DEMO

Unit 4: Oxidation Numbers

This demo will give you a glimpse of how Viziscience helps you take a visual, step-by-step approach to learning oxidation numbers, you will learn:

- **How to assign oxidation numbers accurately**
- **How to recognize redox reactions easily**
- **How to confidently balance redox reactions using half-reactions**

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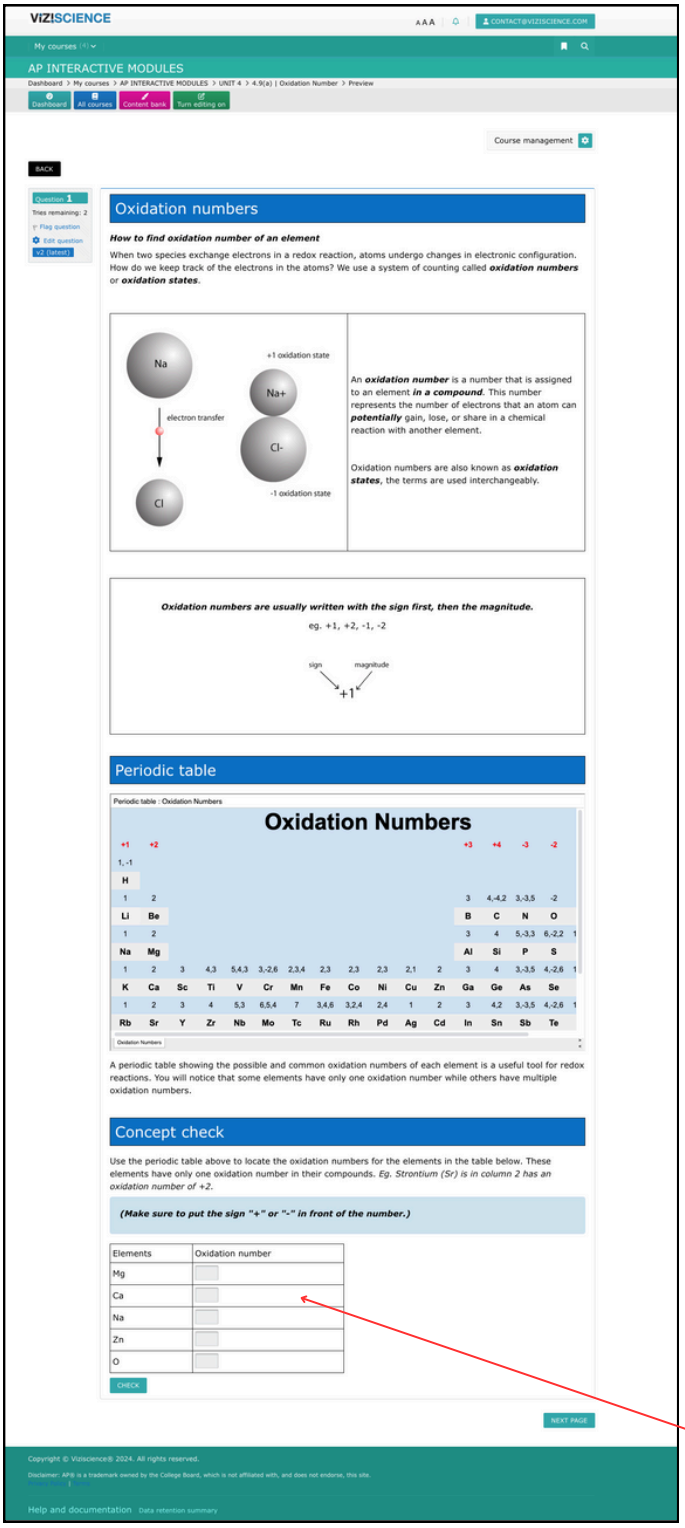
Unit 4:

Acitivity 4.9(a) Oxidation Numbers



This page provides an easy-to-understand introduction to oxidation numbers, a key concept for understanding redox reactions (where electrons are gained or lost).

