



# **Science, Grade 4 (SCI) 4B Syllabus**

## **Course Name**

SCI 4B

Science, Grade 4 – Semester B

## **Course Information**

SCI 4B is the second semester of this two-semester course.

Welcome to SCI 4B! In this second semester, students will be exploring scientific and engineering practices through scientific investigation and reasoning. The topics included in this semester are:

- scientists, scientific methods, and science tools
- water cycle
- weather, climate, & seasons
- the Moon
- energy flows in living systems
- fossils
- structures and functions of plants
- inherited and acquired traits

## **Course Delivery Method**

Online

## **Contacting Your Instructor**

You may contact your instructor through the Blackboard messaging system. Technical support is available 24/7 at [TTU K-12](#).

## **Course Objectives**

After completing this course, you should be able to:

- describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process (TEKS 4.10A; Unit 8);
- collect and analyze data to identify sequences and predict patterns of change in seasons such as change in temperature and length of daylight; and differentiate between weather and climate (TEKS 4.9A; 4.10C; Unit 9);
- collect and analyze data to identify sequences and predict patterns of change in the observable appearance of the Moon from Earth (TEKS 4.9B; Unit 10);
- investigate and explain how most producers can make their own food using sunlight, water, and carbon dioxide through the cycling of matter, and describe the cycling of matter and flow of energy through food webs, including the roles of the Sun, producers, consumers, and decomposers (TEKS 4.12A,B; Unit 11);
- identify and describe past environments based on fossil evidence, including common Texas fossils (TEKS 4.12C; Unit 12);
- explore and explain how structures and functions of plants such as waxy leaves and deep roots enable them to survive in their environment (TEKS 4.13A; Unit 13); and
- differentiate between inherited and acquired physical traits of organisms (TEKS 4.13B; Unit 14).

SCI 4 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the [Texas Education Agency](http://www.tea.state.tx.us) website.

## Textbook and Materials

### **Textbook(s)**

You are required to purchase the digital textbook to access some lesson readings and activities. Purchase of the print textbook is strongly suggested, as well.

- Digital: *HMH Into Science Texas: Grade 4*. Houghton Mifflin Harcourt Publishers. ISBN: 9780358901723
- Print: *HMH Into Science Texas: Grade 4*. Orlando, FL: Houghton Mifflin Harcourt Publishers. ISBN: 9780358577225

This digital textbook can only be purchased through the TTU K-12 partner bookstore. You can find the link to the bookstore on the [TTU K-12 website](http://www.ttu.edu/k12). Once you have purchased the digital textbook, you will receive a username and password via email. You will log in at the [HMH Ed website](http://www.hmh.com) to access your textbook.

In addition to your username and password, you will need the following information to login:

- Country: United States
- State: Texas

- District/Independent School: Texas Tech University

Please note that you will not be able to access any of the digital resources if you purchase only the printed textbook.

## ***Materials***

Required materials:

- Spiral or bound composition notebook for creating a Science Notebook
- A scanner and software to create PDFs (see **Requirements for Creating PDFs** in the Syllabus section of your course for information on PDF-creation options).
- Other course materials needed are listed in each experiment and in the master list of supplies (see **Appendix A** at the end of this document). They are mostly typical items that can be found in most households, but you may need to purchase additional supplies.

## ***PDF Assignments***

You will submit all lessons for this course electronically. Your work for each lesson will need to be saved as a PDF in order to submit the lesson for grading. See **Requirements for Creating PDFs** in the Syllabus section of your course for information on PDF-creation options. The options include the choice of scanning your notebook pages or taking pictures of each page, so you can decide what works best for you.

Be sure your pencil marks, handwriting, and answers are clear for your instructor.

