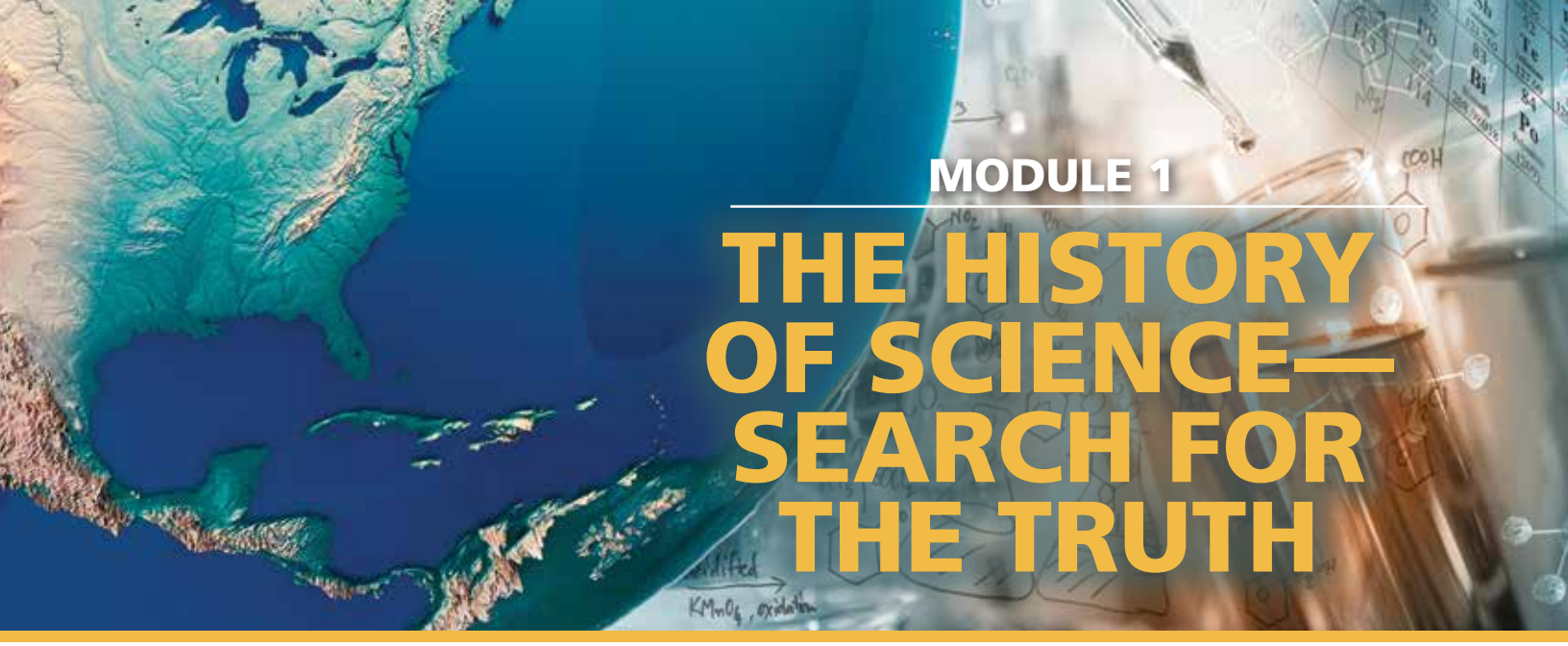

MODULE 1

THE HISTORY OF SCIENCE—SEARCH FOR THE TRUTH

NOTETAKING

Remember, taking notes are a way to help you learn the new information you will read. There are no right answers; as you read each day, write your notes in your own words by responding to the prompts given.

WHAT TO DO

Week 1, Day 1

Read pages 1 to the top of page 5 in the text, *Exploring Creation with General Science 3rd Ed.* You will be reading section, The Earliest Science: Ancient Times–600 BC, and subsections, Egypt and Other Cultures. As you read, keep this notebook open to these pages and complete the tasks on the following checklist (check them off as you complete them).

