

Directed Reading B *continued*

ISOTOPES

same # protons

12. Two different isotopes of the same atom have
- the same number of protons.
 - the same number of neutrons.
 - a different atomic number.
 - the same mass.

b.

13. Which of the following is **NOT** true about unstable atoms?
- They are radioactive.
 - They have a nucleus that always remains the same.
 - They give off energy as they fall apart.
 - They give off smaller particles as they fall apart.

11

14. What is the mass number of an isotope that has 5 protons, 6 neutrons, and 5 electrons?
- 1
 - 11
 - 10
 - 16

6

15. If carbon has an atomic number of 6, how many neutrons does carbon-12 have?
- 12
 - 8
 - 6
 - 18

16. Most elements contain a mixture of two or more **isotopes**.

17. The weighted average of the masses of all the naturally occurring isotopes of an element is the **atomic mass**.

FORCES IN ATOMS

Match the correct definition with the correct term. Write the letter in the space provided.

strong nuclear force

18. helps protons stay together in the nucleus

a. gravitational force

gravitational

19. pulls objects toward one another

b. electromagnetic force

weak nuclear force

20. an important force in radioactive atoms

c. strong force

d. weak force

electromagnetic force

21. holds the electrons around the nucleus

Vocabulary and Section Summary B

Development of the Atomic Theory

VOCABULARY

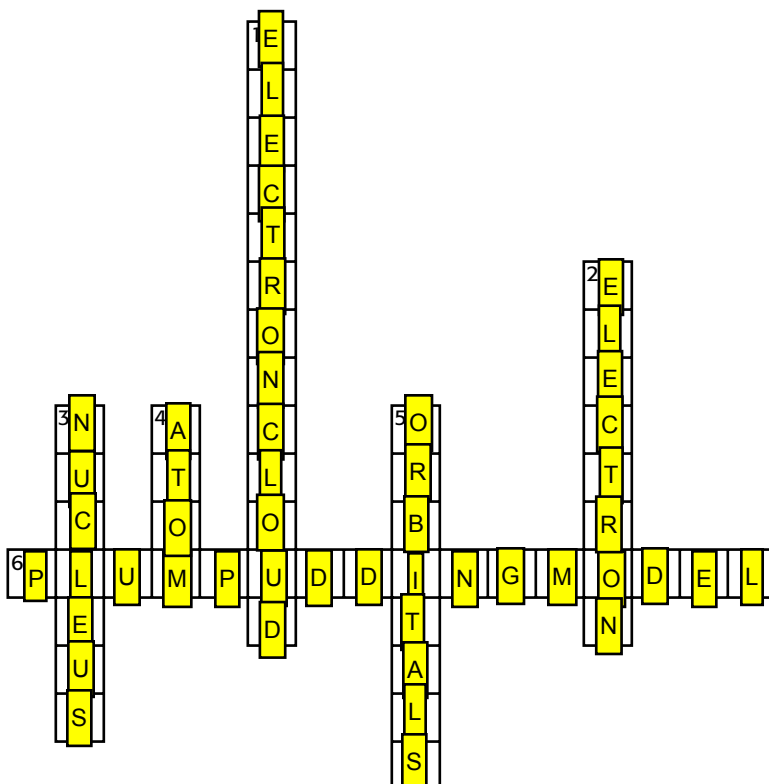
After you finish reading the section, try this puzzle! Use the clues below to solve the crossword puzzle.

ACROSS

6. name for Thomson's model of the atom

DOWN

1. a region around the nucleus of an atom where electrons are likely to be found
2. a subatomic particle that has a negative charge
3. an atom's central region, which is made up of protons and neutrons
4. the smallest unit of an element that maintains the properties of that element
5. another name for electron clouds



Vocabulary and Section Summary B

The Atom

VOCABULARY

After you finish reading the section, try this puzzle! Use the definitions below to unscramble the vocabulary words.

1. weighted average of the mass of all naturally occurring isotopes of the same element: MICTOA SAMS

Atomic Mass

2. positively charged particle in the atom: TORPNO

Proton

3. particle in the atom that has no charge: TRONUNE

Neutron

4. atoms with the same number of protons but different numbers of neutrons
SOOTPIES

Isotopes

5. number of protons in the nucleus of an atom: MICOTA BRUMEN

Atomic Number

6. SI unit used to express the mass of atomic particles: TMCOAI SASM NTUI

Atomic Mass Number

7. sum of protons and neutrons in the nucleus of an atom: SAMS BRUNEM

Mass Number