

# VIVED CHEMISTRY

## Bringing Learning to Life in VR

Atomic radius can be measured for nonbonding and bonding atoms. The unit of measurement of atomic radii, as shown on the simulation, is angstroms (Å). 1.0 Å is equivalent to  $1.0 \times 10^{-10}$  meters.

The atomic radius of hydrogen shown in the periodic table is 0.79 Å. What is this in meters?

7.9 x 10<sup>-11</sup> meters  
0.79 x 10<sup>-11</sup> meters

6  
C  
carbon  
12.011

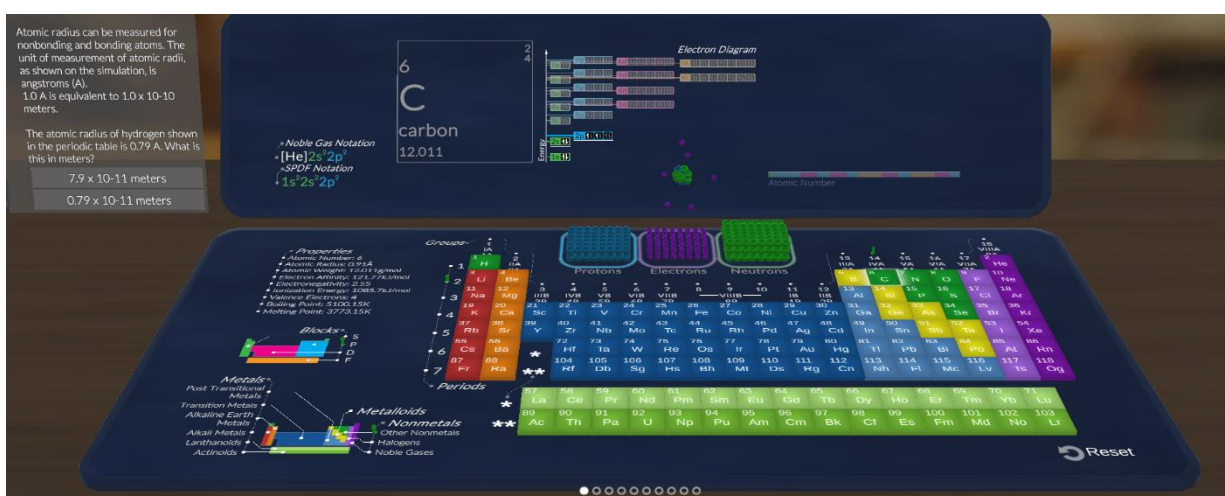
Noble Gas Notation: [He]2s<sup>2</sup>2p<sup>2</sup>  
SPDF Notation: 1s<sup>2</sup>2s<sup>2</sup>2p<sup>2</sup>

Electron Diagram

Protons Electrons Neutrons

Periodic Table

Reset

The image shows a VR interface for chemistry. At the top, a text box contains information about atomic radius and a problem: "The atomic radius of hydrogen shown in the periodic table is 0.79 Å. What is this in meters?" Below this are two input fields with the answers "7.9 x 10<sup>-11</sup> meters" and "0.79 x 10<sup>-11</sup> meters". To the right, a panel displays the element Carbon (C) with its atomic number 6, name "carbon", and atomic weight 12.011. It shows the noble gas notation [He]2s<sup>2</sup>2p<sup>2</sup> and the SPDF notation 1s<sup>2</sup>2s<sup>2</sup>2p<sup>2</sup>. An "Electron Diagram" shows the orbital filling for carbon. Below these are three buttons for "Protons", "Electrons", and "Neutrons". The main part of the interface is a periodic table with elements color-coded by groups. A legend at the bottom left identifies categories like Metals, Nonmetals, and Metalloids. A "Reset" button is in the bottom right corner.









## Quick Reference Guide to VIVED Chemistry for zSpace

# Getting Started

## A Quick Tour of the User Interface

To help you get started, here's an overview of the key components and tools for using VIVED Chemistry. You can learn more about each element later in this guide.

### General Interface Tools

	<b>Settings</b>	View Settings (Platform Settings, Licensing, About, Log File, and EULA).
	<b>Show/Hide Activity Text</b>	Toggle on/off Activity Text.
	<b>Activities Menu</b>	Return to the Activities Menu.
	<b>Start Over</b>	Access a drop-down menu for Settings, License Management and Help.
	<b>Next /Previous</b>	Along the bottom of each activity (Other than the Explore Activities), you can move through slides in an activity.
	<b>Filter by Category</b>	Filter activities by Category (Interactive Periodic Table, Atom Builder, Orbital Analyzer, etc.)
	<b>Search</b>	Search by Activity Title or Activity Description
	<b>Min/Exit</b>	Minimize/Exit the Application

### 3 Activity Types

#### Introductory Activities

These activities introduce you to the specific interface that you will encounter for multiple activities in this category.

*Introduction to Atom Builder, Introduction to Bonding, Introduction to Interactive Periodic Table*

#### Content Activities

These activities provide the central content for VIVED Chemistry. They have been designed to address much of the content in a high school chemistry course.

# Getting Started

## Explore Activities

These “sandbox” activities provide an opportunity for you to explore within a category.

Atom Builder – Explore  
Bonding – Explore  
Gas Laws – Explore  
Interactive Periodic Table – Explore  
Intermolecular Forces – Explore  
Molecule Viewer – Explore  
Orbital Analyzer – Explore

## Selecting Activities

To select an activity

1. Scroll through the opening screen where activities are listed alphabetically.
2. To launch an activity, select OPEN.

or

1. Search by category or search term

## Activity Plans

Teachers have access to VIVED Chemistry for zSpace activity plans by visiting:

<https://zspace.com/edu>

Activity plans include

key words  
corresponding NGSS standard  
correct answers