

Lesson 10-5 • Group 1

Reinforce Understanding**10.5 Small Group • Group 1**

With my small group, I can create and describe geometric designs using repetition, patterns, and rhythm, and use a pattern unit to predict what comes next — one step at a time, with support.

Worked model

A border repeats: pink circle, purple square, blue triangle, pink circle, purple square, blue triangle, ...

1. The pattern unit is 3 shapes long: circle, square, triangle.
2. To predict shape number 12, I divide: $12 \div 3 = 4$ with no remainder, so shape 12 ends a complete unit — it is the blue triangle.
3. The next three shapes after any complete unit will be a pink circle, a purple square, and a blue triangle.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Sort each shape: can it tessellate by itself?

Write the name of the correct group on each line.

Groups: Tessellates by itself Cannot tessellate alone

- _____ Squares
- _____ Equilateral triangles
- _____ Regular hexagons
- _____ Circles
- _____ Regular pentagons
- _____ Regular octagons

2. The border pattern repeats circle, square, triangle. Name the shape at each position.

Complete the table. Show how you found each value.

Position number	Thinking with the unit of 3	Shape
7		
12		
20		

Show your work

3. In geometric design, what is repetition?

Circle the letter of the best answer. Show how you know.

- A. A set of different shapes arranged randomly
- B. Shapes that vary in size and order of appearance
- C. Any drawing that uses color
- D. The same object or shape repeated multiple times

Show your work