


# THE WILD SIDE

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## Weird Science

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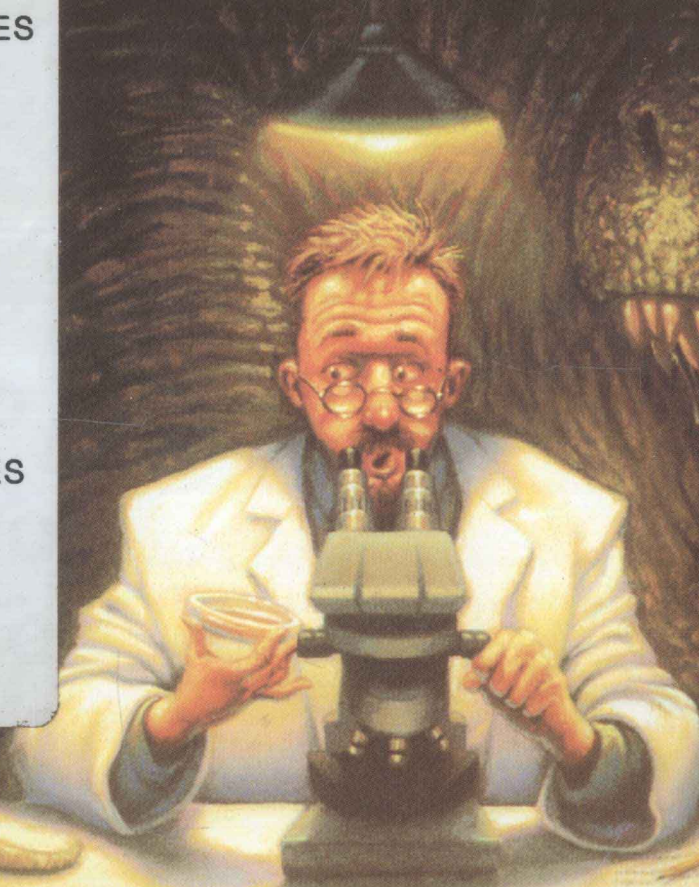
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**Critical Reading Skills**

Henry Billings & Melissa Billings

**THE**  
**WILD SIDE**  
*Weird Science*

**Henry Billings & Melissa Billings**

JAMESTOWN  PUBLISHERS

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# To the Teacher

## INTRODUCTION

Biology, geology, psychology, physics, chemistry—to many students, naming these branches of science calls forth little more than a yawn. Stories in *Weird Science*, however, go far beyond naming areas of study. They focus on details of natural events, insect behavior, human experiences, and other subjects of scientific investigation that fascinate even as they shock, repel, or mystify readers. After becoming aware of such puzzling happenings and fantastic theories, no reader can hold on to the attitude that science is dull or for the specialist.

*Weird Science* provides subject matter for thoughtful interpretation and discussion, while challenging your students in four critical reading categories: main idea, important details, inferences, and vocabulary in context. *Weird Science* can also help your students to improve their reading rates. Timed reading of the selections is optional, but many teachers find this an effective motivating device.

*Weird Science* consists of fifteen units divided into three groups of five units each. All the stories in a group are on the same reading level. Group One is at the fourth-grade reading level, Group Two at the fifth, and Group Three at the sixth, as assessed by the Fry Formula for Estimating Readability.

## HOW TO USE THIS BOOK

**Introducing the Book.** This text, used creatively, can be an effective tool for teaching certain critical reading skills. We suggest that you begin by introducing the students to the contents and format of the book. Discuss the title. What is “weird” about science? Ask the students to recall topics they

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have read about or discussed in science classes that have stirred their curiosity or imagination. Read through the table of contents as a class to gain an overview of the topics that will be covered.

**The Sample Unit.** Turn to the Sample Unit on pages 1–7. After you have examined these pages yourself, work through the Sample Unit with your students, so that they have a clear understanding of the purpose of the book and of how they are to use it.

