

# Vocabulary and Section Summary A

## Development of the Atomic Theory

### VOCABULARY

In your own words, write a definition of the following terms in the space provided.

1. atom

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2. electron

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3. nucleus

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4. electron cloud

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### SECTION SUMMARY

Read the following section summary.

- Democritus thought that matter is composed of atoms.
- Dalton based his theory on observations of how elements combine.
- Thomson discovered electrons in atoms.
- Rutherford discovered that atoms are mostly empty space with a dense, positive nucleus.
- Bohr proposed that electrons are located in levels at certain distances from the nucleus.
- The electron-cloud model represents the current atomic theory.
- Atoms are extremely tiny, but scanning tunneling electron microscopes can be used to form direct images of them.

# Vocabulary and Section Summary A

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## The Atom

### VOCABULARY

In your own words, write a definition of the following terms in the space provided.

1. proton

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2. atomic mass unit

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3. neutron

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4. atomic number

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5. isotope

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6. mass number

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7. atomic mass

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## Vocabulary and Section Summary A *continued*

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### SECTION SUMMARY

Read the following section summary.

- Atoms consist of a nucleus, which has protons and usually neutrons, and electrons, which are located in electron clouds around the nucleus.
- The number of protons in the nucleus of an atom is that atom's atomic number. All atoms of an element have the same atomic number.
- Different isotopes of an element have different numbers of neutrons in their nuclei. Isotopes of an element share most chemical and physical properties.
- The mass number of an atom is the sum of the atom's neutrons and protons.
- Atomic mass is a weighted average of the masses of all natural isotopes of an element.
- The forces at work in an atom are gravitational force, electromagnetic force, strong force, and weak force.