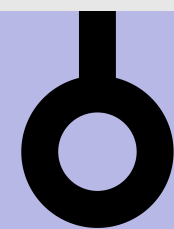
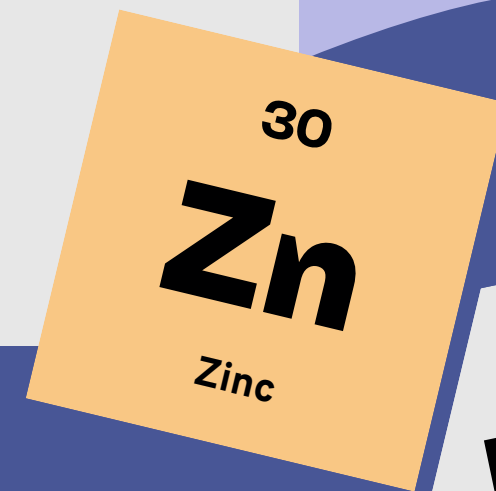
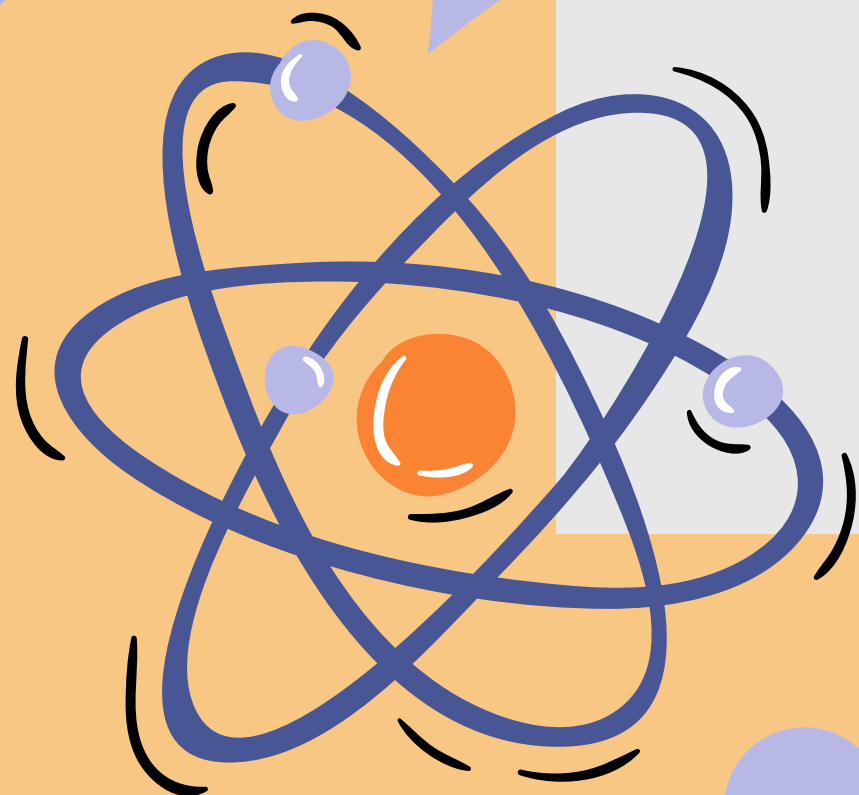
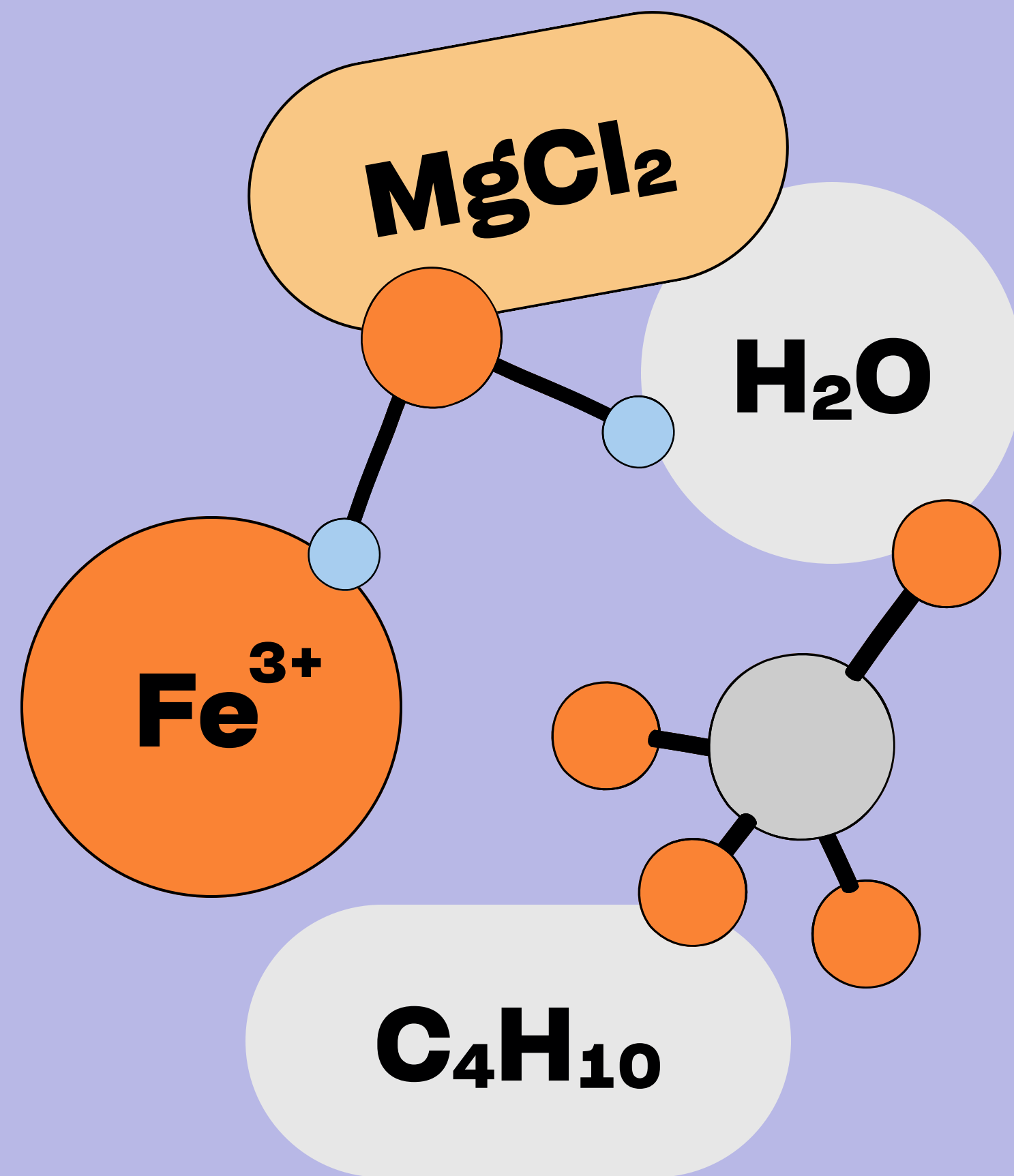




