Unit 2-Patterns
Algebra I
4 Weeks (October)

Essential Questions

- What is a sequence?
- How can patterns be represented?
- What are the advantages and disadvantages of a recursive rule compared to an explicit rule?

Enduring Understandings

1. Some sequences can be modeled with a function rule that you can use to find any term of the sequence.
2. In a geometric sequence, the ratio of any term to its preceding term is a constant value.
3. When you can identify a pattern in a sequence, you can use it to extend the sequence.

Content

Topics (Pearson):	**Students will know…**
(4-7) Arithmetic Sequences (7-8) Geometric Sequences	• Arithmetic Sequence • Geometric Sequence • Recursive Formula • Explicit Formula • Common Ratio

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21st Learning Expectations

Students will be able to…

- Employ mathematical problem solving skills effectively.
- Make decisions and solve problems in independent and collaborative settings.

21st Century Learning Skills

Students will be able to…

- ML # 4 – Model with mathematics.
- ML # 8 – Look for and express regularity in repeated reasoning.

Connecticut State Standards

CCSS

- F-IF 3. Recognize that sequences are functions, sometimes defined recursively, whose domain is the subset of integers.
- F-BF 1. Write a function that describes a relationship between two quantities.
- F-BF2. Write arithmetic and geometric sequences recursively and with an explicit formula, use them to model situations, and translate between the two forms.

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Objectives

Students will be able to…

- Identify and create arithmetic sequences.
- Identify and create geometric sequences.
- Write a recursive rule for both arithmetic and geometric sequences.
- Write an explicit rule for both arithmetic and geometric sequences.

Assessments

- Quiz EU1.3 – Arithmetic Sequences
- Quiz EU2.3 – Geometric Sequences
- Test – Unit 2 Patterns

Resources

- Pearson Algebra I Textbook
- Corresponding CAPT Problems