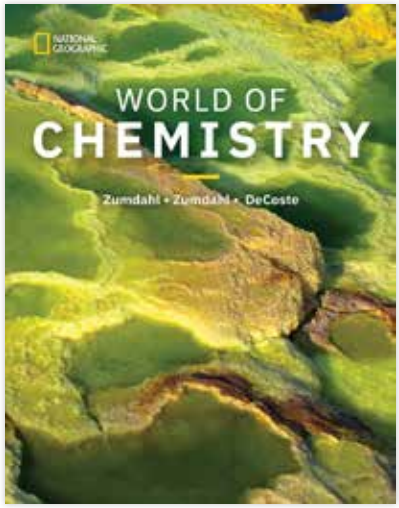


World of Chemistry
4th Edition, ©2021

CENGAGE | OWL[V2]

World of Chemistry

Zumdahl / Zumdahl / DeCoste

World of Chemistry is designed to be accessible to all students with:

- Approachable writing and narrative style
- National Geographic Explorers and images
- Detailed problem-solving support
- Engineering design
- Real-world applications

National Geographic Explorers and visuals capture student attention and tell the story of how chemistry is critical to daily life. *World of Chemistry* includes the *OWLv2* online learning platform and aligns to the Next Generation Science Standards (NGSS).

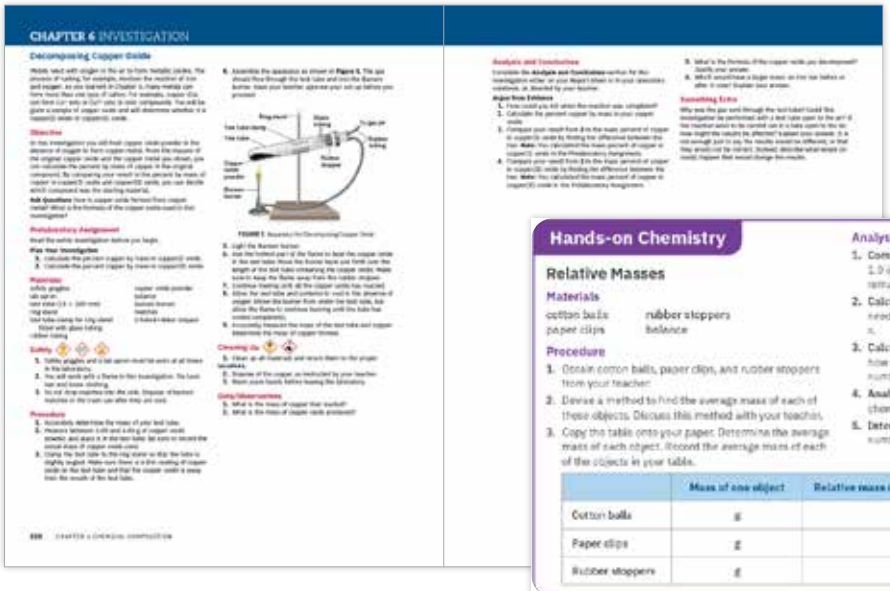
Authentic Student Engagement

Engage students with National Geographic images and stories of National Geographic Explorers who use chemistry to solve real-world problems. "Case Studies" and "Chemistry in Your World" features highlight real-world applications of chemistry.

