



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

## Few Elements, Many Compounds

1 Think of the English alphabet. Millions of words can be made from only 26 letters! The same thing is true of elements and compounds. It takes a few common elements (the basic form of matter which cannot be broken down any further) to make most of the planet's many compounds, including rocks (solid earth), air, water, and even people.



- 2 Let's take a trip to Maui in the Hawaiian Islands. When you cross the Pacific Ocean, you are traveling across seawater that is made of hydrogen, oxygen, sodium, chlorine, and traces of other elements. Pure water has only hydrogen and oxygen. When you first get to the island, you will probably walk on sand, which is actually tiny bits of worn-out rock composed largely of oxygen and silicon. A nice tropical breeze hits your face; it consists of nitrogen, oxygen, a little argon and carbon dioxide, and small amounts of other gases.
- 3 As you walk around, you will notice volcanic rocks and mountains on the island that are made up of mixtures of oxygen and silicon with magnesium, aluminum, potassium, iron, and small amounts of other elements. Green volcanic rock, which is also in abundance on the island, has a heavy concentration of iron and magnesium.
- 4 You are sure to notice all the plants and animals. The Hawaiian Islands contain much diversity, and your focus rests on the beautiful trees, bushes, and flowers. A Hawaiian tree, a beautiful purple orchid on that tree, a beetle crawling on the ground, a native Hawaiian - these are all examples of living matter composed of the elements hydrogen, oxygen, carbon, and nitrogen, with hydrogen being the most abundant.
- 5 As you leave Hawaii, you marvel at what you've seen and how so many compounds can be made from so few elements. Through chemical changes, a few simple elements can be turned into many, many different things.



1 What is the basic form of matter which cannot be broken down any further?

- A a compound
  - B an element
  - C a chemical reaction
  - D an organism
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2 Which of the following elements do living things have that volcanic rocks do not have?

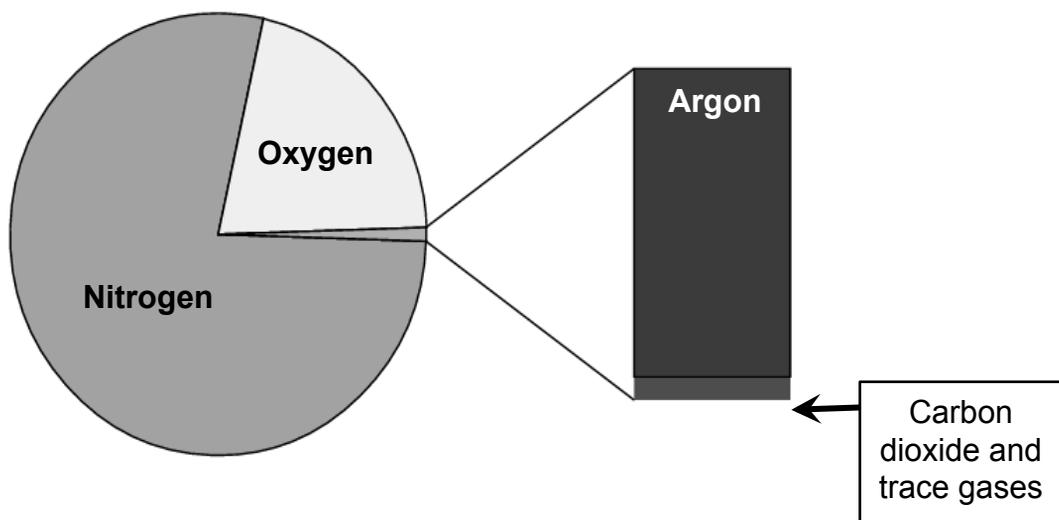
- A Oxygen
  - B Silicon
  - C Magnesium
  - D Carbon
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3 Which of the following best summarizes the passage?

- A Volcanic rocks and mountains are on Hawaiian islands.
- B Green volcanic rock has a heavy concentration of iron and magnesium.
- C Sand is tiny bits of worn-out rock made mostly of oxygen and silicon.
- D A few common elements make most of the planet's many compounds.



- 4 What is the main point of the reading?
- A A few elements combine to make many compounds.
  - B Many elements combine to make a few compounds.
  - C Elements cannot be combined except by artificial means.
  - D Hawaii is made up of only a few types of compounds.
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- 5 This chart shows the compounds that make up the air. The rectangle on the right is an expanded view of the smallest, black wedge of the pie chart. What percentage of air is oxygen?
- A 0.07%
  - B 0.93%
  - C 21%
  - D 78%