Students will learn what oxidation numbers are, how to determine them using the periodic table, and the correct convention for writing them (sign first, eg. +1 or −2).

To start, a warm-up activity helps students practice finding and writing oxidation numbers using the periodic table.

Quiz with immediate answers

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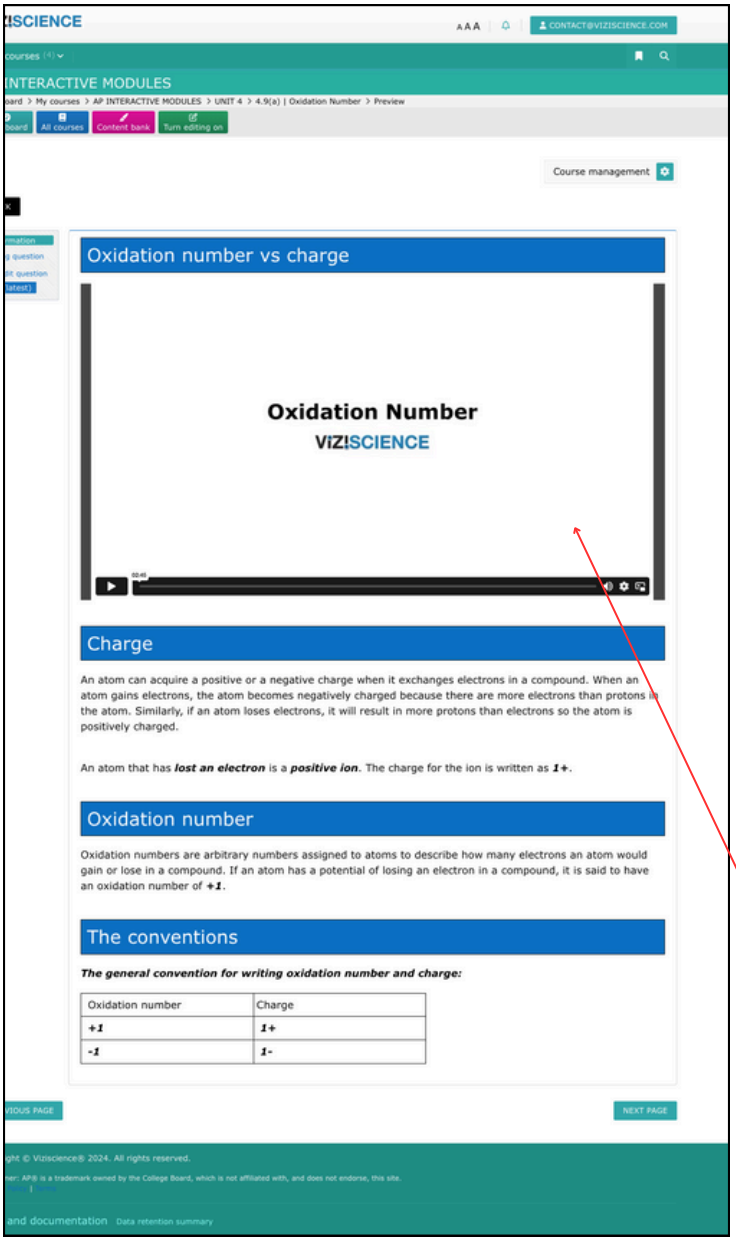
Acitivity 4.9(a) Oxidation Numbers



Time and time again, the question comes up about **the difference between oxidation numbers and charges**—this is a common area of confusion for students.

On this page, we take the time to explain this clearly so students can understand the distinction and avoid any lingering doubts.