Group 3: The Role of the Internet in Chemistry (Online Database & Virtual Labs)



HOW DO CHEMIST USE ONLINE CHEMICAL DATABASES



Today, you will learn online chemical databases

1

Chemist use online chemical databases like PubChem and ChemSpider

2

- Searching for Chemical Information
- Spectral Data etc.

3

Online Chemical Databases are valuable.

Did You Know?

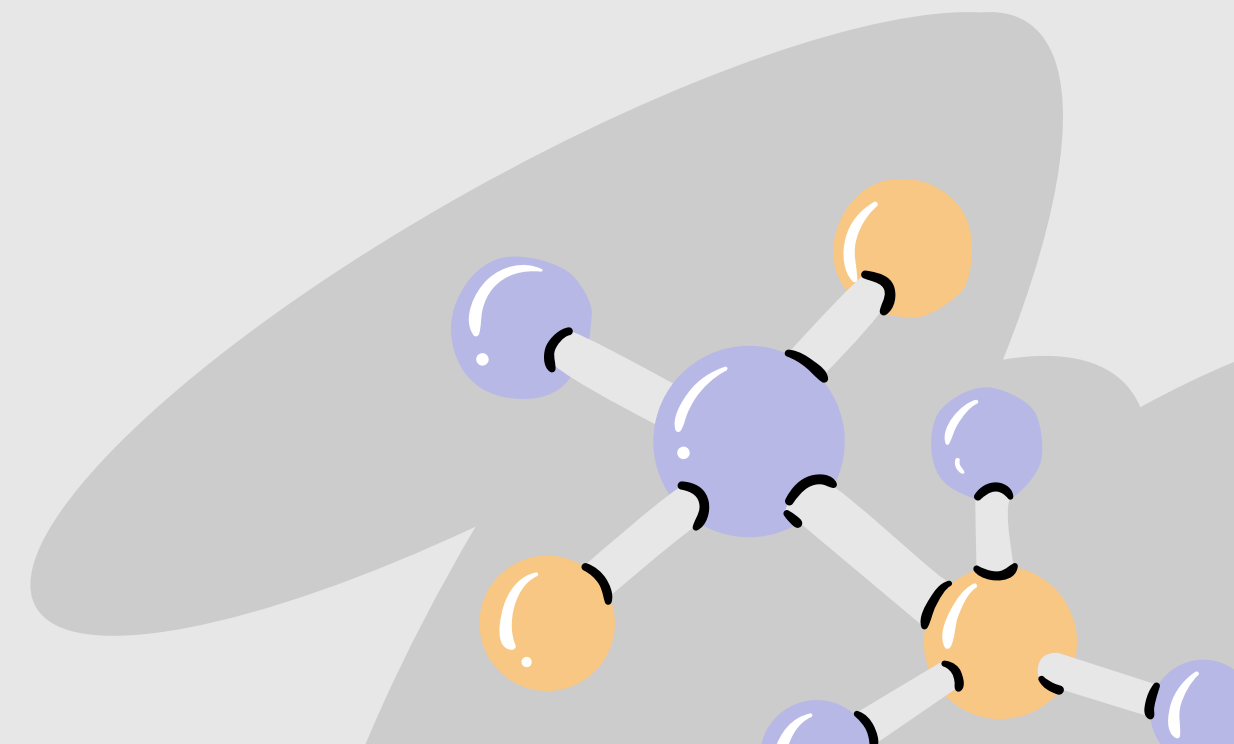
Chemical Abstracts Service (CAS): One of the earliest efforts to create a comprehensive chemical database was by the Chemical Abstracts Service (CAS), which is part of the American Chemical Society. In the 1960s, they transitioned to computer-based indexing and created the CAS Registry, which is one of the most comprehensive collections of chemical substances. In the 1990s, CAS began offering online access to their databases, making chemical information more accessible.



