

## Lesson 9: Generate Patterns

### Standards Alignments

Addressing 5.OA.B.3

Building Towards 5.OA.B.3

### Teacher-facing Learning Goals

- Given two rules, generate two numerical patterns. Identify apparent relationships between corresponding terms in the two patterns.

### Student-facing Learning Goals

- Let's explore rules and patterns.

### Lesson Purpose

The purpose of this lesson is for students to generate patterns, given two rules, and identify relationships between corresponding terms in the different patterns.

The purpose of this lesson is for students to generate two different numerical patterns and then compare the terms in the two patterns. In this lesson, the patterns are the multiples of given whole numbers, starting with 0, and one of the numbers is a multiple of the other. This means that one of the patterns is contained inside the other. For example, the list of multiples of 9 is contained inside the list of multiples of 3 since every third multiple of 3 is a multiple of 9. Students express relationships within a pattern and between 2 patterns using multiplication and division.

### Access for:

#### Students with Disabilities

- Action and Expression (Activity 1)

### Instructional Routines

Choral Count (Warm-up), MLR2 Collect and Display (Activity 1)

### Lesson Timeline

Warm-up	10 min
Activity 1	20 min

### Teacher Reflection Question

In what ways did you accept students' everyday way of talking as a starting point for joining the math conversation today?

Activity 2	15 min
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Lesson Synthesis	10 min
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Cool-down	5 min
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## Cool-down (to be completed at the end of the lesson)

 5 min

### Patterns and Relationships

#### Standards Alignments

Addressing 5.OA.B.3

#### Student-facing Task Statement

- List the first 10 numbers for these 2 patterns.

Jada's rule: Start with 0 and keep adding 5.

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Priya's rule: Start with 0 and keep adding 10.

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- What number will be in Priya's pattern when Jada's pattern has 100?
- What relationship do you notice between corresponding numbers in the two patterns?

#### Student Responses

- 0, 5, 10, 15, 20, 25, 30, 35, 40, 45  
0, 10, 20, 30, 40, 50, 60, 70, 80, 90
- 200
- Sample response: Priya's numbers are double Jada's numbers or Jada's numbers are half Priya's numbers.