Pattern Blocks

Primary
Geometry and Spatial Sense

By Jane Tom
Adapted from Moss, Bruce, Caswell, Flynn & Hawes (2016)
Lesson outline by Jisoo Seo

Curriculum Goals (From the Ontario Ministry of Education Curriculum Document)

Spatial Reasoning Focus:
- Recognizing geometric shapes
- Composition and decomposition of 2D shapes
- Visual-spatial working memory
- Visual chunking strategies
- Spatial language
- Symmetry

Setting
This is a teacher led activity, which can be conducted with a whole class or small groups.

Materials
- Computer and projector
- Pattern Blocks Quick Image PPT (see attachment)
- Bag of pattern blocks for each student

Summary
In this quick image activity, students will be presented with a series of challenges made of pattern blocks. Students will be asked to visualize the images comprised of pattern blocks and then recreate them from memory.

Instructions
1. Present the first image (figure 1) for five seconds.
2. Invite students to use their own pattern blocks to recreate the image from memory. Depending on the complexity of the shape, and the needs of the students, the image can be shown again to allow students to notice additional features while they build.
3. After sufficient time for building, show the original image again, and have students compare it with their own.
4. Facilitate discussion and sharing about student’s strategies for how they approached the task.
5. Repeat with each image.

Questions to Extend Student Thinking
- How many pattern blocks in all were needed for this picture?
- Can you suggest a way to make it easier to count?
- How many different kinds of pattern block shapes are used for this picture?
- Did the image have hexagons? trapezoids? rhombi? triangles? and/or squares?
- Does this picture have any symmetry?
- Did you find it easy, medium or difficult to remember the shape?
- What made the challenge easy/medium/difficult to remember?

References