## **Technical Requirements**

- Internet access – preferably high speed (for accessing Blackboard)
- Email
- Word processing software such as Microsoft Word
- Adobe Reader (download from [Adobe.com](http://Adobe.com))
- Audio and video capabilities (for watching/listening to course content)
- PDF app (to scan hand-written documentation for graded assignments)
- digital camera or phone (to take pictures of student's lab work, or to take pictures of written work/worksheets)

## **Technical Skill Requirements**

Be comfortable with the following:

- using a word processor
- Internet search engines and browsers
- creating PDFs (see **Requirements for Creating PDFs** in the Syllabus section of your course)

## Course Organization

This course consists of 7 Units, each with Lessons, and multiple instructional and hands-on activities, unit assignments and exams, and a cumulative final exam. Each lesson contains the following:

- Introduction and Instructions
- Learning Objectives and Curriculum Standards
- Learning Activities
- Assessments

Each lesson includes several activities that present content knowledge. Each lesson also includes multiple graded assignments to ensure that you learn the content that has been presented in the activities. Some of the assignments are automatically graded quizzes, and some are written assignments or activities that your instructor will grade. Be sure you read all instructions carefully and ask your instructor for help if something is not clear.

## Course Outline

Unit	Topic	Approximate Time for Completion
8	Water Cycle	Weeks 1-2
9	Weather, Climate, & Seasons	Weeks 3-4
10	Moon's Appearance from Earth	Weeks 5-6
11	Energy Flow in a Living System	Weeks 7-8
12	Fossils	Weeks 9-10
13	Structure & Functions of Plants	Weeks 11-12
14	Inherited Traits & Acquired Traits	Weeks 13-14
<b>Wrapping Up &amp; Final Exam</b>	Submit any remaining labs, assignments, and tests. Take the cumulative final exam.	Week 15

*continued →*

## Assignment Schedule

Each of the following must be completed to complete the course. Items with an asterisk (\*) indicate that these are summative assessments for the course. Please note that the Unit tests will be hidden from you when you start the course. Once all assignments for a Unit have been submitted and graded, you will be able to take the Unit test.

Unit	Lesson	Assignments
<b>8</b>	-	Checkpoint 1 (non-graded)
	8.1	Lab 8.1: Water Cycle
	-	Unit 8 Discussion Board
	-	*Science Notebook – Unit 8
	-	*Unit 8 Test
<b>9</b>	9.3	Lab 9.1: Seasons, Weather, & Climate
	-	Unit 9 Discussion Board
	-	*Science Notebook – Unit 9
	-	*Unit 9 Test
<b>10</b>	10.1	Lab 10.1: Moon's Appearance from Earth
	10.3	Lab 10.2: Moon's Appearance from Earth Model Lab
	-	Unit 10 Discussion Board
	-	*Science Notebook – Unit 10
	-	*Unit 10 Test
<b>11</b>	11.1	Lab 11.1: Energy Flow in a Living System – Desert Dwellers
	11.3	Lab 11.2: Energy Flow in a Living System
	-	Unit 11 Discussion Board
	-	*Science Notebook – Unit 11
	-	Checkpoint 2 (non-graded)
	-	*Unit 11 Test
<b>12</b>	12.1	Lab 12.1: Fossils
	12.3	Lab 12.2: Dinosaur Valley State Park Fossils
	-	Unit 12 Discussion Board
	-	*Science Notebook – Unit 12
	-	*Unit 12 Test
<b>13</b>	13.1	Lab 13.1: Plant Structures and Functions
	-	Unit 13 Discussion Board
	-	*Science Notebook – Unit 13
	-	*Unit 13 Test

Unit	Lesson	Assignments
<b>14</b>	14.1	Lab 14.1: Inherited Traits & Learned Behaviors
	-	Unit 14 Discussion Board
	-	*Science Notebook – Unit 14
	-	Checkpoint 3 (non-graded)
	-	*Unit 14 Test
		<b>*Final Exam</b>

## Course Credit

The course grade will be calculated as follows:

- 50% coursework;
- 20% summative assessment;
- 30% summative final exam;
- A passing course grade is 70 or higher.