- ❑ **Write the definitions** to the vocabulary words you find to help you memorize them (they are in bold, blue font).
- ❑ **Write a sentence or two** summarizing what you learned in each section under the appropriate section heading.
- ❑ **Answer** the On Your Own question 1.1.
- ❑ **Begin** your History of Science Timeline.
- ❑ **Check off** Day 1 on your Daily Schedule in the front of this notebook.

VOCABULARY

Science—

Papyrus—

In the spaces provided, write a sentence or two summarizing what you learned as you read each of the sections. While you could copy the materials in the textbook, it is better if you put what you learned into your own words.

Introduction

The Earliest Science: Ancient Times–600 BC: Egypt

(Make sure you include a couple sentences about Imhotep and what he is known for.)

The Earliest Science: Ancient Times–600 BC: Other Cultures

1.1 ON YOUR OWN

Although the ancient Egyptians had reasonably advanced medical practices for their times, and although there were many inventions that revolutionized life in the ancient world, most historians of science do not think of Egyptian doctors as scientists. Why? (Hint: Look at the entire definition of science.)

Check this box once you've checked your answer. ☐

HISTORY OF SCIENCE TIMELINE INSTRUCTIONS

As you read through the rest of this module, you will be introduced to many important scientists and you will learn about what contributions they made to science. As you read about them, you'll make a timeline. Today you will get your timeline ready so it will be easy to use it during the rest of the module.

Remove the timeline pages (pages 51–56) in this notebook. Cut off the dashed line on page 51, cutting just to the right of it. Tape or paste it to the right side of page 49, hiding the dashed line. Next match the dotted line on the left side of page 53 with the dotted line on the right side of page 51 and cut and paste as before. Finally, match the wavy line on page 55 with the wavy line on page 53. Again, cut and paste as before. You now have a complete timeline that can be folded to fit into your notebook.

As you study the important people in the history of science over the next week or two, look up each of them on the Internet (a good place to start is the Book Extras website at apologia.com/bookextras) and learn 2 to 3 interesting facts about them that you didn't know before. Find, print, and paste a picture of the scientist on the timeline at the right year (or as close as you can get). Then write the three interesting facts underneath the picture. Imhotep, who you met in today's reading, has been done for you as an example.

Once you have completed preparing your timeline, you have finished for today. Don't forget to check off today on your daily schedule!

WHAT TO DO

Week 1, Day 2

Read pages 5–10 in the text. As you read, complete the tasks on the following checklist (check them off as you complete them).

- ❑ **Use the graphic organizer** to take notes on the scientists you will learn about in the section, True Science Begins to Emerge: 600 BC–AD 500, and subsections: Three Greek Scientists, Two More Greek Scientists, and Hypothesis.
- ❑ **Read** through Experiment 1.1 (you will conduct it tomorrow).
- ❑ **Check off** this day on the Daily Schedule in the front of this notebook.

TRUE SCIENCE BEGINS TO EMERGE: 600 BC–AD 500, THREE GREEK SCIENTISTS, TWO MORE GREEK SCIENTISTS, & HYPOTHESIS

Use the graphic organizer to take notes on the scientists you will learn about on pages 5–10. As you read about each scientist, put his name on the line (their name will be in blue letters). Then in the space under the line, write a sentence or two about what made each scientist important. The first one has been done for you. Don't forget to add them to your timeline when you are finished. Also, in the space below, write down any questions or thoughts you have as you're reading. You might want to include a sentence or two on how to state a good hypothesis.


True Science Begins to Emerge: 600 BC—AD 500
Imhotep (c 2650 BC)
Imhotep was a well-known doctor in Egypt. He had a lot of medical knowledge and ability to heal. Many people traveled far distances to see him.

WHAT TO DO

Week 1, Day 3

Re-read pages 6–10 as they relate to Experiment 1.1 in the text. As you read, complete the tasks on the following checklist (check them off as you complete them).

