Illustrative Mathematics

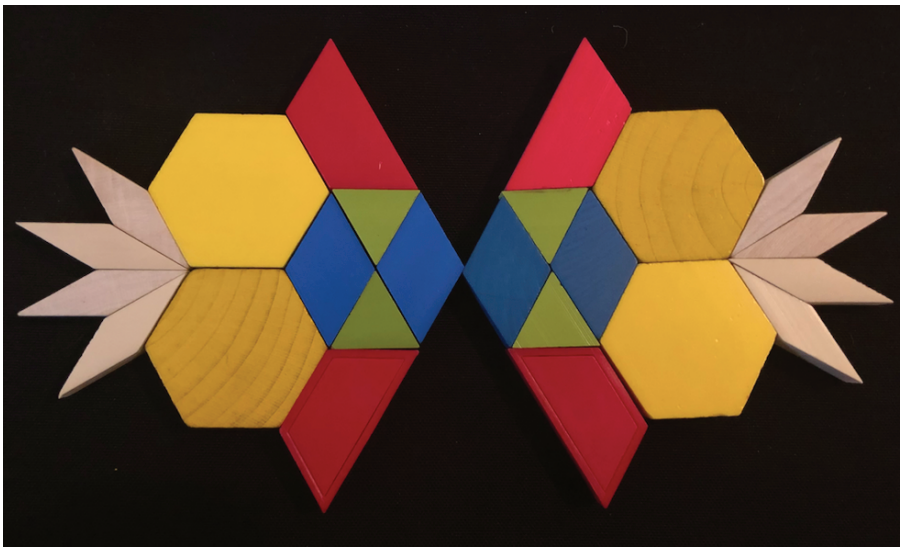
Grade 4 Unit 8
Lesson 4

Unit 8 Lesson 4: Symmetry in Figures (Part 1)

WU Notice and Wonder: Seeing Double (Warm up)

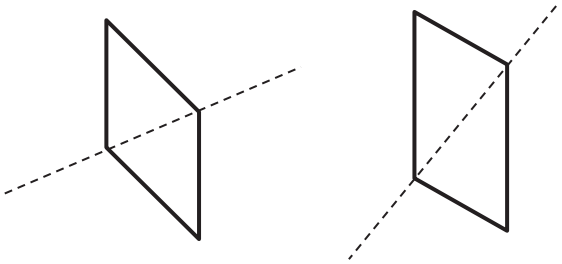
Student Task Statement

What do you notice? What do you wonder?



