

Name : \_\_\_\_\_ Date : \_\_\_\_\_

# Atomic Structure Review Worksheet

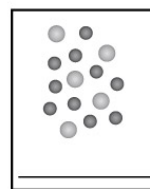
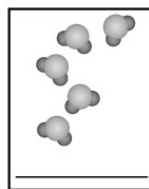
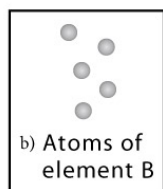
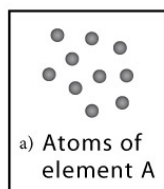
① Democritus of Abdera, who lived in Greece in the 4th century B.C., suggested that matter is made up tiny particles that cannot be divided. He called these particles \_\_\_\_\_.

② List two reasons why Democritus' ideas were not useful in a scientific sense.

i) \_\_\_\_\_

ii) \_\_\_\_\_

③ Atoms of different element can physically mix together or chemically combine in simple whole-number ratios to form compounds. In the diagram below, use the labels mixture and compound to identify the mixture of elements A and B and the compound that forms when the atoms of element A and B combine chemically.



④ Complete the following sentences by underlining the correct words in parenthesis.

a) An element is a matter that is composed of one type of (atom/quark)

b) The unit of measurement used for atomic particles is the (atom size/atomic mass unit)

c) Atoms of the same element that have different number of neutrons are called (isotopes/electron cloud)

d) In the periodic table, elements are arranged by increasing atomic (powder/number)

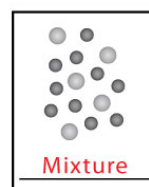
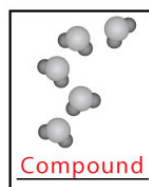
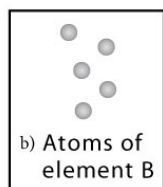
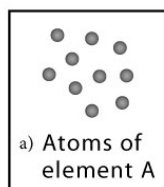
e) An electron dot diagram uses the symbol of an element and dots to represents the (quarks/electrons) in the outer energy shell.

⑤ In your own words, state the main ideas of Dalton's atomic theory.

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Answers

- ① Democritus of Abdera, who lived in Greece in the 4th century B.C., suggested that matter is made up tiny particles that cannot be divided. He called these particles atoms .
- ② List two reasons why Democritus' ideas were not useful in a scientific sense.
- i) They did not explain the chemical behavior.
- ii) They lacked experimental support because scientific testing was not available at that time.
- ③ Atoms of different element can physically mix together or chemically combine in simple whole-number ratios to form compounds. In the diagram below, use the labels mixture and compound to identify the mixture of elements A and B and the compound that forms when the atoms of element A and B combine chemically.



- ④ Complete the following sentences by underlining the correct words in parenthesis.
- a) An element is a matter that is composed of one type of (atom/quark)
- b) The unit of measurement used for atomic particles is the (atom size/atomic mass unit)
- c) Atoms of the same element that have different number of neutrons are called (isotopes/electron cloud)
- d) In the periodic table, elements are arranged by increasing atomic (number/powder)
- e) An electron dot diagram uses the symbol of an element and dots to represents the (quarks/electrons) in the outer energy shell.
- ⑤ In your own words, state the main ideas of Dalton's atomic theory.

Elements are composed of a single atom; atoms of different elements differ; chemical changes involve a rearrangement of atoms. Compounds are comprised of particles that are chemical combinations of different kinds of atoms.