The Sample Unit is set up exactly as the fifteen regular units are. The introductory page includes a photograph or illustration accompanied by a brief introduction to the story. The next two pages contain the story and are followed by four types of comprehension exercises: Finding the Main Idea, Recalling Facts, Making Inferences, and Using Words Precisely.

Begin by having someone in the class read aloud the introduction. Then give the students a few moments to study the picture. Ask them to predict what the story will be about. Continue the discussion for a minute or so. Then have the students read the story. (You may wish to time the students' reading in order to help them increase their reading speed and improve their comprehension. Students can use the Words-per-Minute tables located on pages 110-112 to help them figure their reading speed.)

Work through the sample exercises as a class. At the beginning of each exercise are an explanation of the comprehension skill and directions for answering the questions. Make sure all the students understand how to complete the four different types of exercises and how to determine their scores. The correct answers for the exercises and sample scores are printed in lighter type. Also, explanations of the correct answers are given for the sample Finding the Main Idea and Making Inferences exercises to help the students understand how to think through these question types.

As the students work through the Sample Unit, have them turn to the Words-per-Minute tables (if you have timed their reading) and the Reading Speed and Critical Reading Scores graphs on pages 113 and 114 at the appropriate points. Explain the purpose of each feature and read the directions with the students. Be sure they understand how to use the tables and graphs. You may need to help them find and mark their scores for the first several units.

After they finish the Sample Unit, read and discuss the To the Student introduction on page 8 with the class.

**Timing the Story.** If you choose to time your students' reading, explain your reason for doing so: to help them track and increase their reading speed.

One way to time the reading is to have all the students in the class begin reading the story at the same time. After one minute has passed, write on the chalkboard the time that has elapsed. Update the time at ten-second intervals (1:00, 1:10, 1:20, etc.). Tell the students to copy down the last time shown on the chalkboard when they finish reading. They should then record this reading time in the space designated after the story.

Have the students use the Words-per-Minute tables to check their reading rates. They should then enter their reading speed on the Reading Speed graph on page 113. Graphing their reading times allows the students to keep track of increases in their reading speed.

**Working Through Each Unit.** When the students have carefully completed all parts of the Sample Unit, they should be ready to tackle the regular units. Begin each unit by having someone in the class read aloud the introduction to the story, just as you did in the Sample Unit. Discuss the topic of the story and allow the students time to study the illustration.

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Then have the students read the story. If you are timing the reading, have the students enter their reading time, find their reading speed, and record their speed on the graph after they have finished reading the story.

Next, direct the students to complete the four comprehension exercises without looking back at the story. When they have finished, go over the questions and answers with them. Have the students grade their own answers and make the necessary corrections. Then have them enter their Critical Reading Scores on the graph on page 114.

**The Graphs.** Students enjoy graphing their work. Graphs show, in a concrete and easily understandable way, how a student is progressing. Seeing a line of progressively rising scores gives students the incentive to continue to strive for improvement.

Check the graphs regularly. This will allow you to establish a routine for reviewing each student's progress. Discuss with each student what the graphs show and what kind of progress you expect. Establish guidelines and warning signals so that students will know when to approach you for counseling and advice.

## **RELATED TEXTS**

If you find that your students enjoy and benefit from the stories and skills exercises in *Weird Science*, you may be interested in *Crime and Punishment*, *Extreme Sports*, *Angry Animals*, *Bizarre Endings*, and *Total Panic*: five related Jamestown texts. All feature high-interest stories and work in four critical reading comprehension skills. As in *Weird Science*, the units in those books are divided into three groups, at reading levels four, five, and six.

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Sample Unit

*Do you want to walk on the moon someday? One of the few humans who has enjoyed this adventure is astronaut Buzz Aldrin. He is shown here next to the American flag that the Apollo 11 landing crew set up on the moon in July, 1969. But if you're set on visiting the moon, perhaps you'd better hurry. If Professor Alexander Abian has his way, the moon won't be around very long. Abian wants to blow up the moon! Why? He thinks it will improve weather on the earth. Not many people—not even many scientists—agree with him.*



# SHOULD WE BLOW UP THE MOON?



Most people like the moon just the way it is. They write poems about it. They sing love songs to it. They hold hands under it. But Alexander Abian has a scheme that would change all that. He wants to blow up the moon!

