Unit Topic	Calculus Unit 7 - Integration
Standards	

Unit Essential Question	How do you use calculus to find areas of a wide variety of regions?

Lesson 1 Focus
Antiderivatives and Indefinite Integration

Standards

Students Will Know… (Key Vocabulary)

Students Will Be Able To…
1. Use indefinite integral notation for antiderivatives 2. Use basic integration rules to find antiderivatives 3. Find a particular solution of a differential equation

Lesson Essential Question 1
What is an antiderivative?

Lesson 2 Focus
Area

Standards

Students Will Know… (Key Vocabulary)

Students Will Be Able To…
1. Use sigma notation to write and evaluate a sum 2. Understand the concept of area 3. Approximate the area of a plane region 4. Find the area of a plane region using limits

Lesson Essential Question 2
How can we find an approximation of area by adding up smaller areas we can find from geometric formulas?

Lesson 3 Focus
Riemann Sums and Definite Integrals

Standards

Students Will Know… (Key Vocabulary)

Students Will Be Able To…
1. Understand the definition of a Riemann Sum 2. Evaluate a definite integral using limits 3. Evaluate a definite integral using properties of definite integrals

Lesson Essential Question 3
What does the definite integral find for us in calculus?

Lesson 4 Focus
The Fundamental Theorem of Calculus

Standards

Students Will Know… (Key Vocabulary)

Students Will Be Able To…
1. Evaluate a definite integral using the Fundamental Theorem of Calculus 2. Understand and use the Mean Value Theorem for integrals 3. Find the average value of a function over a closed interval 4. Understand and use the 2nd Fundamental Theorem of Calculus

Lesson Essential Question 4
How can we evaluate a definite integral?

Lesson 5 Focus

Standards

Students Will Know… (Key Vocabulary)

Students Will Be Able To…

Lesson Essential Question 5

Major Unit Assignment	