WHAT ARE VIRTUAL CHEMISTRY LAB AND HOW DO THEY ASSIST IN SCIENTIFIC DISCOVERY

Element

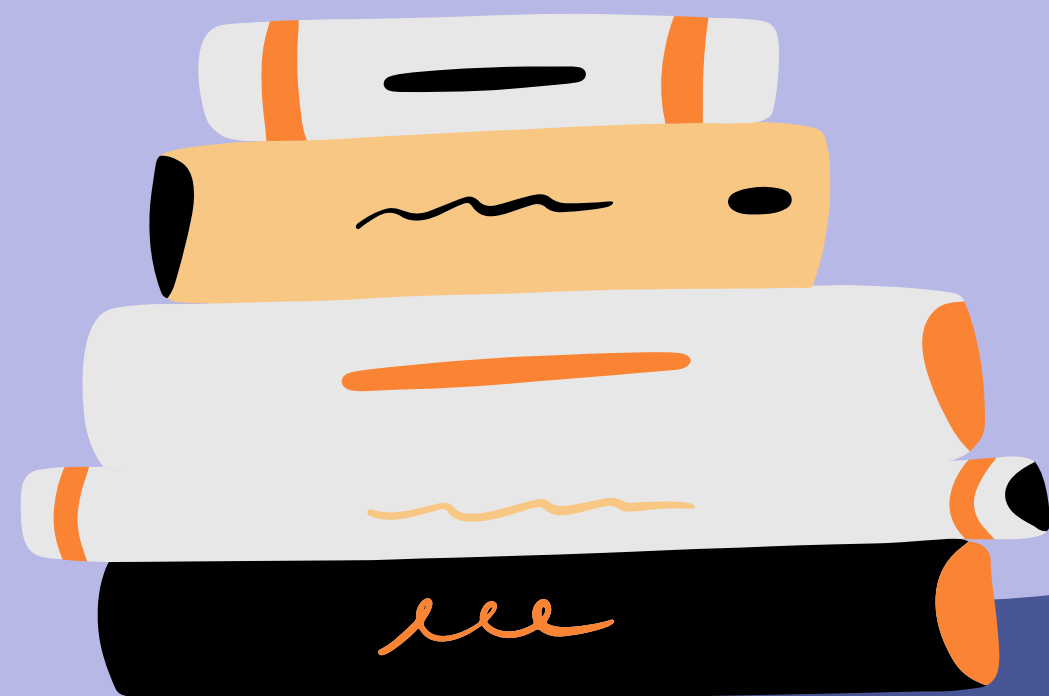
Na
Sodium





Virtual Chemistry Lab

- Simulated Apparatus and Chemicals
- Manipulate Variables
- Display Results
- Safe Experimentation
- Cost Effective
- Accessibility
- Repetition and Mastery
- Real-Time Data Analysis



WHAT ARE SOME ONLINE TOOLS FOR MOLECULAR MODELING AND REACTION SIMULATION



Types of Online Tools for Molecular Modeling and Reaction Simulation



N

Nitrogen

- ChemSketch (ACD/Labs)
- Avogadro
- MolView

Na

Sodium

- ChemDoodle Web Components
- Gaussian & GaussView

Cl

Chlorine

- PhET Interactive Simulations
- Molecular WorkBench
- Jmol/JSmol



THANK YOU