- ❑ **Gather your supplies** for Experiment 1.1.
- ❑ **Complete Experiment 1.1** (turn to the lab report form in the lab section of this notebook).
- ❑ **Investigate** the Explore More.
- ❑ **Check off** this day on the Daily Schedule in the front of this notebook.

Turn to the lab report form for Experiment 1.1 on page 409 of this student notebook. Read through the whole experiment to see what you should do and gather your materials. Now read through the experiment again, completing each step as instructed. As you complete each step, record your information on your lab report form. Then complete the Explore More activity and record your data.

EXPLORE MORE

Draw what happened when you put food coloring into hot and cold water. Then write a sentence explaining why it happened.

Hot Water

Cold Water

Summary:

WHAT TO DO

Week 1, Day 4

Read pages 10–14 in the text. As you read, complete the tasks on the following checklist (check them off as you complete them).

- ❑ **Write the definitions** to the vocabulary words you find to help you memorize them.
- ❑ Use the graphic organizers to **take notes** on the scientists you will learn about in the subsections: Even More Greek Scientists and the section: Science Progress Stalls and Then Gets Moving Again: AD 500-1500 with subsection, Alchemy.
- ❑ **Answer** the On Your Own questions.
- ❑ **Complete Experiment 1.2** (turn to the lab section of this notebook for a lab report).
- ❑ **Check off** this day on the Daily Schedule in the front of this notebook.

EVEN MORE GREEK SCIENTISTS

As you read pages 10–12, the Even More Greek Scientists section, fill out the chart below with at least 2 things you learned about the scientists you meet. Add them to your timeline. Then summarize what the geocentric system is, and finally complete On Your Own questions 1.2 and 1.3.

VOCABULARY

Spontaneous generation—

More Scientists from 600 BC–AD 500		
Name	When did he live?	What did he do?
Aristotle	384-322 BC	1. Known as the father of life sciences because he studied living things. 2. He incorrectly believed in spontaneous generation.

More Scientists from 600 BC–AD 500		
Name	When did he live?	What did he do?
Archimedes		
Ptolemy		

Summarize the geocentric system by completing the following sentences.

The geocentric system is a view of the stars and planets in which _____ is at the center. This incorrect idea lasted so long, even though there was evidence against it, because _____ was such a great and respected scientist and because it fit many scientists' _____ notions of how things ought to be.

1.2 ON YOUR OWN

Based on your results in Experiment 1.1, what do you think about the density of popcorn kernels? Are they more or less dense than the lead sinker and the Ping-Pong ball?

1.3 ON YOUR OWN

Albert Einstein is one of the most well-known scientists in recent history (we'll talk more about him later in this module). Though he received the 1921 Nobel Prize for his contributions to theoretical physics, he also had some ideas that were incorrect. Einstein believed that nuclear power could never be a good source of usable energy. Yet his own ground-breaking equation, $E = mc^2$, is at the heart of over 400 nuclear power stations today, providing a major source of worldwide non-carbon-based energy. What do you think would have happened if scientists decided not to explore nuclear energy because Einstein, a brilliant scientist, said it wasn't worth exploring?

SCIENCE PROGRESS STALLS AND THEN GETS MOVING AGAIN: AD 500–1500 & ALCHEMY

Start this section by reading page 12 through the first 2 paragraphs of page 14 and conducting Experiment 1.2. Use the lab report form in the lab section of this notebook to record your data.

Summarize what you learn about alchemy while reading the rest of page 14 by filling in the blanks below.

Alchemists tried to find a way to transform _____ into _____.

They tried to do this because they saw that when two different substances were exposed to each other, they _____ into other substances.

We now know that what the alchemists tried to do will not work. But one thing they did was very good. What was that? _____

What are the two lessons we can learn from this time period?

Lesson 1: _____

Lesson 2: _____

Thoughts on my first week of General Science