

# Unit 12 Differentiation

Content Area: **Math**  
Course(s): **Accelerated PreCalculus, CP PreCalculus**  
Time Period: **Marking Period 4**  
Length: **3**  
Status: **Published**

## Unit Overview

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In this unit, students will define derivative as the limit of a difference quotient and learn strategies to determine derivatives. Students will use derivatives to understand the behavior of functions and solve application problems involving instantaneous rates of change.

## Enduring Understandings

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- Students will understand and work with derivatives.

## Essential Questions

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What is the derivative and what is its relationship to continuity?

How do you find the derivatives of basic algebraic functions, trigonometric functions, and exponential functions?

## Instructional Strategies & Learning Activities

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- Provide access to online book
- Provide access to book pages and problems through Canvas
- Provide access to review keys
- Provide access to webassign as learning and reviewing tool
- Specific problems will be pulled out to provide opportunities to extend their knowledge.
- Work on problem solving in a group setting

## **Formative Assessments**

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- Daily homework checks
- Quiz
- Chapter Test
- Exit Tickets
- Warm-ups

## **Summative Assessment**

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- Unit Test
- Unit Project

## **Benchmark Assessments**

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- Midterm/Final Exam

## **Alternate Assessments**

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- Modified homework
- Modified quizzes
- Modified tests
- Modified projects

## **Closure**

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- Low-Stakes Quizzes - Give a short quiz using technologies like Kahoot or a Google form.
- Have students write down three quiz questions (to ask at the beginning of the next class).
- Have students dramatize a real-life application of a skill.
- Ask a question. Give students ten seconds to confer with peers before you call on a random student to answer. Repeat.
- Have kids orally describe a concept, procedure, or skill in terms so simple that a child in first grade would get it.
- Direct kids to raise their hands if they can answer your questions. Classmates agree (thumbs up) or

disagree (thumbs down) with the response.

- Have kids create a cheat sheet of information that would be useful for a quiz on the day's topic.
- Kids write notes to peers describing what they learned from them during class discussions.
- Have students fill out a checklist with the objectives for the day.
- Have students complete an exit ticket without putting their name on it. Hand back exit tickets the next day in class and have students correct as a warm up.
- Ask students to write what they learned, and any lingering questions on an "exit ticket". Before they leave class, have them put their exit tickets in a folder or bin labeled either "Got It," "More Practice, Please," or "I Need Some Help!"
- After writing down the learning outcome, ask students to take a card, circle one of the following options, and return the card to you before they leave: "Stop (I'm totally confused. Go (I'm ready to move on.)" or "Proceed with caution (I could use some clarification on . . .)"