

Section 6.2 Elements on Planet Earth
Answer Key

- 1) What did early scholars think the universe was made of? **Early scholars thought the universe was made of four basic "elements" : air, water, earth, and fire.**
- 2) Define atmosphere. **Atmosphere is the gaseous covering that surrounds a planet.**
- 3) What 3 elements make up the majority of our atmosphere? **The three elements that make up the majority of our atmosphere are nitrogen, oxygen and argon.**
- 4) Why can't oxygen exist for more than a fleeting instant as an uncombined atom? **Oxygen cannot exist for more than a fleeting instant because it is so reactive.**
- 5) What does every protein in your body contain? **Every protein in your body contains nitrogen atoms.**
- 6) What do plants and plant-like organisms use to make the food we depend on? **They use CO₂ to make the food we depend on.**
- 7) What do plants release back into the atmosphere? **They release O₂ back into the atmosphere.**
- 8) The oxygen in the atmosphere is in the form of **diatomic O₂** molecules.
- 9) What do many scientists think may be the cause of global warming? **Many scientists think that the extra CO₂ in the atmosphere is the cause of global warming.**
- 10) Define hydrosphere. **Hydrosphere is all the water on the Earth's surface.**
- 11) What is Earth sometimes called? **Earth is sometimes called "the big blue marble".**

- 12) What is pure water made of? **Pure water is made of H₂O molecules.**
- 13) What does the majority of water on Earth contain? **The majority of water on Earth contains a lot of dissolved substances such as carbon dioxide and sodium chloride.**
- 14) Which 3 compounds come from the rocks and soil that make up the continents? **The three compounds are sodium chloride, potassium chloride and calcium chloride.**
- 15) Why is ocean water salty? **The ocean water is salty because runoff from millions of years of rain has washed minerals into the ocean.**
- 16) What is the most abundant element in the Earth's crust? **The most abundant element in the Earth's crust is oxygen.**
- 17) How can **oxygen** be the most abundant element in the Earth's crust if it is a gas? **Oxygen is the most abundant element in the Earth's crust because oxygen atoms are so reactive.**
- 18) Which two elements combine to form sand? **The two elements that combine to form sand are oxygen and silicon.**
- 19) Which two elements combine to form rust? **The two elements that combine to form rust are oxygen and iron.**
- 20) What are a few metallic elements that exist in nature uncombined with other elements? **A few metallic elements that exist in nature uncombined with other elements are gold, silver, platinum and copper.**
- 21) Define reactivity. **Reactivity is how strongly an atom reacts with other atoms to create a new chemical formula.**
- 22) What are 3 characteristics of metals? **Three characteristics of metals are they conduct electricity and heat, they can be hammered into sheets and stretched into wires.**

23) What are 2 characteristics of non-metals? **Two characteristics of non-metals are that they do not conduct electricity and are brittle if they are solid.**

24) Define metalloids. **Metalloids are elements that have properties of both metals and non-metals.**

25) What is the most abundant metal in the Earth's crust? **The most abundant metal in the Earth's crust is aluminum.**