3 minutes concise concept video

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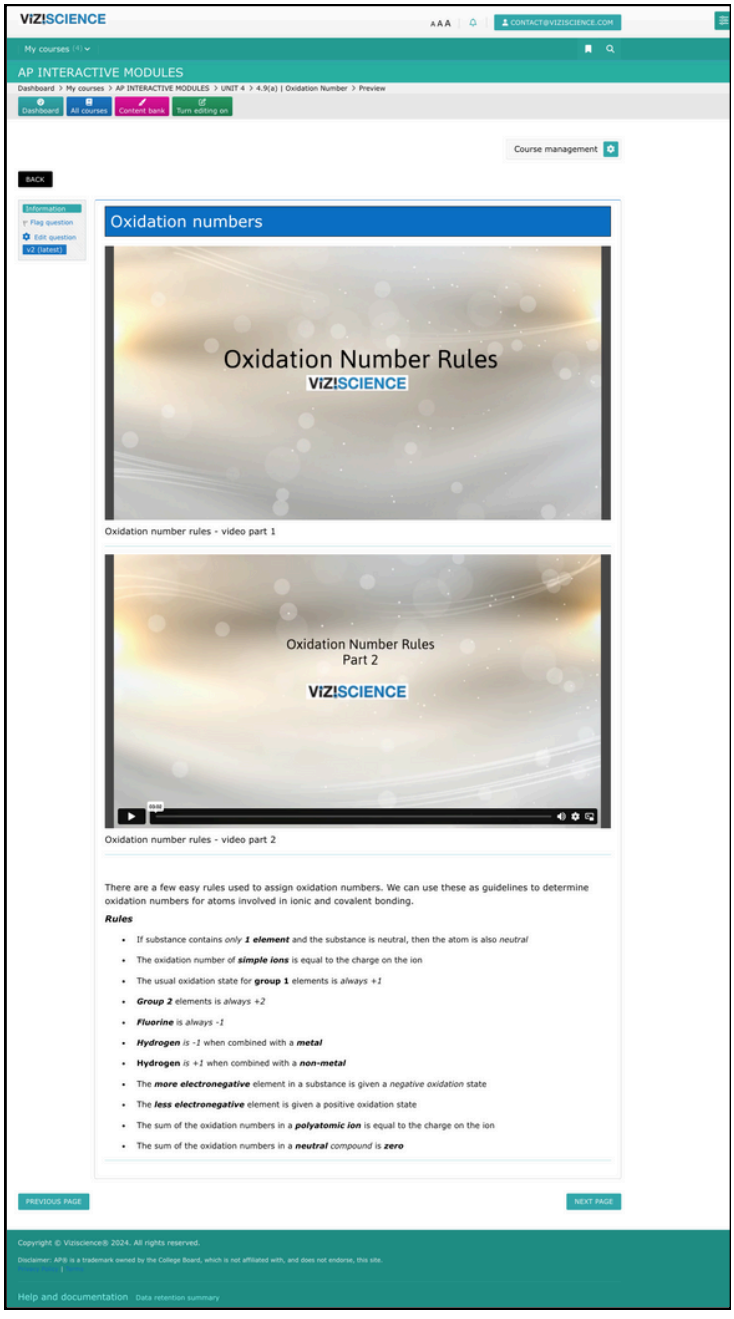

Students are introduced to a few general rules as a guide to understanding oxidation numbers.

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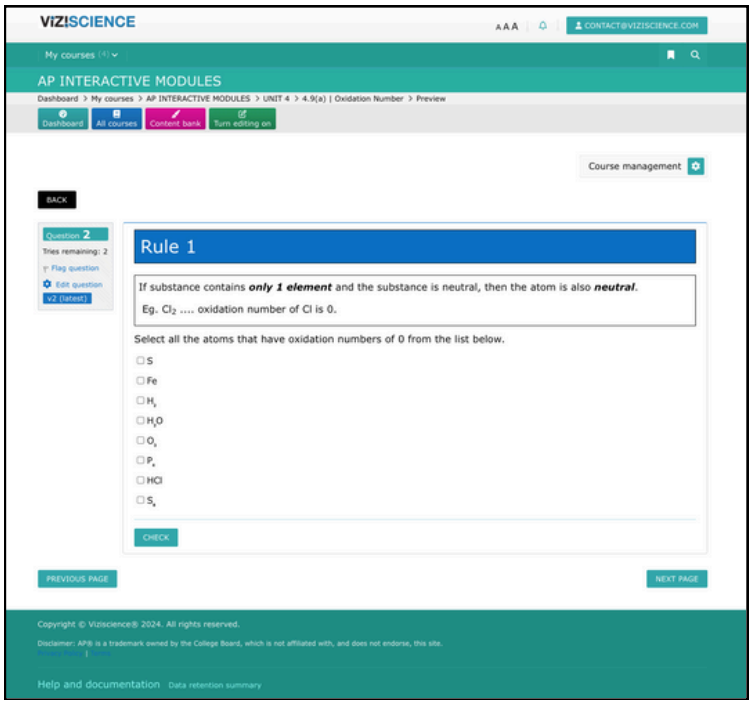