Students must attempt all assignments in the course. The final exam will not be available until all assignments have been accepted and graded by the teacher. Students who score below 70% on the final exam will be eligible for one re-exam opportunity.

## Coursework

The graded assignments within each lesson are formative in nature. This means that they are designed to assist you in applying and demonstrating the lesson concepts, as well as identifying areas in which you need additional review. You may use all the lesson's learning activities to assist you as you complete the graded assignments.

## Summative Assessments

Summative assessments are those that allow you to demonstrate mastery of the course objectives. For summative assessments, you will NOT be allowed to use the learning materials. These are opportunities for you to show what you have learned by that point in the course. The summative assessments for this course are as follows:

- **Summative Assessments (20% of Course Grade)**
  - Unit 8 Science Notebook
  - Unit 8 Test
  - Unit 9 Science Notebook
  - Unit 9 Test
  - Unit 10 Science Notebook
  - Unit 10 Test
  - Unit 11 Science Notebook

- Unit 11 Test
- Unit 12 Science Notebook
- Unit 12 Test
- Unit 13 Science Notebook
- Unit 13 Test
- Unit 14 Science Notebook
- Unit 14 Test
- Summative Final Exam **(30% of Course Grade)**

## Course Completion

- Students may not complete the course in less than 30 days.
- All courses expire six months after the enrollment date.

## Academic Integrity

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

“Scholastic dishonesty” includes, but is not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

## Student Expectations

You will be expected to log into the Blackboard course regularly to be aware of possible announcements/reminders and to pace your progress in the course.

Students are expected to maintain an online environment conducive to learning, which includes “netiquette” (Internet etiquette). Please review the basic rules for [Online Discussion Netiquette](#). Ensure that your email messages, discussion board postings, and other electronic communications are thoughtful and respectful. Diverse opinions are welcome in this course, and you are expected to demonstrate an open mind and courtesy when responding to the thoughts and ideas of others.

The following are prohibited:

- making offensive remarks in email or the discussion board;
- using inappropriate language or discussing inappropriate topics online;
- spamming;
- hacking;
- using TTU or Blackboard email or discussion boards for commercial purposes;

- using all caps (considered shouting in online communications); and
- cyber-bullying or online harassment of any type.

Inappropriate behavior shall result in consequences ranging from a request to correct the problem, to removal from the course or even the university, depending on the severity of the behavior. Disciplinary actions will be taken according to the [TTU Code of Student Conduct](#).

## **Communication**

- You can expect a reply from your instructor within 2 business days.
- Use the Blackboard Course Messages tool for sending messages to your instructor.

## **Submitting Assignments**

You will submit all assignments through the Blackboard Assignment Tool, rather than by mail or email.

## **Technical Difficulties**

### ***Getting Help***

For student assistance with Blackboard, visit [TTU K-12 Support](#).

### ***Computer Problems***

A working computer is necessary for online coursework. Computer problems will not be accepted as a valid reason for failure to complete course activities within the allotted time frame. Identify a second computer, before the course begins, that you can use if you experience computer problems.

### ***Server Problems***

When the Blackboard server needs to be taken down for maintenance, the Blackboard administrator will post an announcement in your course informing you of the time and date. If the server experiences unforeseen problems, your course instructor will notify you.

### ***Lost or Corrupted Files***

You must keep/save a copy of every project/assignment on an external disk or personal computer. In the event of any kind of technology failure (e.g., Blackboard server crash or virus infection, students' own computer problems, loss of files in cyberspace, etc.) or any disputes, the instructor may request or require you to resubmit the files. In some instances, the instructor may need to open another attempt within Blackboard, so communication with your instructor is critical in these circumstances.



## Appendix A

These supplies are listed in alphabetical order. You can view a full list of supplies listed in order by Unit, Lesson, and Activity in the Resources section on Blackboard.

- flashlight
- gallon water jug
- globe
- ice
- permanent marker
- ping pong ball
- volleyball (or similar size ball)
- water