# iTeachWise

Free Lesson Plan — Teacher Edition

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# 9-12 Calculus (AP) — 5-Day Lesson Plan

| GRADE LEVEL | SUBJECT | WEEK OF |
|---|---|---|
| 9-12 | Calculus (AP) | _____ |

## Unit Overview

This 5-day Calculus (AP) plan covers limits, continuity, and the formal definition of the derivative for 9-12 students, aligned to AP Calculus AB Topic 2.1-2.3.

### Standards Alignment

AP Calculus AB Topic 2.1-2.3

### Global Standards Mapping

**United States:**
AP Calculus AB Topic 2.1-2.3

**United Kingdom:**
Key Stage 4–5 (Years 10–13, GCSE / A-Level)

**Australia / NZ:**
Years 9–12 (AC v9.0) · NCEA Levels 1–3

**IB Programme:**
MYP Years 4–5 + DP / Career-Related Programme

**Canada (Ontario):**
Ontario Senior Division (Grades 9–12)

**Singapore / India:**
MOE Secondary 3–5 / JC · CBSE Classes 9–12

*EU/EEA note: EU/EEA: GDPR-compliant — no student PII collected; teacher use only*

### Companion Student Handout — ready to photocopy

Each lesson plan ships with a separate "Student Edition" PDF — daily I-can goals, vocabulary blanks, work space, and exit-ticket boxes. No teacher prep. Print and hand out.

# Day 1

9-12 Calculus (AP) — 5-Day Lesson Plan

## Learning Objective

Students will engage with limits, continuity, and the formal definition of the derivative at a 9-12 level — day 1 focus area.

## Standards Alignment

AP Calculus AB Topic 2.1-2.3

## Materials Needed

- Whiteboard
- Student notebooks
- Subject-specific handouts (provided)
- Anchor chart paper

## Lesson Flow

### Opening / Hook (5-10 min):

5 min — Open with a quick warm-up tied to limits, continuity, and the formal definition of the derivative; ask: "What do you already know?"

### Direct Instruction (15-20 min):

15 min — Introduce the day's concept with a worked example on the board.

### Guided Practice (10-15 min):

10 min — Work through 2-3 problems together, students at desks responding.

### Independent Practice (10-15 min):

10 min — Students complete the practice handout at their own pace.

### Closing / Exit Ticket (5 min):

5 min — Exit ticket: students write one sentence summarizing today's learning.

## Differentiation

### For struggling learners:

Provide a partially-completed example to model the process step-by-step.

### For advanced learners:

Offer an extension problem that requires applying the concept to a new context.

### For ELL students:

Pre-teach 3-5 key vocabulary terms with visuals; provide a sentence frame.

### For IEP students:

Reduce problem count by half; allow extended time and oral-response option.

# Day 2

9-12 Calculus (AP) — 5-Day Lesson Plan

## Learning Objective

Students will engage with limits, continuity, and the formal definition of the derivative at a 9-12 level — day 2 focus area.

## Standards Alignment

AP Calculus AB Topic 2.1-2.3

## Materials Needed

- Whiteboard
- Student notebooks
- Subject-specific handouts (provided)
- Anchor chart paper

## Lesson Flow

### Opening / Hook (5-10 min):

6 min — Open with a quick warm-up tied to limits, continuity, and the formal definition of the derivative; ask: "What do you already know?"

### Direct Instruction (15-20 min):

20 min — Introduce the day's concept with a worked example on the board.

### Guided Practice (10-15 min):

15 min — Work through 2-3 problems together, students at desks responding.

### Independent Practice (10-15 min):

15 min — Students complete the practice handout at their own pace.

### Closing / Exit Ticket (5 min):

5 min — Exit ticket: students write one sentence summarizing today's learning.

## Differentiation

### For struggling learners:

Provide a partially-completed example to model the process step-by-step.

### For advanced learners:

Offer an extension problem that requires applying the concept to a new context.

### For ELL students:

Pre-teach 3-5 key vocabulary terms with visuals; provide a sentence frame.

### For IEP students:

Reduce problem count by half; allow extended time and oral-response option.

