

Atomic Structure

1. The modern process of discovery about atoms began with the theories of an English schoolteacher named _____.
2. Circle the letter of each sentence that is true about Dalton's atomic theory.
 - a) All elements are composed of tiny, individual particles called atoms.
 - b) An element is composed of several types of atoms.
 - c) Atoms of different element can physically mix together or can chemically combine in simple whole-number ratios to form compounds.
 - d) Chemical reactions occur when atoms are separated, joined, or rearranged. However, atoms of one element never change into atoms of another element by a chemical reaction.
3. The image on the right shows an atom with a nucleus at the center and two electron shells on the outside.
 - a) Draw 4 protons in the nucleus
 - b) Draw 5 neutrons in the nucleus
 - c) Draw 2 electrons in the first shell
 - d) Draw 2 electrons in the second shell
 - e) Label all the particles
 - f) What element is represented in the diagram? _____
4. Label the information provided in the periodic table and answer the given questions.

8	←
O	←
Oxygen	←
15.999	←

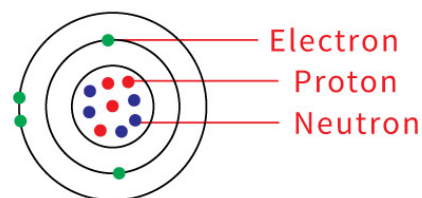
- a) What does the atomic number represent?
_____ or _____
- b) What does the atomic mass represent?
_____ + _____

Atomic Structure

Answers

- The modern process of discovery about atoms began with the theories of an English schoolteacher named John Dalton.
- Circle the letter of each sentence that is true about Dalton's atomic theory.
 - All elements are composed of tiny, individual particles called atoms.
 - An element is composed of several types of atoms.
 - Atoms of different element can physically mix together or can chemically combine in simple whole-number ratios to form compounds.
 - Chemical reactions occur when atoms are separated, joined, or rearranged. However, atoms of one element never change into atoms of another element by a chemical reaction.
- The image on the right shows an atom with a nucleus at the center and two electron shells on the outside.

- Draw 4 protons in the nucleus
- Draw 5 neutrons in the nucleus
- Draw 2 electrons in the first shell
- Draw 2 electrons in the second shell
- Label all the particles
- What element is represented in the diagram? Beryllium



- Label the information provided in the periodic table and answer the given questions.

8	← Atomic Number
O	← Symbol
Oxygen	← Name
15.999	← Average atomic mass

- What does the atomic number represent?
Protons or Electrons, if the atom is neutral
- What does the atomic mass represent?
Protons + Neutrons