National Geographic images and photography

"Explorers At Work" feature the work of National Geographic Explorers

Active Learning and Hands-on Chemistry

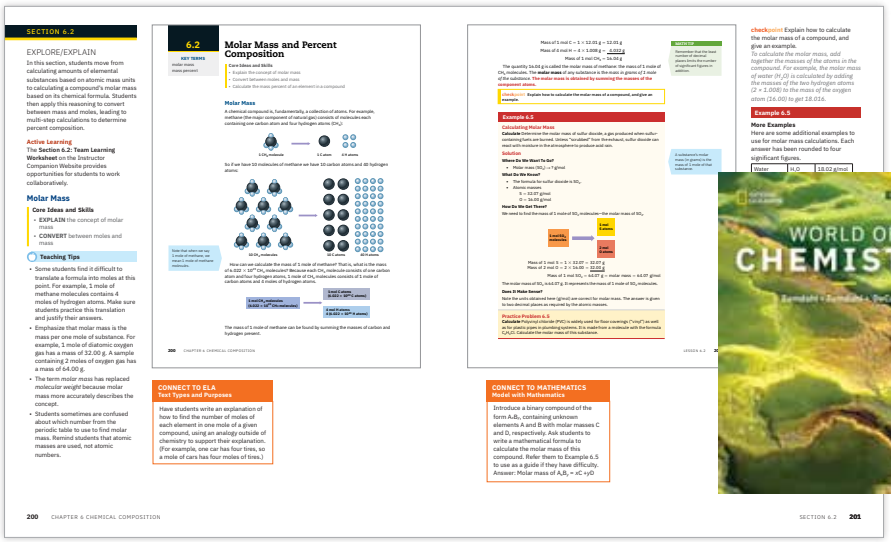


- Investigations are included at the end of every chapter
- "Hands-on Chemistry Minilabs" are embedded throughout each chapter
- A downloadable Lab Manual is available with additional labs aligned to the program
- An "NGSS Activity Guide" includes hands-on, 3-Dimensional lessons
- The Teacher's Edition includes many additional classroom activities and demonstrations.

Engineering Practices and Design

The work of Engineers is highlighted in "Exploring Engineering" articles at the beginning of some chapters and in "Chemical Engineering" features throughout the program. The Engineering Practices from the NGSS are detailed in Chapter 1 and are applied by students in hands-on labs and Investigations.

Teacher Support



The wraparound Teacher's Edition includes Chapter Planning Guides summarizing chapter resources including support for differentiation, hands-on lessons, interdisciplinary and career connections, *OWLv2* online learning resources, and NGSS support.

Additional downloadable resources include lecture slides, chapter tests, student worksheets, chapter summaries in English and Spanish, and the Cognero customizable test generator.

Wraparound Teacher's Edition

OWLv2 For *World of Chemistry*

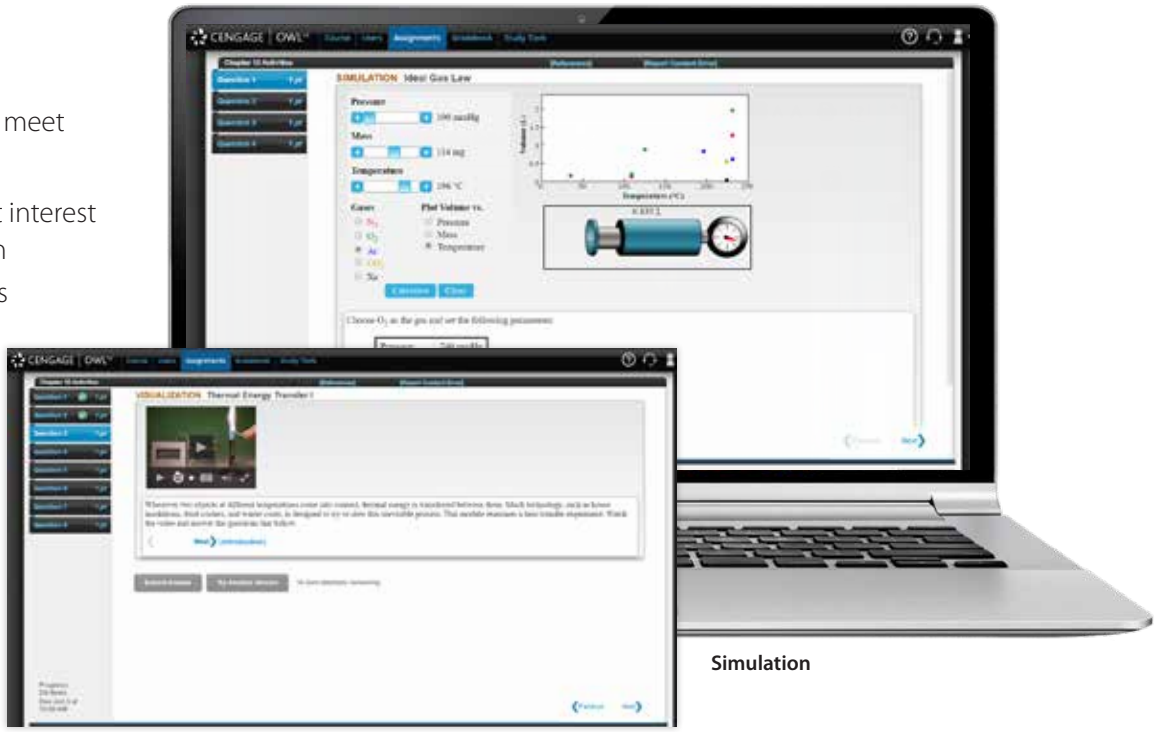
Move students beyond memorization of concepts to higher level chemistry thinking with *OWLv2*. This powerful platform empowers students to learn chemistry through rich, dynamic problems, detailed feedback, and interactive learning modules. With *OWLv2*, students practice at their own pace, receive meaningful feedback, and access learning resources to help them achieve better grades.

