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Free Lesson Plan — Teacher Edition

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9-12 Chemistry — 5-Day Lesson Plan

GRADE LEVEL	SUBJECT	WEEK OF
9-12	Chemistry	_____

Unit Overview

This 5-day Chemistry plan covers stoichiometry: mole conversions and limiting reactants for 9-12 students, aligned to NGSS HS-PS1-7.

Standards Alignment

NGSS HS-PS1-7

Global Standards Mapping

United States:
NGSS HS-PS1-7

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 Chemistry — 5-Day Lesson Plan

Learning Objective

Students will engage with stoichiometry: mole conversions and limiting reactants at a 9-12 level — day 1 focus area.

Standards Alignment

NGSS HS-PS1-7

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 stoichiometry: mole conversions and limiting reactants; 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 Chemistry — 5-Day Lesson Plan

Learning Objective

Students will engage with stoichiometry: mole conversions and limiting reactants at a 9-12 level — day 2 focus area.

Standards Alignment

NGSS HS-PS1-7

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 stoichiometry: mole conversions and limiting reactants; 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 Chemistry — 5-Day Lesson Plan

Learning Objective

Students will engage with stoichiometry: mole conversions and limiting reactants at a 9-12 level — day 3 focus area.

Standards Alignment

NGSS HS-PS1-7

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 stoichiometry: mole conversions and limiting reactants; 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 Chemistry — 5-Day Lesson Plan

Learning Objective

Students will engage with stoichiometry: mole conversions and limiting reactants at a 9-12 level — day 4 focus area.

Standards Alignment

NGSS HS-PS1-7

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 stoichiometry: mole conversions and limiting reactants; 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 Chemistry — 5-Day Lesson Plan

Learning Objective

Students will engage with stoichiometry: mole conversions and limiting reactants at a 9-12 level — day 5 focus area.

Standards Alignment

NGSS HS-PS1-7

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 stoichiometry: mole conversions and limiting reactants; 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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