1 Perfect Matches

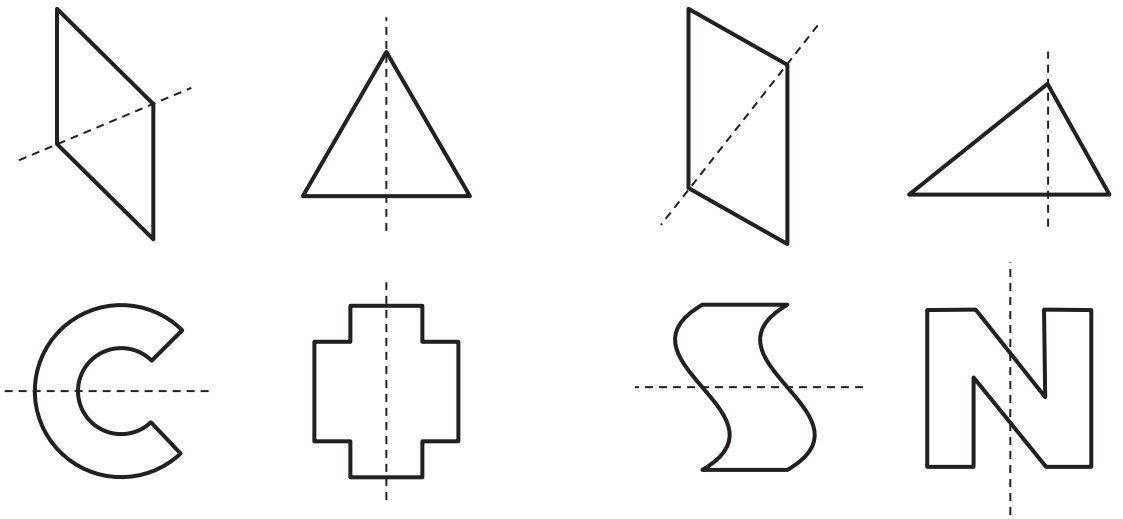
Images for Launch



Student Task Statement

1. Lin has pieces of paper in different shapes. She folds each piece of paper once, creating two smaller parts.

   She then sorts the pieces into two categories based on the folding lines.



folding line is a line of symmetry

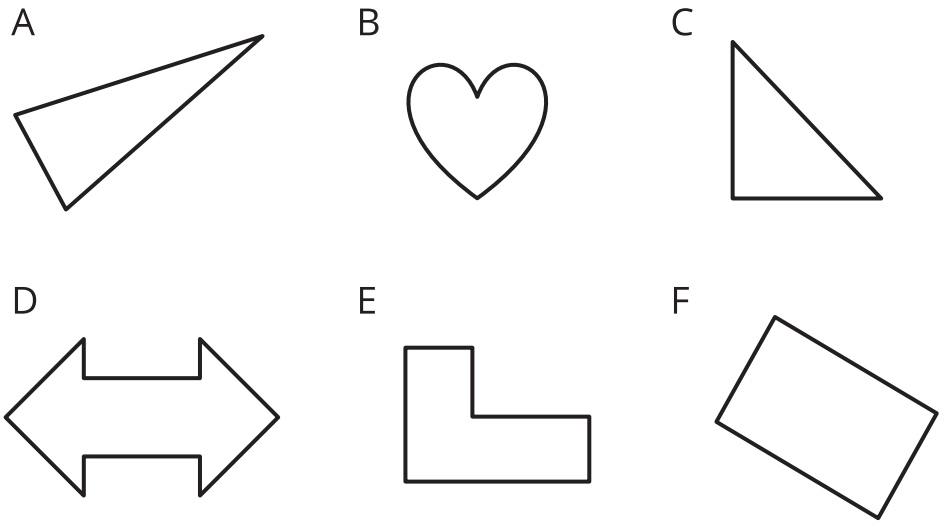
folding line is not a line of symmetry

   Study the figures in each category. What do you think a **line of symmetry** means?

   Complete this sentence:

   A line of symmetry is . . .

2. Do the following figures have a line of symmetry? If so, draw the line. If not, explain how you know.



3. Are there any figures with more than one line of symmetry? If you think so, draw all the lines of symmetry.

2 In Search of Symmetry

Student Task Statement

Your teacher will give your group a set of cards.

1. Sort the figures on the cards by the number of lines of symmetry they have.

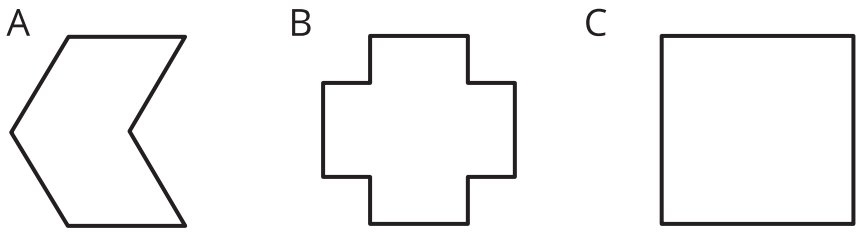
0 lines of symmetry	1 line of symmetry	2 lines of symmetry	3 lines of symmetry

2. Find another group that has the same set of cards. Compare how you sorted the figures. Did you agree with how their figures are sorted? If not, discuss any disagreement.

3 Just Keep Folding (Optional)

Student Task Statement

Priya is folding paper of different shapes along their lines of symmetry. She keeps folding each one until the folded shape has no more lines of symmetry.



1. How many times can she fold each shape before she can no longer continue?
2. What do you notice about each folded shape when it can no longer be folded?

Images for Activity Synthesis