This page helps students understand **Rule 1**, the most basic rule of oxidation numbers: when a substance is made up of only one element in its neutral state, the oxidation number of each atom is 0.

This foundational concept provides a starting point for mastering oxidation number assignments.

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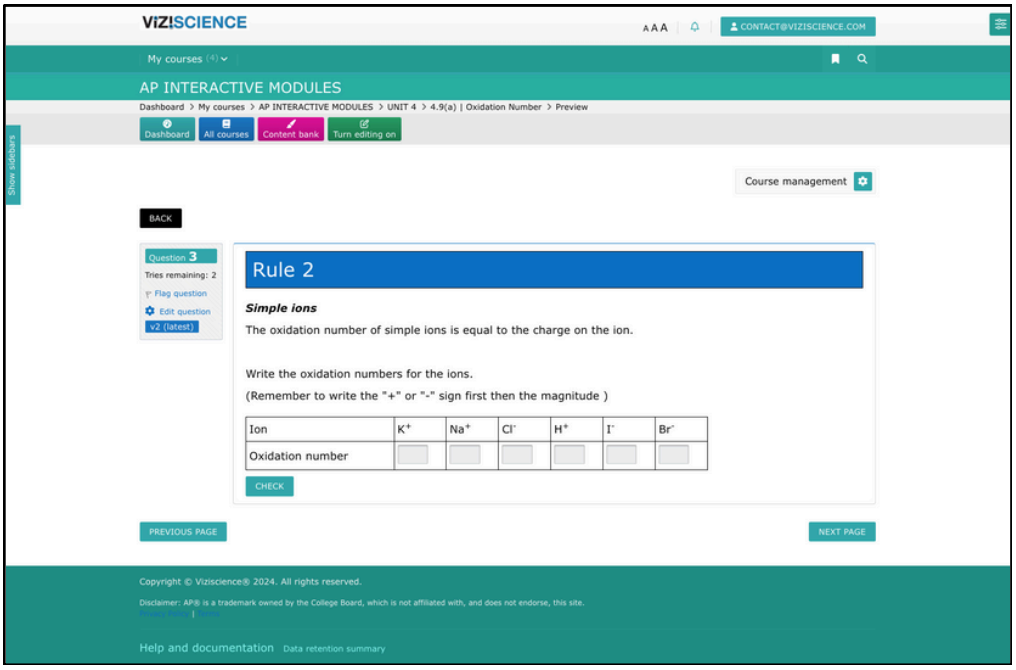
This page provides examples to guide students in finding oxidation numbers for **monoatomic ions.**



