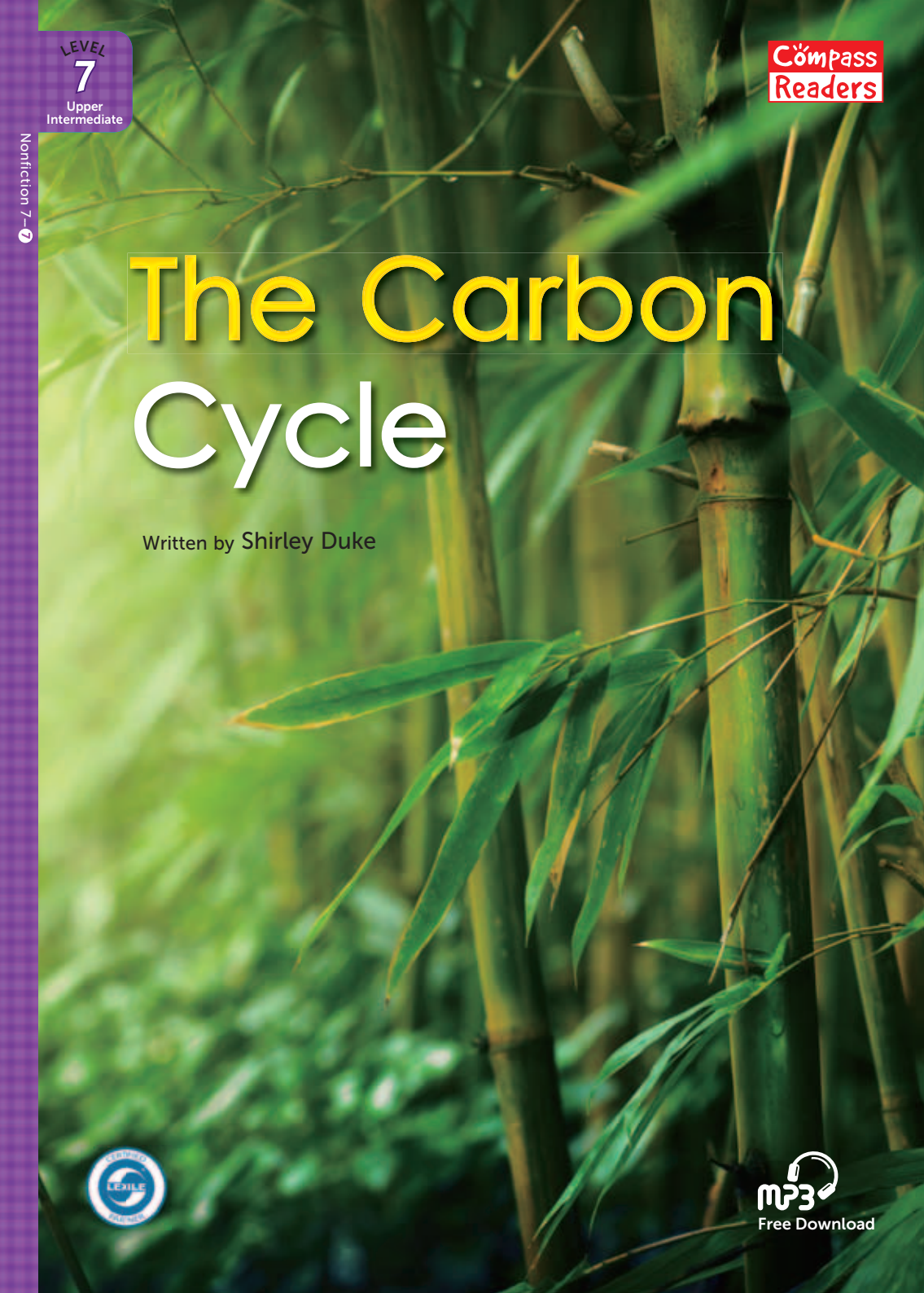
LEVEL
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The Carbon Cycle
