

Mini-Map for M.EE.8.EE.2

Subject: Mathematics

Expressions and Equations (EE)

Grade: 8

Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.8.EE.2 Identify a geometric sequence of whole numbers with a whole number common ratio.	M.8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.

Linkage Level Descriptions

Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
Arrange objects in a specific order by following a specific rule (e.g., arrange objects from the largest to the smallest size). Group like items by attributes such as size, shape, color, and size. Contrast or distinguish objects based on attributes such as shape, size, texture, and numerical pattern.	Recognize patterns (i.e., repeating, growing, shrinking) involving numbers or letters (e.g., a, b, b, a, b, b...; 2, 5, 8, 11...). Identify a sequence as an ordered list of numbers that adheres to a common rule between corresponding numbers (e.g., 2, 4, 6, 8...).	Recognize a growing pattern as a pattern that increases (e.g., 3, 6, 9, 12...) and a shrinking pattern as a pattern that decreases (e.g., 12, 10, 8...).	Recognize a geometric sequence as an ordered list of numbers, such that each term after the first is determined by multiplying or dividing the preceding term by a constant amount (e.g., 2, 4, 8, 16...).	Recognize the recursive rule in geometric sequences by determining how each term in the sequence differs from the preceding term (e.g., the recursive rule in the sequence 2, 4, 8, 16... is "multiply by 2").

Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

How is the Initial Precursor related to the Target?

In order to recognize geometric patterns, students begin by learning to notice what is new. The educator draws the students' attention to new objects or stimuli, labels them (e.g., "this set has all red objects; this set has all blue," "these fidgets are big; these fidgets are small") and the student observes, feels, or otherwise interacts with them. Educators encourage students to begin placing like objects together, drawing attention to the characteristics that make an item the same or different.

How is the Distal Precursor related to the Target?

As students develop their awareness of attributes and putting like objects together, educators will draw the students' attention to patterns and sequences in numbers and letters (symbolic patterns) and allow the student to observe, feel, or otherwise interact with the patterns and sequences.

Instructional Resources

Released Testlets
See the Guide to Practice Activities and Released Testlets .
Using Untested (UN) Nodes
See the document Using Mini-Maps to Plan Instruction .

[Link to Text-Only Map](#)

M.EE.8.EE.2 Identify a geometric sequence of whole numbers with a whole number common ratio.

