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| **Subject:** | Math |
| **Title:** | Shaping The Rink |
| **Grade Level:** | 3 |
| **Purpose:** | To challenge students to find ways to organize regular and irregular polygons together on a limited space – a Hockey Arena. |
| **Curricular**  **Connections:** | * Sort regular and irregular polygons, including: triangles, quadrilaterals, pentagons, hexagons and octagons according to the number of sides. * Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them. |
| **Materials:** | * Colouring utensils * **“Shaping The Rink”** handout |
| **Activity:** | 1. As a class, define a polygon and list different examples. 2. Distribute **“Shaping the Rink”** handout, shape side up. Have students draw a picture of the shape on the grid and fill in the number of sides. 3. Look at how individual students drew their polygons.  * How did they use the space? * Is there another way they could have used the space? * Does varying size change the type of polygon?  1. Brainstorm different ways of using the grid space to create the shapes. For example a triangle can be drawn by dividing one square in half, or can be made much larger by using several squares on the grid. 2. As students look at the arena grid, explain their task:  * To fill as much of the space as possible using the polygons on the **“Shaping the Rink”** handout. * Play with the size of the polygon, but use each shape at least once. * Choose a different colour for each shape. * On the side of the sheet, keep track of the number of times each shape is used.  1. Check for understanding. If necessary write key points of instruction on the board. 2. Students complete the task independently. |
| **Extension:** | Challenge students to create a design or image using the polygons within the space of the arena. |
| **Assessment:** | Student is able to:   * Clearly identify, and accurately create, regular and irregular polygons. * Alter polygon size to fit within the space given. * Understand how various polygons fit together. |

**Shaping The Rink**

Name of shape Draw Shape Using Grid Number of sides

Triangle  \_\_\_\_\_\_\_

Quadrilateral  \_\_\_\_\_\_\_

Pentagon  \_\_\_\_\_\_\_

Hexagon  \_\_\_\_\_\_\_

Octagon  \_\_\_\_\_\_\_

