# Unit 19: Introduction to Calculus

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

## Standards - NJCCS/CCSS

| | |
|---|---|
| CCSS.Math.Content.HSF-IF.B.6 | Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph. |
| CCSS.Math.Content.HSF-IF.C.7.a | Graph linear and quadratic functions and show intercepts, maxima, and minima. |

## Enduring Understandings

The process of decomposing a fraction the reverse of finding a common denominator.

The derivative of a function represents the slope of the tangent line at a given point.

## Essential Questions

What is a derivative?

How can we find the minimum or maximum of a function by analyzing the slope?

When would we need to decompose a fraction?

## Knowledge and Skills

SWBAT find the derivative of a function.

SWBAT explain the contextual definition of a derivative.

SWBAT find the relative minimum/maximum of a function and its graph.

SWBAT apply limit theorems.

SWBAT decompose fractions using Bernoulli's partial fractions method.

## Resources

Precalculus with Limits

Authors: Aufmann, Barker, Nation

Graphing Calculator

www.desmos.com

www.flipgrid.com

www.graphfree.com