Abian is a mathematics professor at Iowa State University. He has a bold plan. First, he wants to send some astronauts to the moon. They would drill a huge hole in the moon's surface. Into this hole they would tuck some nuclear bombs. After the astronauts are safely out of the way, someone back on Earth would push a remote control button. One second later, the moon would be blown to bits.

Why does Abian want to do this? He thinks it would improve the earth's weather. With the moon out of the way, he says, there would be no more blizzards in the Rocky Mountains. There would be no killer typhoons in Asia. Summer heat waves in New York City would end. So, too, would droughts in Africa. Not only would bad things end, but good things would start. According to Abian, the deserts and arctic regions would bloom. After we blow up the moon,

says the professor, we would have pleasant weather all year long.

What does the moon have to do with snowstorms in Denver or floods in Bangladesh? Plenty, says Abian. The moon's gravity pulls on the earth. That tug keeps the earth tilted at a  $23\frac{1}{2}$ -degree angle. And that's the problem. It is this tilt that gives us our seasons. The side of the earth tilted toward the sun has summer and sweltering weather. The side tilted away from the sun has winter and chilling cold.

Now suppose we blow up the moon. According to Abian, the earth would then lose its  $23\frac{1}{2}$ -degree tilt. The amount of sunlight would no longer change with the seasons. It would be the same all year long. "Perpetual spring!" promises Abian.

So why haven't we blown up the moon? Most people like having it around. More than a dozen countries like it so much they have put it on their national flags. Abian understands that. So he has come up with a second plan. He says we could try having *two* moons. We could "bring a moon from Mars." It could be put on the other side of Earth from the first moon. That

way, its pull would balance off the pull of the original moon. Now the Earth would have two moons but no tilt!

There is another serious problem with blowing up the moon. True, it might get rid of the earth's tilt. But such a change might cause massive earthquakes. David Taylor of Northwestern University observes, "[Abian] would destroy civilization. But we'd have great weather." Thomas Stix of Princeton adds that most scientists wouldn't touch Abian's idea "with a ten-foot pole."

Such talk doesn't bother Abian. He wants to shake things up. Why, he asks, do we have to accept the solar system the way it is? Why can't we

move things around? Abian has some other ideas, as well. He would like to change the orbit of Venus. It's too close to the sun, he says. Temperatures on Venus are a toasty 900°F. Abian thinks we should move Venus away from the sun. That would cool the planet and perhaps make it fit for human life. How does Abian recommend we move Venus? "We can shoot it with rockets," he suggests.

No one is holding his or her breath waiting for these things to happen. Even Abian knows that other scientists think his ideas are a bit strange. "I don't think [anything will happen] in my lifetime or in my children's lifetime," he says. "But I want to plant the seed."

*If you have been timed while reading this selection, enter your reading time below. Then turn to the Words-per-Minute table on page 110 and look up your reading speed (words per minute). When you are working through the regular units, you will then enter your reading speed on the graph on page 113.*

**READING TIME: Sample Unit**

\_\_\_\_\_ : \_\_\_\_\_  
Minutes                      Seconds

## How Well Did You Read?

- *The four types of exercises that follow appear in each unit of this book. The directions for each type of exercise tell you how to mark your answers. In this Sample Unit, the answers are marked for you. Also, for the Finding the Main Idea and Making Inferences exercises, explanations of the answers are given to help you understand how to think through these question types. Read through these exercises carefully.*
- *When you have finished all four exercises in a unit, use the answer key that starts on page 105 to check your work. For each right answer, put a check mark (✓) on the line beside the box. For each wrong answer, write the correct answer on the line.*
- *Find your scores by following the directions after each exercise. In this unit, sample scores are entered as examples.*

## A

### FINDING THE MAIN IDEA

A good main idea statement answers two questions: it tells *who* or *what* is the subject of the story, and it answers the understood question *does what?* or *is what?* Look at the three statements below. One expresses the main idea of the story you just read. Another statement is *too broad*; it is vague and doesn't tell much about the topic of the story. The third statement is *too narrow*; it tells about only one part of the story.

