

# Unit 17: Sequences & Series

Content Area: **Mathematics**  
Course(s): **PreCalc Trig H**  
Time Period: **Semester 2**  
Length: **2 weeks**  
Status: **Published**

## Standards - NJCCS/CCSS

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CCSS.Math.Content.HSF-IF.A.3	Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
CCSS.Math.Content.HSA-SSE.B.4	Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems.
CCSS.Math.Content.HSF-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.
CCSS.Math.Content.HSF-LE.A.2	Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

## Enduring Understandings

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Arithmetic and geometric sequences and series are mathematical patterns that stem from practical situations.

## Essential Questions

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What is the difference between an arithmetic sequence and a geometric sequence?

Do all infinite geometric sequences converge?

What does sigma notation represent?

How does one identify if a scenario is geometric or arithmetic?

## Knowledge and Skills

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SWBAT evaluate an arithmetic sequence.

SWBAT apply the properties of arithmetic sequences.

SWBAT evaluate a geometric sequence.

SWBAT apply the properties of geometric sequences.

SWBAT identify which types of geometric sequences converge and what they converge to.

## **Resources**

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Precalculus with Limits

Authors: Aufmann, Barker, Nation

Graphing Calculator

[www.desmos.com](http://www.desmos.com)

[www.flipgrid.com](http://www.flipgrid.com)

[www.graphfree.com](http://www.graphfree.com)