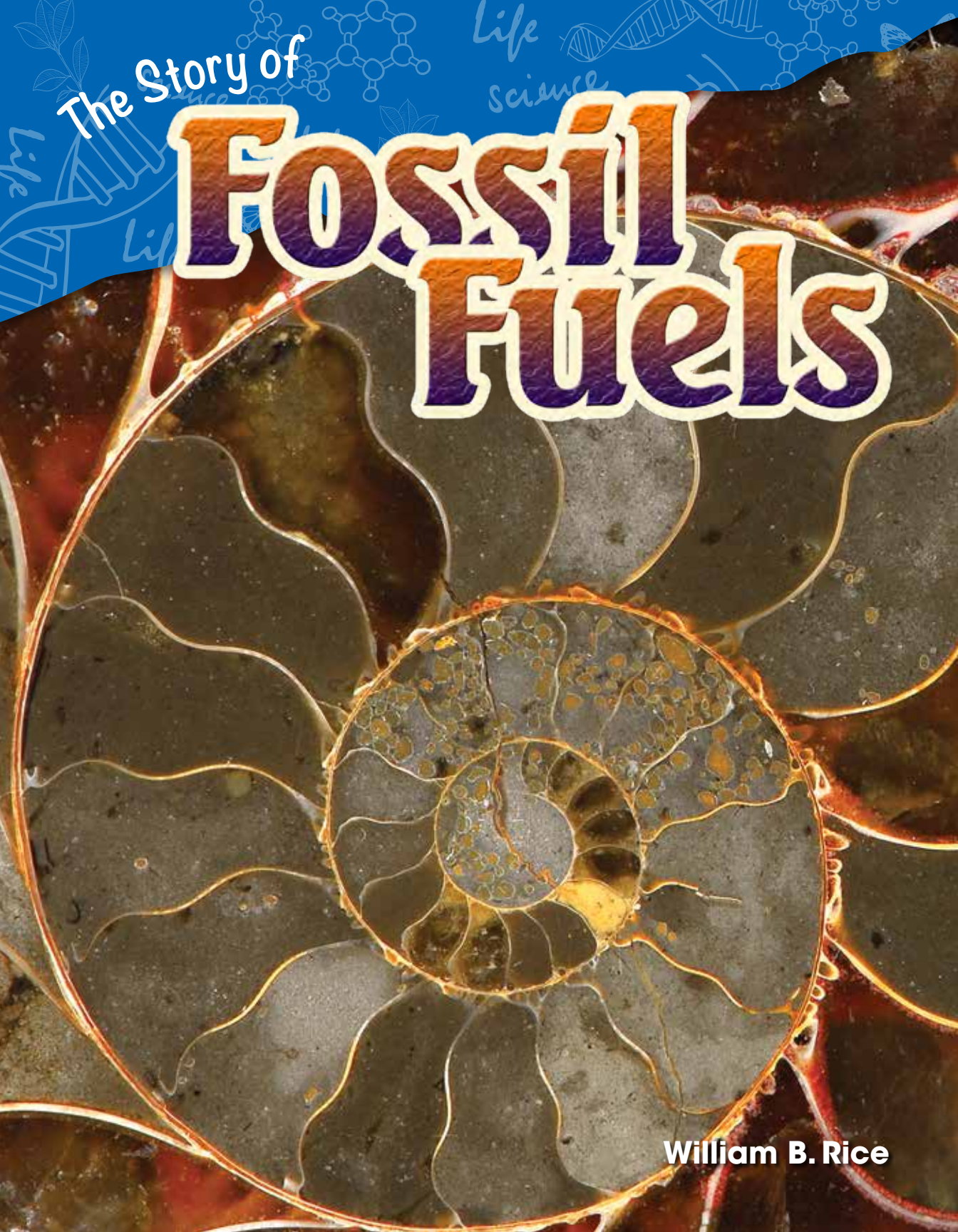
The Story of

Fossil Fuels



William B. Rice

For teachers' inspection ONLY

Table of Contents

One Fine Day 4

What Are Fossil Fuels? 8

How Are Fossil Fuels Made? 12

How Do We Use Fossil Fuels? 16

Where Do We Find Fossil Fuels Today? 20

Extraction and Refining 22

How Much More? 24

Think Like a Scientist 28

Glossary 30

Index 31

Your Turn! 32

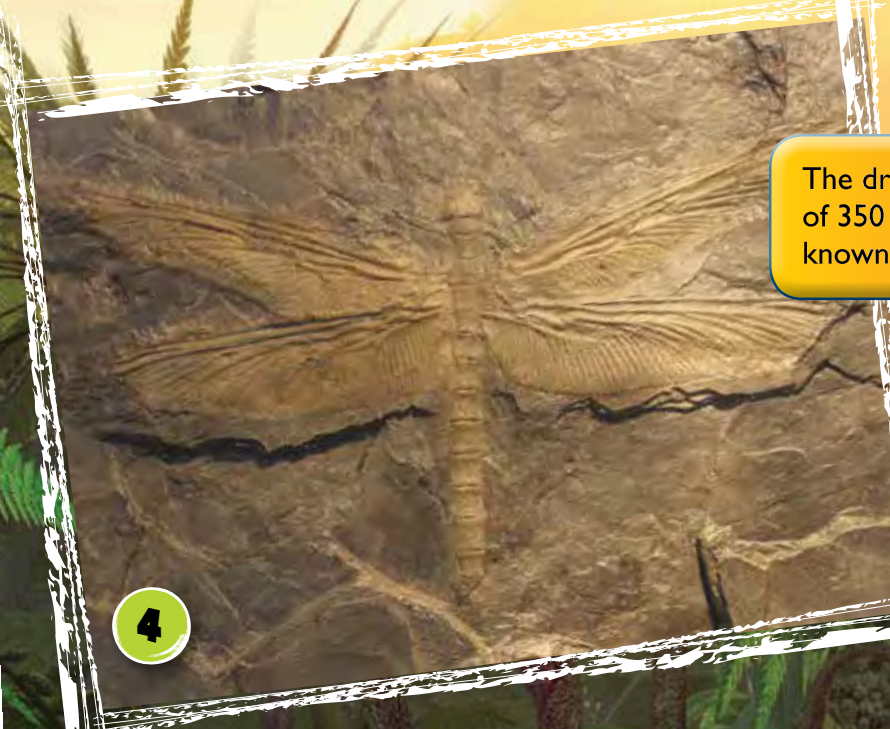
For teachers' inspection ONLY

One Fine Day

Everywhere you look, the land is lush and green. Mosses and ferns bend and sway in the damp air. Giant insects buzz, and reptiles scratch as rain drips through the canopy of leaves overhead.

From a distance, a green winged creature darts closer. Its wings span a width of nearly a meter. It is the size of a modern seagull. It drifts through the trees. As it glides, it notices a giant cockroach on the rock below. The roach is unaware of a centipede crawling near—poisonous and two meters long. The winged insect flies past.

But the insect tires as it flies. It has lived long in this wild place, and now it looks for a place to rest. Its life is coming to an end. It is too tired to continue. Slowly it drifts to the ground below, the muddy bank of a flowing river.



The dragonfly-like creature of 350 million years ago is known as a *meganeura*.



For teachers' inspection ONLY

For teacher's inspection ONLY

There in the mud, the insect takes its last breath. The rain continues to fall and buries the insect's body deeper in the mud. Deeper, deeper it sinks. In time, its body **decomposes**. The roach and centipede do, too. Soon enough, the plants and trees die, and their rotting leaves and stems mix with the muddy goo.

Time passes. Days, months, and years go by. Decades and centuries begin to fly past. Then, millennia are gone. And finally millions of years.

