


# Game On!

*Discerning Geometric Patterns Through Mathematical Games*



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Which shape does not belong?

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## USE THE ATTRIBUTE BLOCKS TO CREATE YOUR OWN

“Which does not belong?”

Three share the same attribute  
One differs in that attribute

*“The triangle is the only 3-sided shape. The others have 4 sides.”*

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## Universal Design for Learning

### Three Tenets of UDL

- **Presentation**
  - *multiple modes of representation*
- **Expression**
  - *various modalities*
- **Engagement**
  - *students' strengths and interests*

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### Attribute Trains:

Buchheister, K., Jackson, C., & Taylor, C.E. (2015). An Inside Track: Fostering Mathematical Practices. *Teaching Children Mathematics*, (22)1, pp. 28-35

**FIGURE 1** The Attribute Trains game involves moving from first to last block by a single attribute.



**WHAT IS THE FEWEST NUMBER OF MOVES?**

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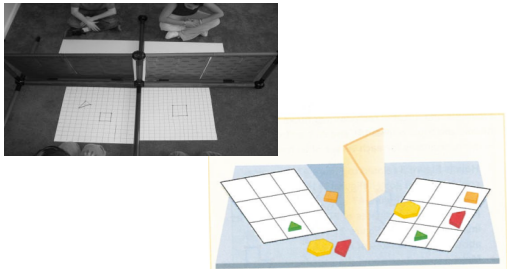
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## Your Turn!

### Geoboard Battleshape



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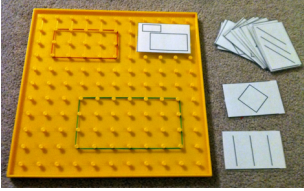
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### GEOBOARD: Make a...

Geometry task Cards for geoboards

Make a shape with 3 sides.	Make a shape with 4 sides.
Make a shape with 3 corners.	Make a shape with 4 corners.
Make a square.	Make a triangle.




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### FINAL CHALLENGE: Can you make the letters of NCTM?

<http://mathforum.org/trscavo/tangrams/construct.html>




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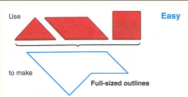
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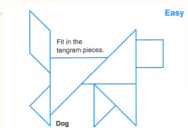
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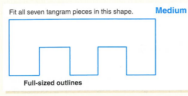
Use ▲▲▲▲ to make ▭ Full-sized outlines

Easy




Fit in the tangram pieces. ▭ Full-sized outlines

Medium



Fit all seven tangram pieces in this shape. ▭ Full-sized outlines

Hardest



Each of these shapes can be made using all seven pieces. Outlines are to scale but much smaller.

- **Geometry 1.G: Reason with shapes and their attributes.**
  - **Compose two-dimensional shapes** (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and **compose new shapes from the composite shape.**

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