Written by Shirley Duke
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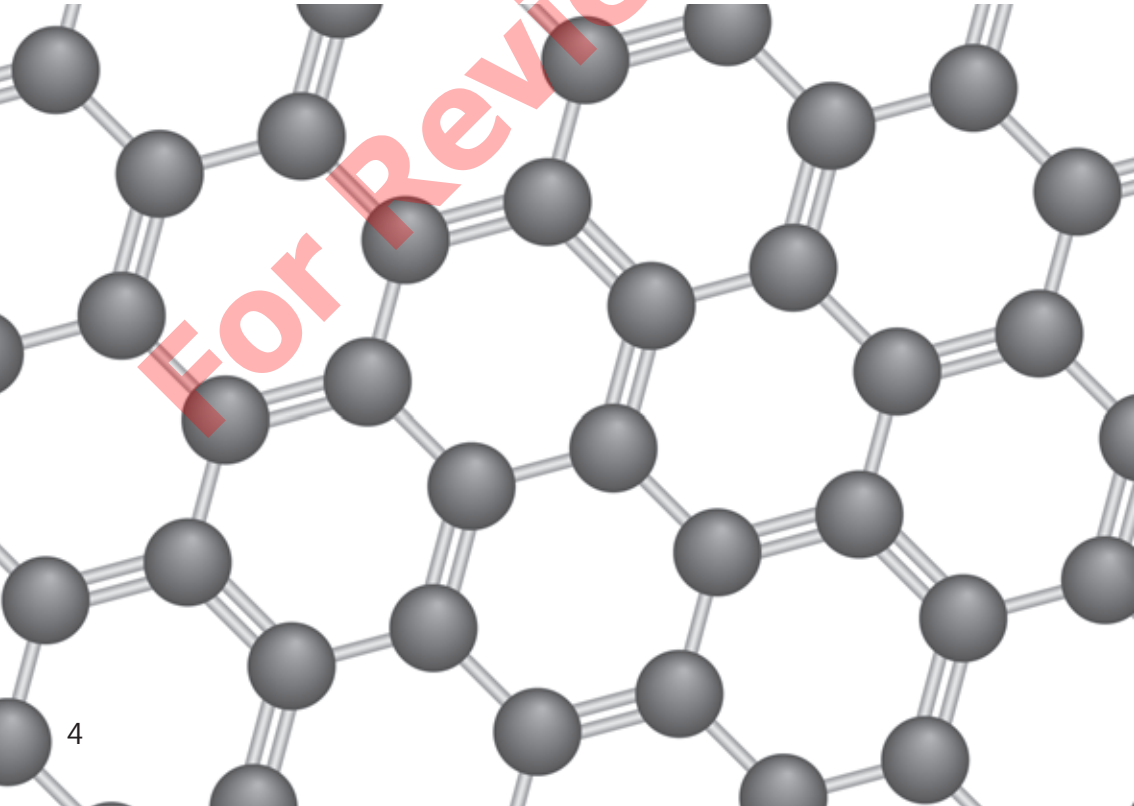
Contents

