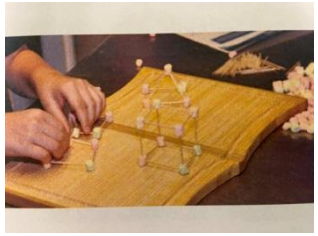
2D and 3D Geometric Shape Building

This hands-on activity is designed to explore 2-dimensional and 3- dimensional shapes using toothpicks, playdough and reference cards. You can also create a unique 2D or 3D structure of your own.

Supplies and Instructions

- Toothpicks
- Plastic knife
- Playdough
- Set of 2D & 3D Geometric Reference Cards



- **See step by step instructions on the other side of this hand-out.**

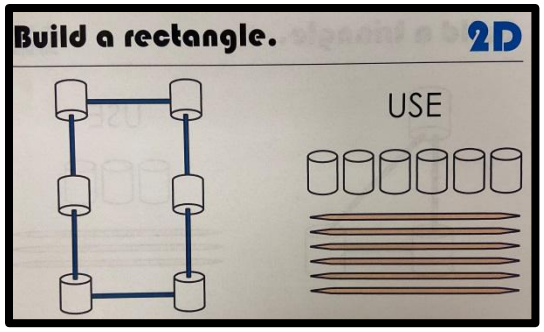
Questions for Discussion

- What was your favorite part of the activity and why?
- What challenged you the most?
- Were any of the shapes on the reference cards new to you?
- If so, what were the names of those shapes?
- How would you describe the difference between a 2D shape and a 3D shape?
- When you look at a structure such as a house, can you see 2D shapes, 3D shapes, or both?
- Were you able to create a unique 2D or 3D structure of your own?

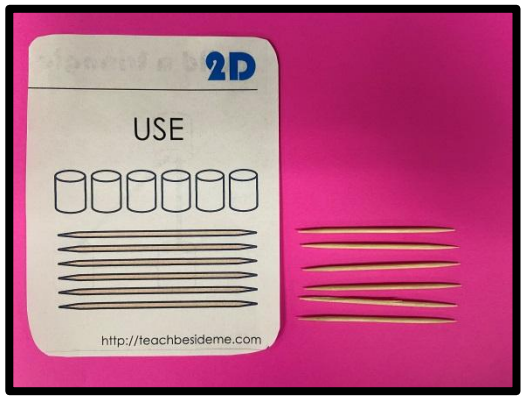
This activity was adapted from ACT Now: a statewide coalition that works to ensure youth have access to quality and affordable afterschool opportunities

2D and 3D Geometric Shape Building

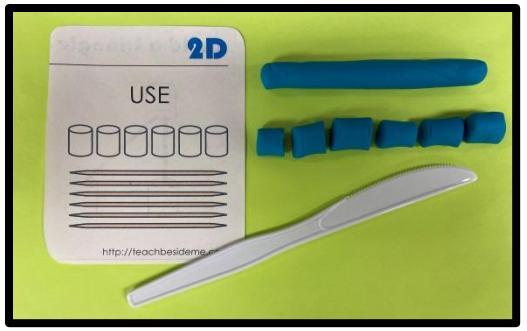
Step 1: Look at your 2D and 3D reference cards and select the shape you would like to build. You will use this card to plan and build your shape.



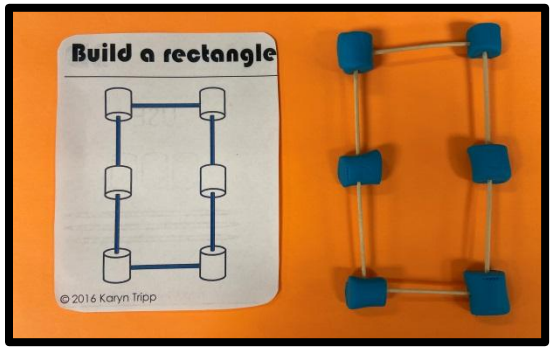
Step 2: Find out how many toothpicks you will need and count them out.



Step 3: Find out how many connecting pieces you will need. Roll the playdough into a cylinder shape and cut it into small pieces until you have enough connecting pieces.



Step 4: Build the shape using the toothpicks, playdough connectors, and the reference card as a guide.



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Step 5: Follow the same process to build new or more challenging shapes. Try to connect shapes together to form a different shapes or use the materials to build a unique structure of your own.