

## Shape Stepping Stones

Shared by: Hilary Seager, Page Elementary School, Groveland, MA

<b>Specialized tools/technology used:</b>	<b>Experience level required:</b>
hammers, nails	beginners

**Grade Level** (of this example): K-2

**Content Standards** (of this example): Math - number sense, geometric shapes. See also Possible Content Explorations at the bottom

**Summary of Project:** After learning about shapes, each group of students identifies and draws a shape to create on their tree cookie. Students will keep count of (tally) and take turns banging finishing nails inside the area of their shape. Upon completion of their shape of nails, students will compare and contrast the different shapes and number of nails used for each. Older students can use that data to make a picto or bar graph. Students will make sure two of the same shape are not placed in consecutive positions.

### Images of student work



### **Notes from contributor:**

This project was done with kindergarten students in groups of four. However, to limit the students who were waiting to use the hammer, only half of the class worked on the 5 tree cookies at once. While two students per group were working on the tree cookies, the other two students were involved in a Bee Bot robotics lesson. This project took approximately 3 hours of class time. Students had no prior experience using hand tools. This project was designed to gain practice using safety equipment, hammers, and nails. The nails were started for the kindergarteners by parent helpers. The completed stepping stones were then placed in the school garden as stepping stones.

Our content standards during this project:

- Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres; distinguish between defining attributes
- Analyze, compare, create, and compose shapes
- Count to 120
- Compare two two-digit numbers based on meanings of the tens and ones digits
- Draw a picture graph and a bar graph to represent a data set with up to four categories
- Use tools and materials to design and build a model

### **Possible Content Explorations:**

#### **Social Sciences / STEM (Engineering)**

- Develop a symbolic code or language using nailed designs

#### **ELA**

- Write a story explaining how the shape got into the wood, and why it's important

#### **STEM: Physics, Math**

- Using much smaller pieces of wood, see how many nails each piece can take before splitting. Help the students develop testable explanations and let them test explanations on a few more pieces of wood. Graph data by student-determined variables to look for patterns.