



PICKPOLYGONS

Build a $1 \times 1 \times 1$ triangle with three toothpicks. Call it Picktriangle 1. Add on to the base of that triangle to build the next size triangle, Picktriangle 2. This triangle is a $2 \times 2 \times 2$ triangle and uses a total of 7 toothpicks. Make bigger picktriangles. Stop with Picktriangle 8. Keep track of the number of toothpicks you add on each time. Keep track of the total number of toothpicks for each picktriangle. How many toothpicks will you need to make Picktriangle 20?

Now make picksquares. Start with four toothpicks. Keep making bigger picksquares. How many toothpicks will you need to make Picksquare 20? Do the same for pickpentagons and pickhexagons.

YOU MAY NEED

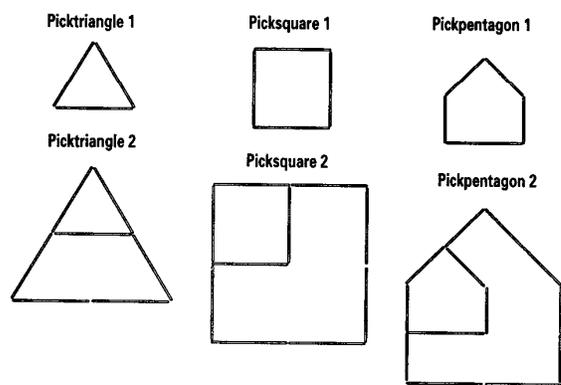
- calculator
- glue
- poster board
- toothpicks

TO GET STARTED

- Glue toothpicks to paper to hold them in place.
- Record your data for each shape in a table.
- Look for patterns.

YOUR FINDINGS

Make a poster of pickpolygons. Show picktriangles, picksquares, pickpentagons, and pickhexagons. Describe patterns in the tables. Describe how you figured out the number of toothpicks for the 20th pickpolygon.



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