Chapter 1

What Is Carbon?

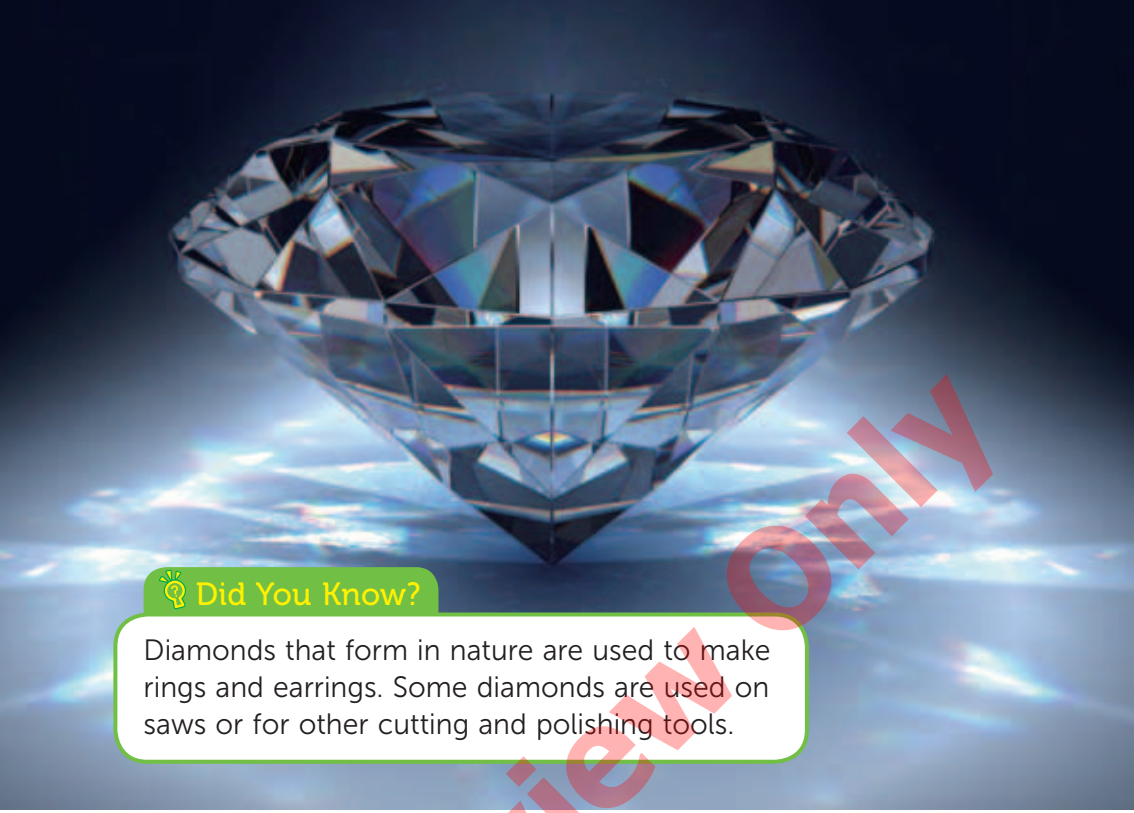
An **element** is a basic part of nature. Each element is made of only one kind of atom. Elements combine to form everything we know and use.

Carbon is one element. The dark gray or black carbon is a solid. Carbon combines with other elements to form other things. These other things no longer look like carbon. It makes something else. All living things have some kind of carbon in them.



Rocks are a part of the carbon cycle that is not living.

Rocks hold most of the earth's carbon. The rest is in the oceans, air, plants, soil, and **fossil fuels**. Carbon moves through the living parts of the earth. It also moves through the parts that are not alive.



Did You Know?