# Day 3

9-12 Calculus (AP) — 5-Day Lesson Plan

## Learning Objective

Students will engage with limits, continuity, and the formal definition of the derivative at a 9-12 level — day 3 focus area.

## Standards Alignment

AP Calculus AB Topic 2.1-2.3

## Materials Needed

- Whiteboard
- Student notebooks
- Subject-specific handouts (provided)
- Anchor chart paper

## Lesson Flow

### Opening / Hook (5-10 min):

7 min — Open with a quick warm-up tied to limits, continuity, and the formal definition of the derivative; ask: "What do you already know?"

### Direct Instruction (15-20 min):

15 min — Introduce the day's concept with a worked example on the board.

### Guided Practice (10-15 min):

10 min — Work through 2-3 problems together, students at desks responding.

### Independent Practice (10-15 min):

10 min — Students complete the practice handout at their own pace.

### Closing / Exit Ticket (5 min):

5 min — Exit ticket: students write one sentence summarizing today's learning.

## Differentiation

### For struggling learners:

Provide a partially-completed example to model the process step-by-step.

### For advanced learners:

Offer an extension problem that requires applying the concept to a new context.

### For ELL students:

Pre-teach 3-5 key vocabulary terms with visuals; provide a sentence frame.

### For IEP students:

Reduce problem count by half; allow extended time and oral-response option.

# Day 4

9-12 Calculus (AP) — 5-Day Lesson Plan

## Learning Objective

Students will engage with limits, continuity, and the formal definition of the derivative at a 9-12 level — day 4 focus area.

## Standards Alignment

AP Calculus AB Topic 2.1-2.3

## Materials Needed

- Whiteboard
- Student notebooks
- Subject-specific handouts (provided)
- Anchor chart paper

## Lesson Flow

### Opening / Hook (5-10 min):

8 min — Open with a quick warm-up tied to limits, continuity, and the formal definition of the derivative; ask: "What do you already know?"

### Direct Instruction (15-20 min):

20 min — Introduce the day's concept with a worked example on the board.

### Guided Practice (10-15 min):

15 min — Work through 2-3 problems together, students at desks responding.

### Independent Practice (10-15 min):

15 min — Students complete the practice handout at their own pace.

### Closing / Exit Ticket (5 min):

5 min — Exit ticket: students write one sentence summarizing today's learning.

## Differentiation

### For struggling learners:

Provide a partially-completed example to model the process step-by-step.

### For advanced learners:

Offer an extension problem that requires applying the concept to a new context.

### For ELL students:

Pre-teach 3-5 key vocabulary terms with visuals; provide a sentence frame.

### For IEP students:

Reduce problem count by half; allow extended time and oral-response option.

# Day 5

9-12 Calculus (AP) — 5-Day Lesson Plan

## Learning Objective

Students will engage with limits, continuity, and the formal definition of the derivative at a 9-12 level — day 5 focus area.

## Standards Alignment

AP Calculus AB Topic 2.1-2.3

## Materials Needed

- Whiteboard
- Student notebooks
- Subject-specific handouts (provided)
- Anchor chart paper

## Lesson Flow

### Opening / Hook (5-10 min):

9 min — Open with a quick warm-up tied to limits, continuity, and the formal definition of the derivative; ask: "What do you already know?"

### Direct Instruction (15-20 min):

15 min — Introduce the day's concept with a worked example on the board.

### Guided Practice (10-15 min):

10 min — Work through 2-3 problems together, students at desks responding.

### Independent Practice (10-15 min):

10 min — Students complete the practice handout at their own pace.

### Closing / Exit Ticket (5 min):

5 min — Exit ticket: students write one sentence summarizing today's learning.

## Differentiation

### For struggling learners:

Provide a partially-completed example to model the process step-by-step.

### For advanced learners:

Offer an extension problem that requires applying the concept to a new context.

### For ELL students:

Pre-teach 3-5 key vocabulary terms with visuals; provide a sentence frame.

### For IEP students:

Reduce problem count by half; allow extended time and oral-response option.

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