Unit 6, Lesson 2

Patterns that Repeat

Let's create and describe repeating patterns that follow a given rule.

Warm-up

How Many Do You See: Colorful Tiles

How many tiles do you see? How do you see them?



Activity 1

Clare's Pattern

Clare creates a pattern using 3 shapes—a triangle, a circle, and a square—that repeat in that order.

1. Draw the first 10 shapes in Clare's pattern.

2. What do you notice about the first 10 shapes in Clare's pattern?

3. Clare numbers the shapes 1–10 to show their position in her pattern.
   a. What numbers represent the position of the first 5 squares?

   b. What else do you notice about the shapes and their numbers?

4. What is the 31st shape in Clare's pattern? Explain or show your reasoning.

Activity 2

Generate More Patterns

1. Draw the first 12 shapes for each of these patterns.
   a. Pattern A: Repeat circle, square.



   b. Pattern B: Repeat triangle, circle, square.



   c. Pattern C: Repeat circle, triangle, circle, square.



2. What do you notice about these patterns? Why do you think this happens? Number the shapes if it helps.

3. What do you predict is the 25th shape in each pattern? Explain how you know.

4. Kiran creates a pattern with a rule that repeats these 5 shapes.

   Repeat triangle, circle, triangle, circle, square.

   Kiran draws the first 12 shapes in the pattern.

   a. How many times does his pattern repeat?

   b. What is the 12th shape?

   c. Then he draws the first 24 shapes in the pattern. What would the 24th shape be?