The insect is not even a memory now. But its **remains** have combined with the remains of all the other creatures below Earth's surface. Heat and pressure have been constants. The mass has transformed over the hundreds of millions of years that have gone by. It has not only become solid rock but also a store of energy.

Until one fine day, a day just like today, a modern mining rig breaks through, and the solid store of energy sees the light of day….



Chickens or Eggs?

Certain animals needed the Carboniferous Era to evolve. During this time, eggs that could be laid safely on land developed—just like eggs from a chicken!



Carboniferous Era

The Carboniferous Era is part of the Paleozoic Era of geological time. It is known for the large underground layers of **coal** that were deposited then, from 359 to 299 million years ago. Below the surface of Earth, matter from millions of years ago transformed into today's fossil fuels.

The word *carboniferous* means "coal-bearing." The word contains two Latin words—*carbo*, meaning "coal," and *fero*, meaning "I bear" or "I carry."

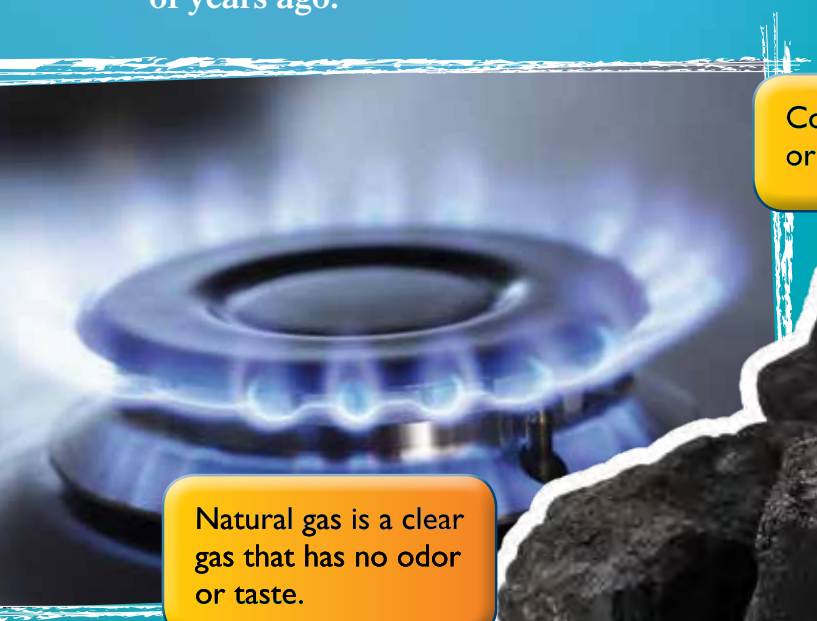
For teachers' inspection ONLY

For teachers' inspection ONLY

What Are Fossil Fuels?

Fossil fuels are substances such as **petroleum**, coal, and **natural gas**. We use them every day. They are called *fossil fuels* because they are made from **organisms** that died and were buried under many layers of dirt and rock called **sediment**. They are fuels because they provide energy that powers most of our needs.

Petroleum is a fossil fuel that is made from very tiny organisms that lived in the oceans long ago. Coal is made from plants and animals that lived on land. Natural gas is made in both places, in oceans and on land. But all these fuels have one thing in common. The organisms that made them lived and died hundreds of millions of years ago.



Natural gas is a clear gas that has no odor or taste.



Coal is a dark brown or black solid rock.

For teachers' inspection ONLY

Fossils

Fossils are the remains of prehistoric living things that have been preserved in rock or as a mold in rock.



The word *petroleum* comes from two Greek words. *Petro* is the word for "rock," and *oleum* is the word for "oil."

Petroleum varies in color from yellow to black.





Think Like a Scientist

How are fossils created? Experiment and find out!

For teachers' inspection ONLY

What to Get

- 3 slices of bread (one white, one wheat, one rye)
- clear drinking straw
- gummy candy
- heavy books
- knife
- paper towels