CENGAGE
OWL V2

Engaging Practice Problems

OWLv2 offers learning tools to meet students on their level.

- Simulations capture student interest with virtual experimentation
- Visualizations provide videos or animations with questions to improve understanding of cause-and-effect and improve observational skills
- Tutorials help students develop problem-solving skills by offering a step-by-step explanation of how to work through a problem.



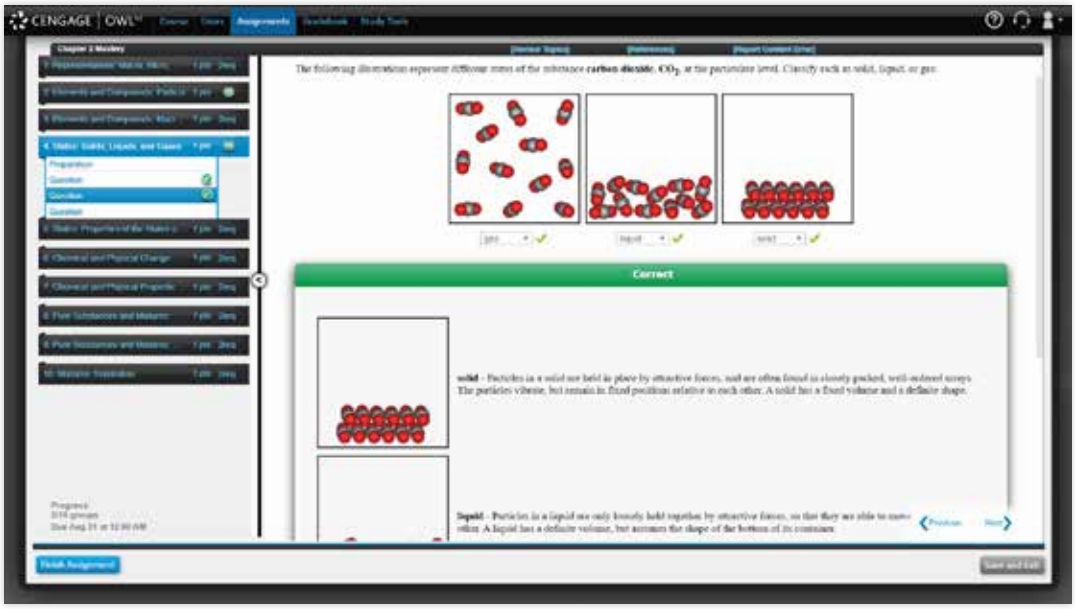
Simulation

Visualization

Mastery Learning

Mastery Learning assignments allow students to practice at their own pace, receive meaningful feedback, and use included learning resources to master chemistry concepts.

Students must answer two or more questions in a group correctly to prove true mastery. *OWLv2* gives hints and feedback along with the complete solution. When students retry a group of questions, the values and chemicals change, to allow continual practice and a deeper understanding of the concepts.



Powerful Gradebook and Analytics

Keep a continuous pulse on student progress with the easy-to-use gradebook and powerful analytics reports in *OWLv2*. The gradebook lets teachers see how students are doing with both comprehensive reports and concise progress snapshots.

Course Analytics

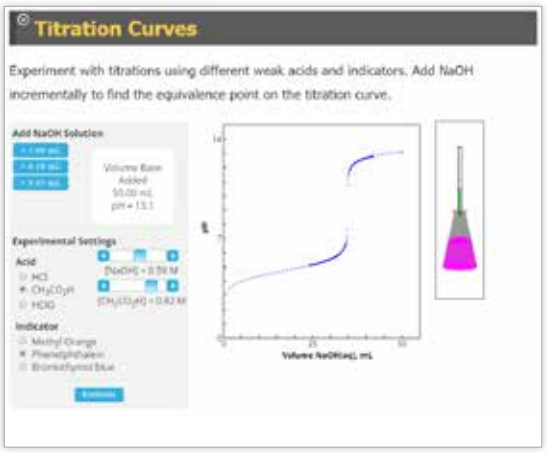
Interactive eBook

The eBook available in *OWLv2* includes the entire text with enhanced digital capabilities. These include embedded videos, simulations, and 3D molecules for students to manipulate in support of the text.

Other eBook features include highlighting and notetaking, clickable vocabulary with pop-up definitions, a ReadSpeaker feature which reads the text aloud, and digital flashcards for each chapter. Students can even create their own flashcards.

eBook text

Embedded eBook Videos



Embedded eBook Simulations

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