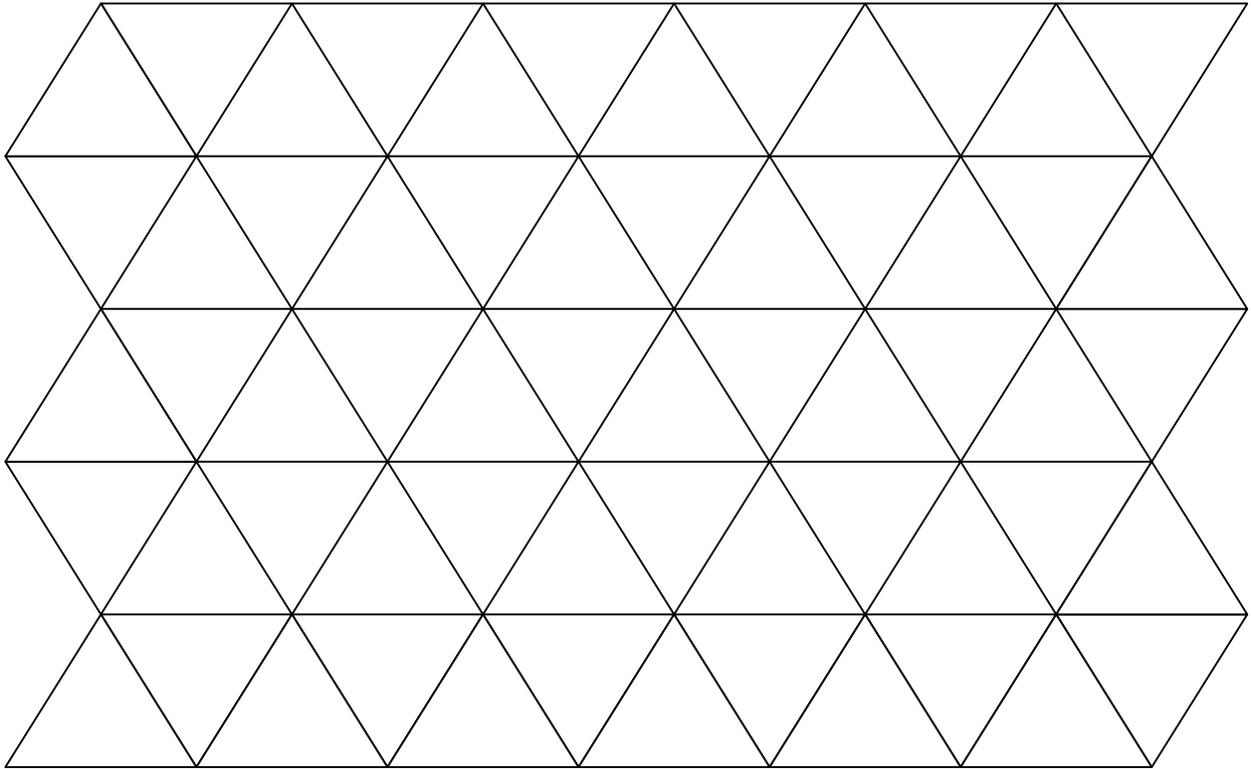
## Hints and Questions

- Is it better to go first or second? Why?
- Does it matter where you start?
- Is it possible to end in a draw (tie)?
- Is there a strategy that can help you win every time?

## Variations

1. Play on a larger game board.
2. Color 2 triangles on a turn instead of 1.
3. Play with 3 players instead of 2.
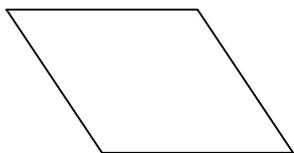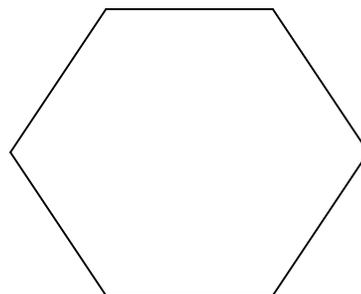   *  *Explore how these changes affect the game.*
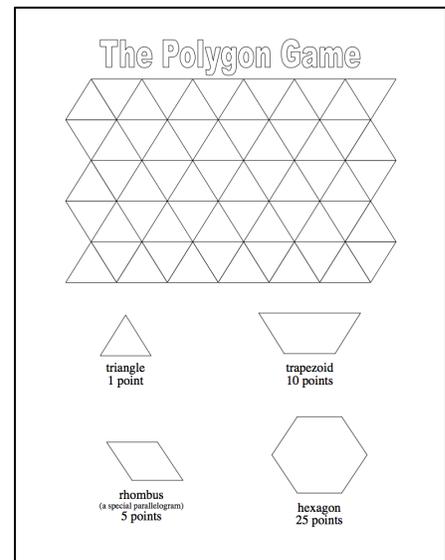
# The Polygon Game

triangle
1 point

trapezoid
10 points

rhombus
(a special parallelogram)
5 points

hexagon
25 points