Match the statements with the three answer choices below by writing the letter of each answer in the box in front of the statement it goes with.

M—Main Idea      B—Too Broad      N—Too Narrow

- ✓ ☒ N 1. Professors at Northwestern University and at Princeton disagree with the ideas of Alexander Abian.  
[This statement is true, but it is too narrow. It doesn't suggest what Abian's ideas are about.]
- ✓ ☒ M 2. Mathematics professor Alexander Abian has proposed blowing up the moon as a way of improving weather on Earth.  
[This is the main idea. It tells whom the story is about and what he did.]
- ✓ ☒ B 3. It's hard to tell whether some theories about the universe should be taken seriously.  
[This statement is too broad. It doesn't tell which theory the story is about.]

15 Score 15 points for a correct M answer.

10 Score 5 points for each correct B or N answer.

25 TOTAL SCORE: Finding the Main Idea

**B****RECALLING FACTS**

How well do you remember the facts in the story you just read? Put an *x* in the box in front of the correct answer to each of the multiple-choice questions below.

1. Abian's theory is that destroying the moon will  
☐ a. cause Earth to tilt at a 23½-degree angle.  
☐ b. cause massive earthquakes.  
☒ c. improve weather on Earth.
2. The side of Earth tilted toward the sun has  
☒ a. summer.  
☐ b. winter.  
☐ c. perpetual spring.
3. Abian also suggests moving  
☐ a. the moon to a new orbit.  
☐ b. Earth closer to Venus.  
☒ c. a moon from Mars to orbit Earth.
4. One way to move Venus, Abian says, is to  
☒ a. shoot it with rockets.  
☐ b. set off nuclear bombs on it.  
☐ c. use a ten-foot pole as a lever.
5. Abian expects his ideas to get serious attention  
☐ a. next year.  
☐ b. during his lifetime.  
☒ c. in the distant future.

Score 5 points for each correct answer.

25 TOTAL SCORE: Recalling Facts

**C****MAKING INFERENCES**

When you use information from the text and your own experience to draw a conclusion that is not directly stated in the text, you are making an *inference*.

Below are five statements that may or may not be inferences based on the facts of the story. Write the letter *C* in the box in front of each statement that is a correct inference. Write the letter *F* in front of each faulty inference.

**C—Correct Inference      F—Faulty Inference**

1. Most mathematics professors are more creative than scientists.  
 [This is a *faulty* inference. It makes a value judgment without supporting evidence.]
2. Other professors criticize Professor Abian's ideas because they are jealous of him.  
 [This is a *faulty* inference. Other reasons are given.]
3. As we humans gain power over nature, we must guard against unwise use of this power.  
 [This is a *correct* inference. Abian suggests using present technology to make vast changes.]
4. Humans cannot live on or even explore Venus.  
 [This is a *correct* inference. The temperature of Venus is 900°F.]
5. Professor Abian's main goal in proposing "corrections" to the universe is to get people to take a fresh look at things they take for granted.  
 [This is a *correct* inference. Abian says, "I want to plant the seed."]

Score 5 points for each correct *C* or *F* answer.

25 TOTAL SCORE: Making Inferences

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## To the Student

Why is the sky blue? Where do babies come from? Why do bees sting? When we were young, most of us asked questions such as these. As we learn about the world and its creatures, we begin to think that science knows all the answers. Perhaps there are no mysteries left and learning about science means simply reading reports of what others have discovered. The stories in *Weird Science* will drive such thoughts from your head. Most of them raise more questions than they answer. *Weird Science* will stir your emotions and imagination with its fifteen stories from the world of science.

While you are enjoying these thought-provoking stories, you will be developing your reading skills. This book assumes that you already are a fairly good reader. *Weird Science* is for students who want to read faster and to increase their understanding of what they read. If you complete all fifteen units—reading the stories and completing the exercises—you will surely increase your reading speed and improve your comprehension.

Group One

