IM 9–12 MATH v.1

Unit 1

Constructions and Rigid Transformations

GEOMETRY

Lesson 22

Now What Can You Build?

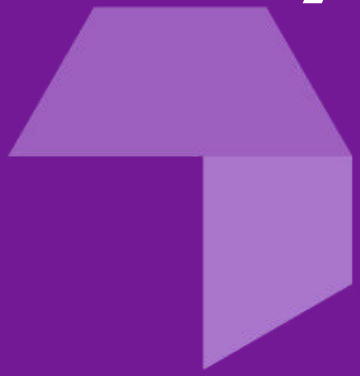
Illustrative Mathematics®

Kendall Hunt

Learning Goal

Let's construct some creative shapes.

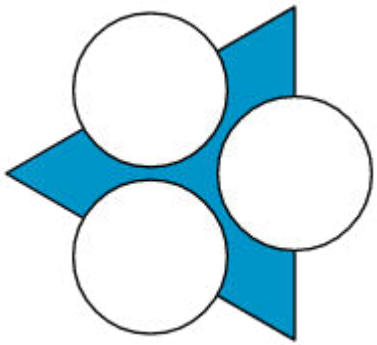
Geometry

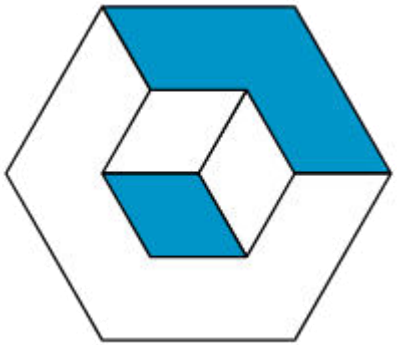


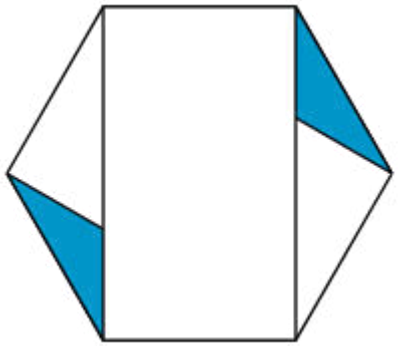
Dramatic Designs

Warm-up: Notice and Wonder

What do you notice? What do you wonder?







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Duplicate a Design

Your teacher will give you a collection of designs that all began from the construction of a regular hexagon. Choose one to use.

1. Record any rigid motions (rotation, reflection, or translation) you see in your design.
2. Use straightedge and compass moves to recreate the design.
3. Write down instructions for how to construct it.

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Make Your Own Design

Use dynamic geometry software to create your own design.

Write down the moves you followed so someone else can recreate your design.

If you get stuck, consider reviewing all the constructions you have done so far. For an additional challenge, include examples of rigid motions or symmetry in your design.

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Make Their Design

Trade instructions with someone who is not your partner while keeping the design a secret.

1. Follow the instructions to make a design.
2. List everything in the design that is congruent. Explain how you know

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Now What Can You Build?

All the designs come with instructions.

You can record those instructions and recreate the designs for their own artistic projects.

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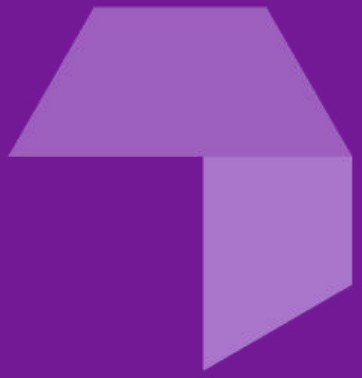
I can follow directions to construct a pattern.

Learning Targets

Geometry



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