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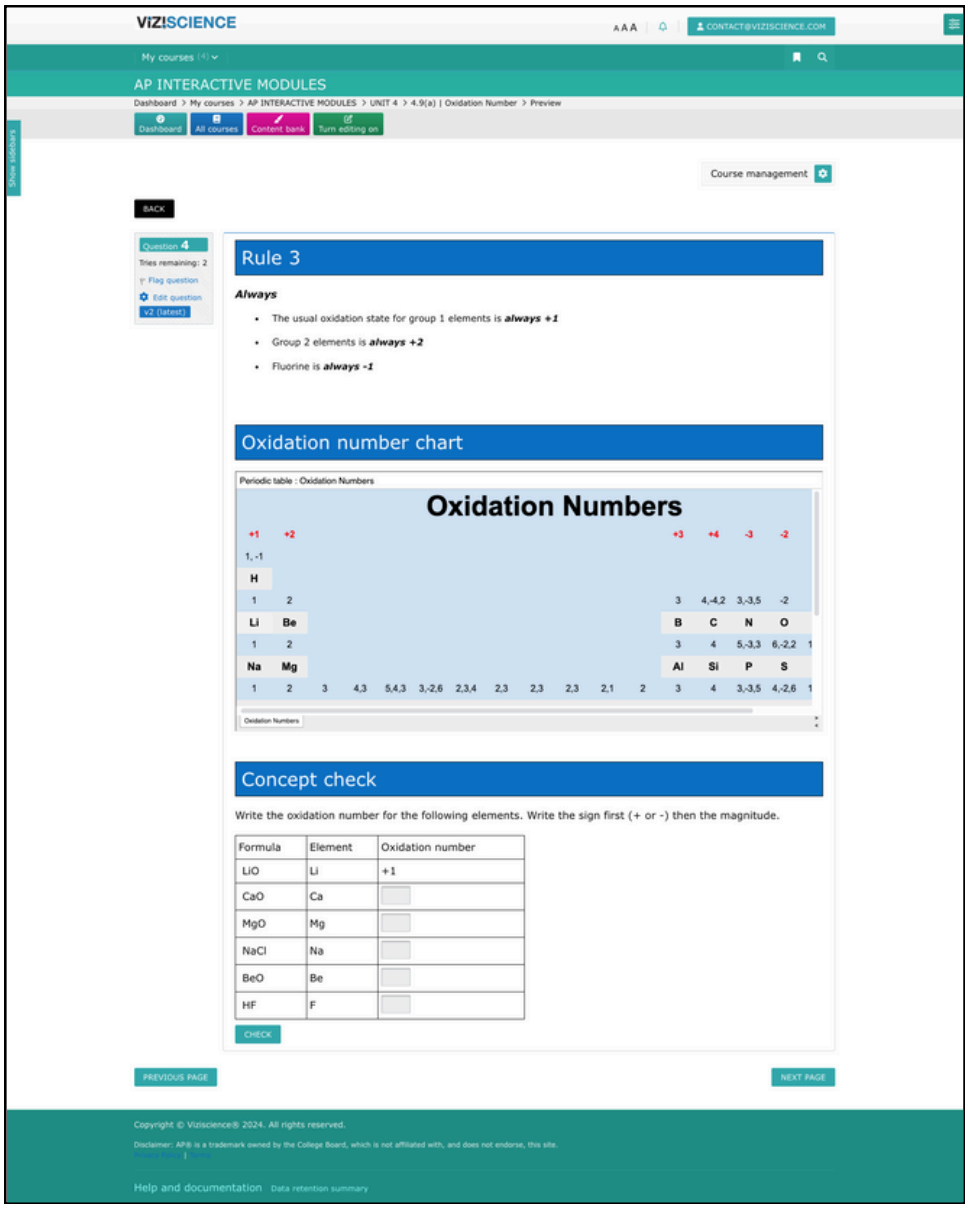
This page provides examples to guide students in finding oxidation numbers for elements in a compound.



