

## **ATOMS, IONS AND ISOTOPES POSTER PROJECT**

Your science teacher was just informed that a local college is having a contest among area schools. The science department at the local college wants to create an informational poster about atoms. Their goal is for a variety of learners to view the poster and learn about atoms, ions, and isotopes, and their properties and characteristics. Your team's task is to create a poster that is both eye catching and informative. For the atom informational page, your team will need to select any atom from the periodic table and design graphics along with information so that a student could learn about the chosen atom. Your team will be given time to conduct research, develop your plan, and create a sample. You will present your idea to an audience in a 3-minute presentation. Divide your team into the following roles to complete the project:

### **Design Team Leader**

- The design team leader is responsible for managing the project to completion and for contributing to the final design. You are ultimately in charge of deciding which element from the periodic table your team will present. This element will be presented as a neutral atom, ion, and isotope, so you need to assure that the element you choose can occur naturally all three ways. You are responsible for organizing the final presentation. Although each team member will be responsible for his or her own part, you will be the one to pull it all together and make the final presentation to the audience.

### **Atom Expert**

- As the atom expert, your role is to ensure that your team's design has all the appropriate information regarding the characteristics of a neutral atom of the chosen element. This information will include the masses, electrical charges, and locations of protons, neutrons, and electrons, along with an explanation of the location of the element on the periodic table. Remember, you must also include an explanation of the atomic number of the element and how that relates to its position.

### **Ion Expert**

- As the ion expert, your role is to ensure that your team's design contains all the appropriate information regarding an ion of the chosen atom. This information will include an explanation of how the ion is different than the neutral atom; and why this does not change the location of the element on the periodic table.

### **Isotope Expert**

- As the isotope expert, your role is to ensure that your team's design contains all the appropriate information regarding an isotope of the chosen atom. This information will include an explanation of how the isotope is different than the neutral atom and why this does not affect the location of the atom on the periodic table; and an explanation of the atomic mass number and how it relates to isotopes.

### **➤ Your poster must include the following information:**

- ☐ The name and symbol of your element prominently displayed on your poster
- ☐ Atomic number and mass number of your element
- ☐ A labeled Bohr model of your element
- ☐ Natural and commercial uses for your element
- ☐ Labeled illustrations demonstrating the formation of ions and isotopes of your element