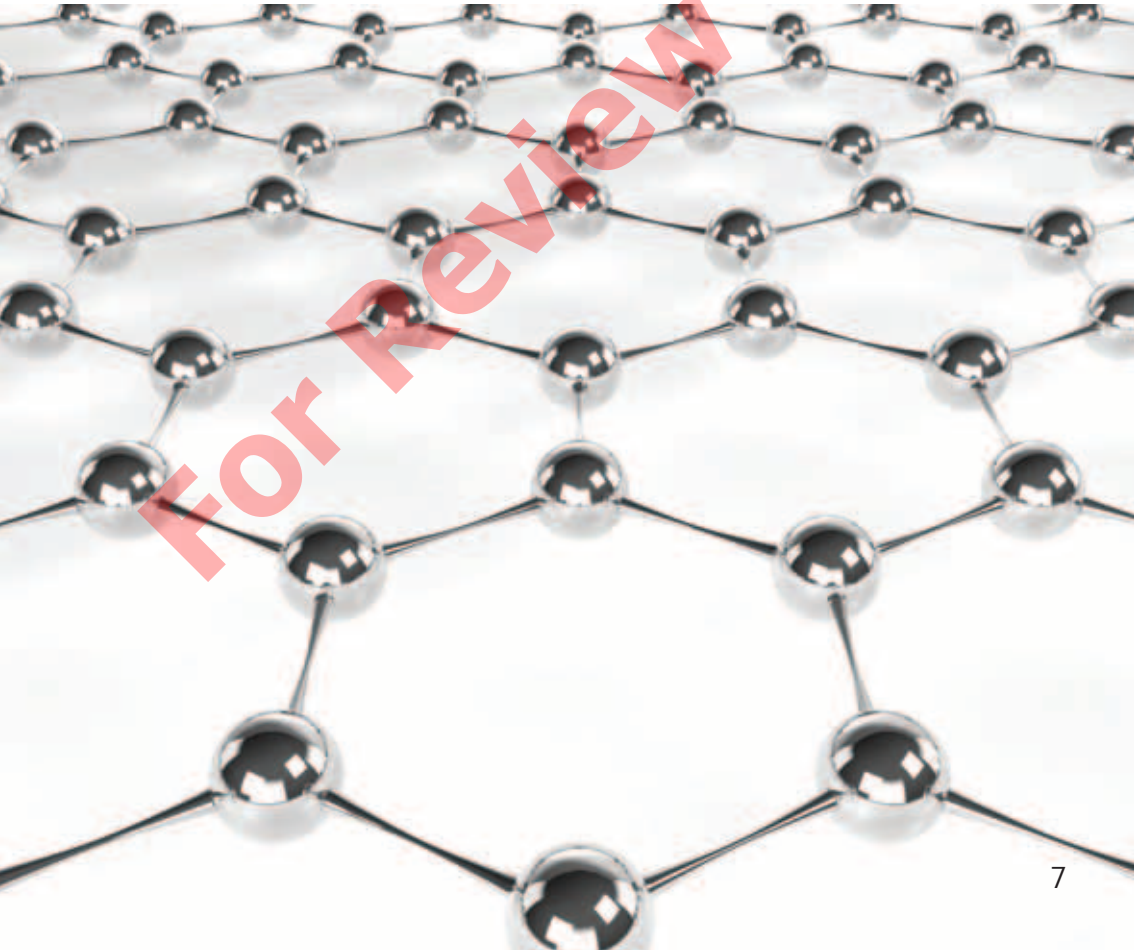
Diamonds that form in nature are used to make rings and earrings. Some diamonds are used on saws or for other cutting and polishing tools.

Carbon is in nature. **Soot** is an example of carbon. It comes from burning carbon with little or no **oxygen**. Some of the carbon does not burn away. The part that is left is black soot. If you touch soot, it leaves a black mark on your finger. We use soot to make ink and paint.

A softer kind of carbon is called **graphite**. We use graphite in pencils. **Diamonds** are pure carbon. They are very hard. Diamonds are not very common. But people can make diamonds, too. Some new forms of carbon are being studied to learn more about how carbon works.

Carbon atoms often combine with other atoms. Try this. Join hands with five friends. Stand in a circle. Carbon atoms form a ring shaped something like this.

Add six more friends. Now stand in a line and hold hands. This is what carbon looks like when other parts are added, and it changes shape. Carbon's shape allows it to make long chains. It combines in many ways to form other shapes.



Chapter 2

Where Is Carbon?

All life has some form of carbon. Living things that die still have that carbon in them. Fossil fuels come from dead plant and animal matter. The carbon in them changes its shape with heat and heavy layers. It might form coal or oil.

Carbon moves in a cycle. Some things take in carbon in many different forms. Other things give off carbon. Carbon moves in the living parts of the environment and through the non-living parts. The way carbon moves through the earth over millions of years is called the **carbon cycle**.

Pumps pull the fossil fuel oil from deep under the ground where it formed millions of years ago.

This image shows the combination of elements that form carbon dioxide.

Carbon often combines with other elements. This makes a **compound**. The compounds **bond** when their atoms join.

Carbon is in **carbon dioxide**. The symbol is CO_2. This means one atom of carbon joins with two atoms of oxygen. CO_2 is a gas with no color or smell. It forms part of the air. Oxygen is a gas element in the air we breathe.

Carbon and its forms are almost everywhere, including plants. Plants make their food with carbon. It is a kind of sugar. All life depends on the sugar that is made with carbon.