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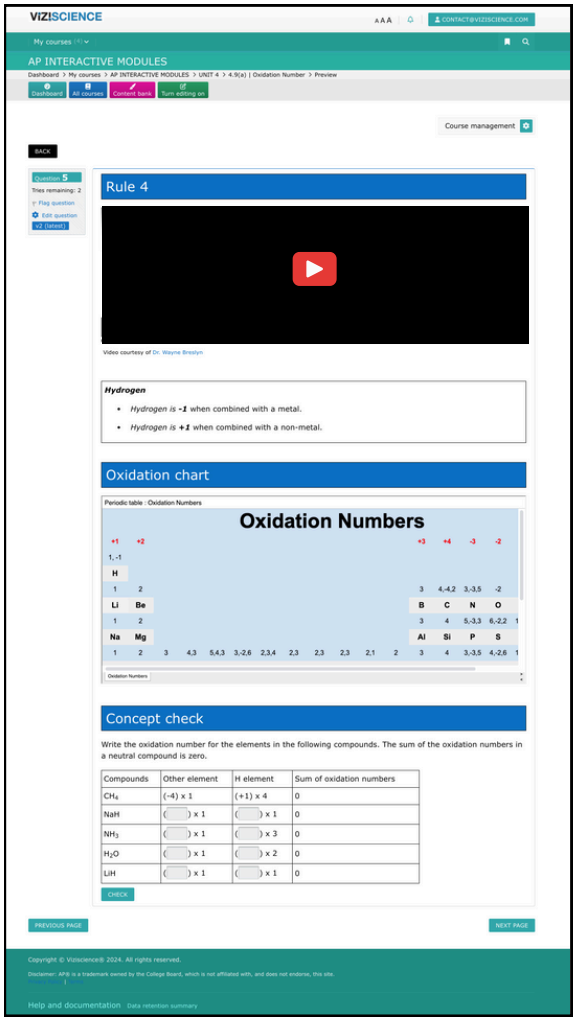

This page shows students how to determine **hydrogen's oxidation number**, whether it combines with metals or non-metals,

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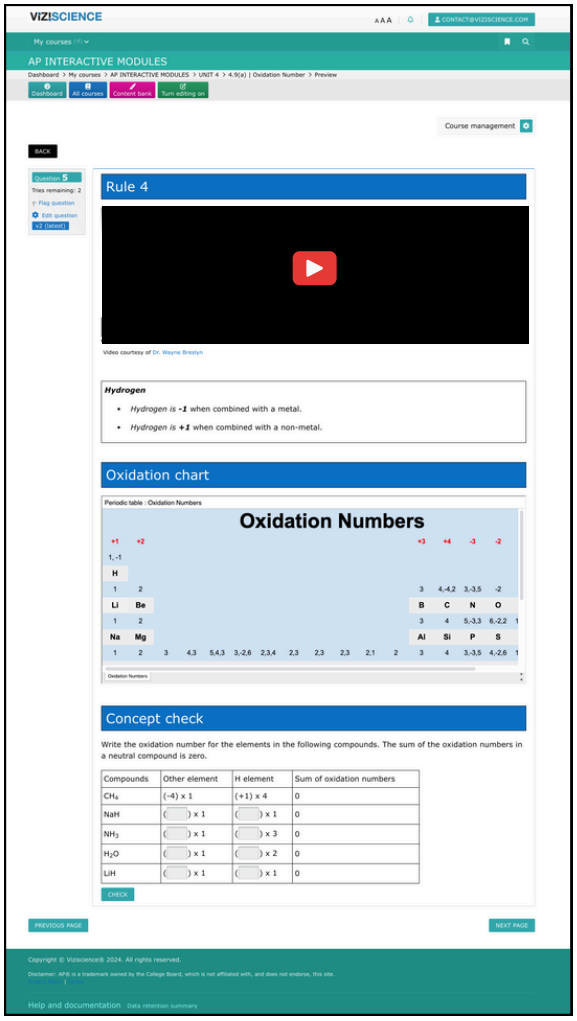

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(Not shown in this demo) Students will also delve into oxidation rules involving electronegativity, polyatomic ions, and elements with multiple oxidation states, gaining a deeper understanding of how to apply these concepts accurately.

- Electronegativity
- Polyatomic ions
- Multiple oxidation states

End of Demo

This comprehensive exercise is designed to be completed in about 45 minutes at an average pace.

By fully leveraging this unit and carefully working through each step, students can use the answer feedback in the concept check questions to solidify their understanding and eliminate misconceptions. For additional practice, students can access our dedicated quizzes section, offering ample opportunities to refine their skills with immediate feedback.