Unit 10: Sequences and Series

Content Area: **Mathematics**
Course(s): **Generic Course**
Time Period: **Semester 2**
Length: **3 weeks**
Status: **Published**

Standards - NJCCS/CCSS

MA.A-SSE.B.4	Derive and/or explain the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.
MA.F-BF.A.2	Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

Enduring Understandings

Terms of certain patterns of numbers can be solved algebraically by using the sequence formula.

Finding the sum of the terms can be calculated by using the series formula instead of doing it long hand with or without a calculator.

Essential Questions

What is a sequence?

What type of sequences are there?

Will students be able to calculate the "n"th term of an arithmetic or geometric sequence?

What is a series?

How do we find the sum of "n" terms in a sequence, or an infinite sum?

How can we use sequence and series to answer real world problems?

Knowledge and Skills

- Determine whether a sequence/series is arithmetic or geometric
- Find d,r or n
- Find the sum of the numbers in a sequence
- Find the nth term in a sequence

- Find the geometric mean
- Apply sequence and series formulas to solve real world problems

Transfer Goals

Recognize and solve practical or theoretical problems involving mathematics, including those for which the solution approach is not obvious, by using mathematical reasoning and strategic thinking.

Abstract ideas, like patterns, can be represented with mathematical formulas.

Resources

Precalculus: Graphical, Numerical, Algebraic 10th Edition

Desmos/Amplify

Problem-Attic

Deltamath

Geogebra