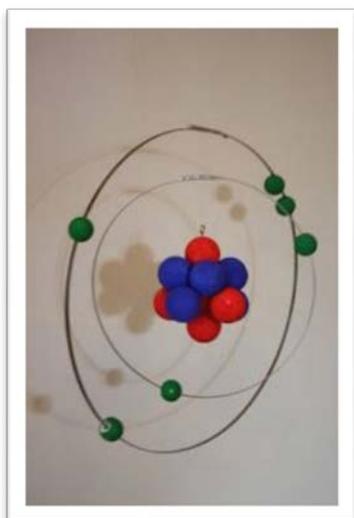
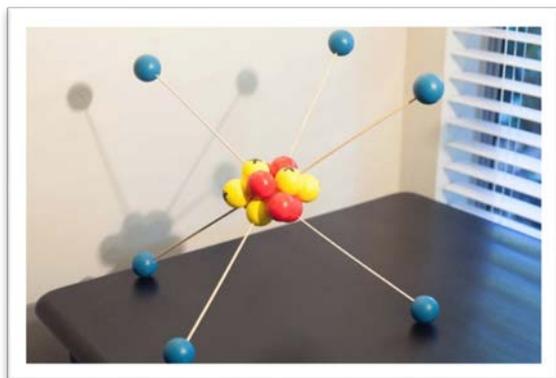


Directions: Choose either an atom or molecule below to build and research. Make sure that you include a **legend** that explains what each piece represents by its color and material. Some students may choose other molecules and atoms that are bigger, but they must use their own materials because they can get expensive and time consuming which may force you to complete the project outside of class.

| Possible Atoms | Possible Molecules |
|--|--|
| <p style="text-align: center;">Name: Hydrogen Symbol: H</p> <p>Protons: 1 Neutrons: 0 Electrons: 1</p> | <p style="text-align: center;">Name: Nitrogen Formula:</p> <p style="text-align: center;">N₂</p> |
| <p style="text-align: center;">Name: Helium Symbol: He</p> <p>Protons: 2 Neutrons: 2 Electrons: 2</p> | <p style="text-align: center;">Name: Carbon Dioxide Formula:</p> <p style="text-align: center;">CO₂</p> |
| <p style="text-align: center;">Name: Lithium Symbol: Li</p> <p>Protons: 3 Neutrons: 4 Electrons: 3</p> | <p style="text-align: center;">Name: Methane Formula:</p> <p style="text-align: center;">CH₄</p> |
| <p style="text-align: center;">Name: Beryllium Symbol: Be</p> <p>Protons: 4 Neutrons: 5 Electrons: 4</p> | <p style="text-align: center;">Name: Ammonia Formula:</p> <p style="text-align: center;">NH₃</p> |
| <p style="text-align: center;">Name: Boron Symbol: B</p> <p>Protons: 5 Neutrons: 6 Electrons: 5</p> | <p style="text-align: center;">Name: Dioxygen Formula:</p> <p style="text-align: center;">O₂</p> |
| <p style="text-align: center;">Name: Carbon Symbol: C</p> <p>Protons: 6 Neutrons: 6 Electrons: 6</p> | <p style="text-align: center;">Name: Silane Formula:</p> <p style="text-align: center;">SiH₄</p> |

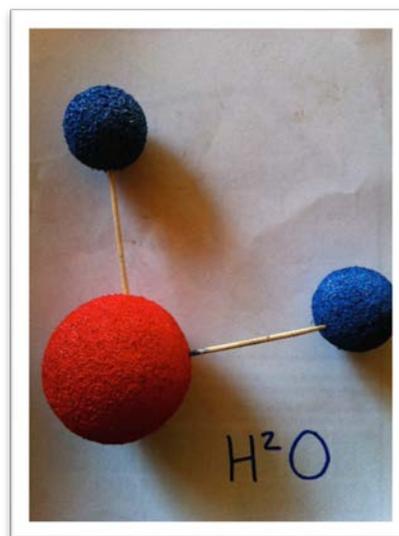
Examples of Good Atom Models Have

1. All the pieces
2. Color Coded
3. A nucleus cluster with protons and neutrons
4. A legend or key that explains what each color and material represents.



Examples of Good Molecule Models

1. All the pieces
2. Color Coded
3. Bonds between atoms
4. A legend or key that explains what each color and material represents.



Important Facts Write Up

Directions: research your molecule or atom. What is it used for? How is it important to us? Where is it naturally found? Can it make other things? Answer some or all of these things.

Sentence Frames for a strong write up (work by the numbers)

1. The atom/molecule _____ is found in...
2. This atom/molecule has uses like...
3. _____ can bond with/react with....
4. Finally, I think you should know that _____ is important to us as humans because...

| 1 | 2 | 3 | 4 |
|---|--|---|---|
| 3-D model is incomplete and or has major wrong science. There is no write up or very little write up. | 3-D model is mostly complete and or has some wrong science. There is a write up but there is very little academic language used or some wrong science is present | 3-D model is completed according to the directions and there is no wrong science. The write up is complete according to the directions. | Same as three, but the scientist goes above and beyond what was taught in the project and they give higher level connections to the uses of their atom or molecule in the real world. |

| 1 | 2 | 3 | 4 |
|---|--|---|---|
| 3-D model is incomplete and or has major wrong science. There is no write up or very little write up. | 3-D model is mostly complete and or has some wrong science. There is a write up but there is very little academic language used or some wrong science is present | 3-D model is completed according to the directions and there is no wrong science. The write up is complete according to the directions. | Same as three, but the scientist goes above and beyond what was taught in the project and they give higher level connections to the uses of their atom or molecule in the real world. |

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