

SPS1. Students will understand our current understanding of the atom.

- a. Explain the structure of the atom in terms of atoms with different numbers of neutrons (isotopes)

### Isotopes Lab

**Instructions:** *In groups of 3 you will rotate from each station, observe the bohr model of the element that is at that station and then fill out the following:*

#### Station 1

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

#### Station 2

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

#### Station 3

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

#### Station 4

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

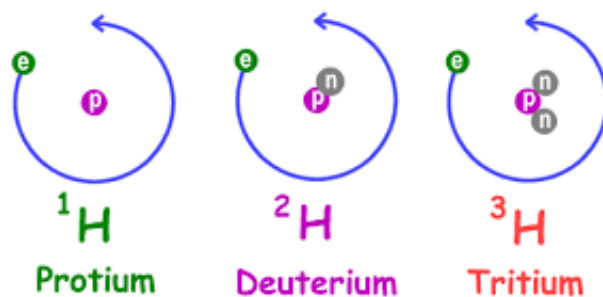
#### Station 5

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

#### Station 6

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

Three Isotopes of Hydrogen



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**Station 7**

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

**Station 8**

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

**Station 9**

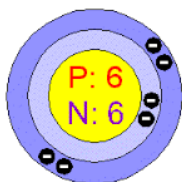
Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

**Station 10**

Name of Isotope \_\_\_\_\_ Symbol \_\_\_\_\_  
Atomic Number \_\_\_\_\_ Mass # \_\_\_\_\_  
Number of Electrons \_\_\_\_\_  
Number of Protons \_\_\_\_\_  
Number of Neutrons \_\_\_\_\_

**Isotopes lab Review Questions**

1. What is an isotope? \_\_\_\_\_
2. What is common about isotopes of an element \_\_\_\_\_
3. What two things are different about isotopes of an element? \_\_\_\_\_
4. How can one isotope of an element be heavier than another isotope of that same element?  
\_\_\_\_\_
5. Write the isotope of the image below: \_\_\_\_\_ Draw the bohr model for the isotopes below:



Carbon-13

Carbon-14