VIVED Chemistry simulations are a suite of educational activities for K-16+ educators and learners. Developed by experts, learners have access to 100+ guided activities for multiple educational levels, including high school and college. Simulations are designed to support introductory/general chemistry coursework.

In VIVED Chemistry, students learn from curriculum-aligned AR/VR simulations tailored to support students with NextGen Science Standards (NGSS) and Common Core Science Standards (CCSS) activities. With VIVED Chemistry, students gain a deeper understanding of chemical concepts while using acurate atomic and molecular models coupled with chemical symbols resulting in a more active learning process.

www.vivedlearning.com

#### Interactive in 3D

Employing camera functions such as zoom, rotate and pan allow students to examine and manipulate curriculumaligned Chemistry simulations for a deeper understanding of complex chemistry concepts.

### **Chemical Reactions**

Decomposition and oxidation reductions are just some examples of chemical reactions available within the application, making it easy to understand why chemical reactions occur when molecules interact and change.

### **AR/VR**

With chemical concepts displayed in augmented and virtual reality, students are actively engaged in the learning process.

#### Curriculum

Easily adapted into any chemistry curriculum so teachers are able to seamlessly add VIVED Chemistry into existing education coursework.

### **Electrons**

Electron support for each element, including ion, and oxidation state represented in familiar models like Bohr, Electron Diagrams, SPDF and Nobel Gas Electron Configurations, and a unique Atom Trinket.

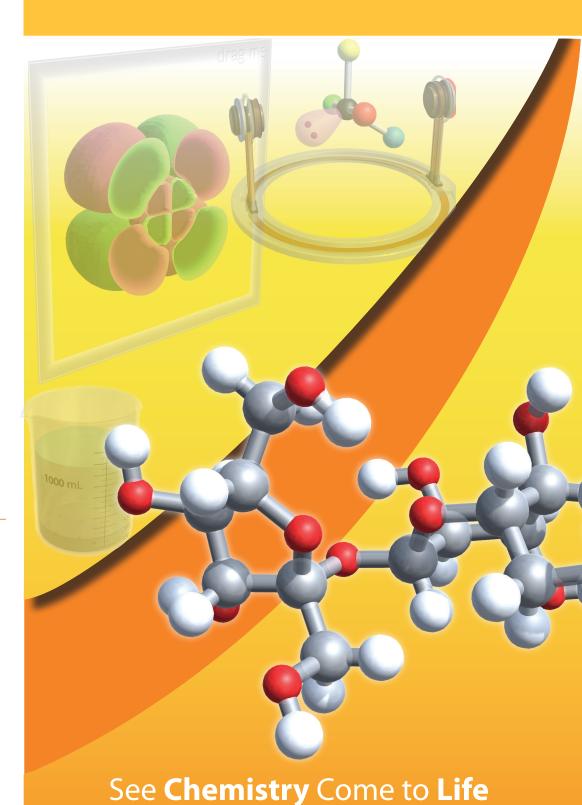
## **Software Licensing**

VIVED Chemistry is available for licensing on the zSpace AR/VR platform. A subscription of VIVED Chemistry allows each student to study independently, interact in real time, and learn on their own zSpace system.



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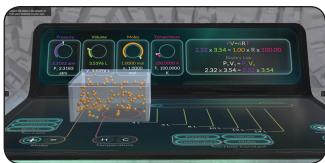
# VIVED CHEMISTRY



The VIVED Chemistry solution is an AR/VR visualization tool for learning chemistry using interactive simulations.



VIVED Chemistry
Imaging Interface

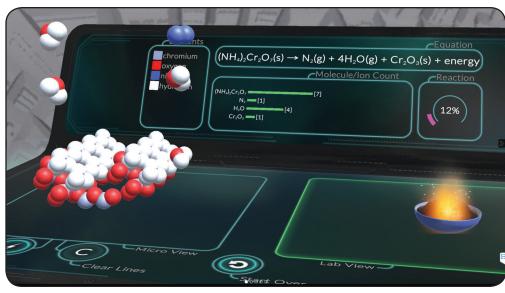


VIVED Chemistry is available for the zSpace AR/VR platform.



## **Visualize Chemical Reactions**

Students can visualize chemical reactions in 3D step-bystep to improve their conceptual understanding between the 2D schematic and the 3D microscopic models in VIVED Chemistry. The solution provides students with accurate 3D models of many reactions enabling them to easily translate between two-dimensional and three-dimensional bond formation.



Visualize the Law of Conservation of Mass in 2D symbolic, 3D microscopic and 3d macroscopic views to enhance student understanding of chemical equations.

See Lewis Diagram structures to build comprehension for Lone Pairs and Valence Electrons.



## **Key differentiators**

- Students can relate 3D models to the elemental 2D chemical symbols
- Establish a common language for students to start learning chemistry concepts
- Students can see graphs of common trends of elements and isolate trends across or down the periodic table
- Visualize in 3D to gain understanding of chemistry concepts
- Most accurate 3D chemical models validated by chemists and chemistry professors
- Detailed chemistry activities that engage students in active learning
- Over 100 activities modeled in 3D for general chemistry
- Over 15 simulations with accurate models to improve student outcomes
- A variety of interactive tools provide the user with full control of the 3D model

## Chemistry Concepts Simulated:

- comprehensive atomic structure models
- ions, isotopes, and oxidation states
- states of matter and phase changes
- periodic properties, trends, blocks, etc.
- variety of electronic structure models

- molecular shapes & polarity
- balancing chemical equations
- bonding & molecules
- radioactive decay
- solubility of solids
- gas properties
- atomic orbitals