



Science, Grade 7 (SCI) 7B Syllabus

Course Name

SCI 7B

Science, Grade 7 – Semester B

Course Information

SCI 7B is the second semester of this two-semester course.

Welcome to Semester B of 7th grade science. This course spans a variety of scientific topics, including Earth and the solar system, plate tectonics, human impact on the hydrosphere, matter and energy in ecosystems, structure and systems in organisms, inherited traits, and taxonomy. You will work through 7 units. There are tools and activities to help you along the way.

Course Delivery Method

Online

Contacting Your Instructor

You may contact your instructor through the Blackboard messaging system. Technical support is available 24/7 at www.k12.ttu.edu.

Course Objectives

After completing this course, you should be able to:

1. identify the planets and other objects and formations in the solar system;
2. describe the distribution of planets in the system as well as their orbits;
3. explain how Earth's orbit in the Goldilocks Zone is important to water and life;
4. describe the role of gravity in the solar system;
5. define inertia and state Newton's First Law of Motion;
6. explain how fossil distribution patterns support the theory of plate tectonics;

7. identify the types of plate boundaries and the landforms or events that occur there;
8. explain how mountains and volcanoes form, and how ocean basins expand;
9. explain the roles of watersheds, river systems, oceans, and aquifers in the hydrosphere;
10. identify renewable and nonrenewable water sources;
11. identify point-source and nonpoint-source pollution;
12. explain the difference between a community, population, and ecosystem;
13. identify primary, secondary, and tertiary consumers, producers, and decomposers on a food chain, food web, or energy pyramid;
14. explain the role of photosynthesis in the flow of energy through a community;
15. calculate the amount of energy that moves from one trophic level of an energy pyramid to the next;
16. explain the carbon and nitrogen cycles as a system of recycling;
17. identify the different levels of organization in an organism: cell, tissue, organ, and organ system;
18. identify the main functions of all eleven body systems;
19. identify the main organs of each body system;
20. explain the mechanical and/or chemical ways that systems carry out functions, including specialized substances such as saliva, enzymes, and hormones;
21. explain the differences between laws, hypotheses, and theories;
22. explain the differences between sexual and asexual reproduction;
23. describe differences in genetic variation in organisms that reproduce sexually vs asexually;
24. explain where genetic variation within a population can come from by using appropriate vocabulary terms;
25. identify when natural selection vs artificial selection occurs;
26. list the eight levels of the taxonomic pyramid;
27. identify the scientific name of a species;
28. list the features of each of the 6 kingdoms;
29. read a branching diagram and explain relationships between organisms on it; and
30. use a dichotomous key.

SCI 7 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the [Texas Education Agency](https://www.tea.state.tx.us/teks/) website.

Textbook and Materials

Textbook(s)

The required **digital** textbook for this course is:

- Dispezio, et al. (2025). *HMH Into Science Texas: Grade 7*, TX student edition, 1 year. Houghton Mifflin Harcourt Publishers. ISBN: 978-0-358-90292-8

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](#). Once you have purchased the digital textbook, you will receive a username and password via email from MBS Direct after they have set up your account. This may take a few days.

If you would like a printed book, you can purchase the optional printed text:

- Dispezio, et al. (2025). *HMH Into Science Texas: Grade 7*, TX student edition (print). Houghton Mifflin Harcourt Publishers. ISBN: 978-0-358-57725-6.

Materials

You will need Course Lab Materials. Refer to the **Resources** section of the course for a full list by unit.

Technical Requirements

- Internet access – preferably high speed (for accessing Blackboard)
- Email
- Word processing software such as Microsoft Word
- Adobe Reader (download from [Adobe.com](#))
- Audio and video capabilities (for watching/listening to course content)

Technical Skill Requirements

Be comfortable with the following:

- using a word processor
- Internet search engines and browsers

Course Organization

This course consists of five units and a final exam. Each unit contains the following:

- Introduction with objectives, lab materials, and vocabulary terms
- Learning activities (indicated by the lightbulb icon) reading, writing, and completing interactive self-checks
- Labs that can be done at home in your kitchen
- Lesson quizzes to help check yourself
- Discussion boards
- Unit assessments (2)

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.

The **Resources** section contains a list of Course Lab Materials, as well as a sample paragraph for “In Your Own Words” assignments.

Course Outline

Please note that some assignments will be hidden from you when you start the course. As you move through the lessons and complete assignments, more will unlock for you.

Unit	# of Lessons	Topic	Approximate Time for Completion
Unit 6	2	Investigating Earth and the Solar System	Two weeks
Unit 7	2	Investigating Plate Tectonics	Two weeks
Unit 8	2	Investigating Human Impact on the Hydrosphere	Two weeks
Unit 9	3	Investigating Matter and Energy in Ecosystems	Three weeks
Unit 10	2	Investigating Structure and Systems in Organisms	Three weeks
Unit 11	2	Investigating Inherited Traits	Two weeks
Unit 12	2	Investigating Taxonomy	Two weeks
Final Exam			One week

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. [RESUME]

Unit	Weeks	Assignments
6	1-2	Checkpoint 1 (Non-graded) 6.1 The Solar System 6.1 Check Yourself - The Solar System 6.2 Gravity and Orbits 6.2 Check Yourself - Gravity and Orbits Unit 6 Lab: The Structure of the Solar System Unit 6: In Your Own Words Unit 6 Discussion: People in Science

Unit	Weeks	Assignments
7	3-4	7.1 Introduction to Plate Tectonics 7.1 Check Yourself - Introduction to Plate Tectonics 7.2 Types of Plate Boundaries 7.2 Check Yourself - Types of Plate Boundaries Unit 7 Discussion: People in Science Unit 7 Lab: Science Fair: Plate Tectonics Models Unit 7: In Your Own Words
8	5-6	8.1 Surface Water and Ground Water 8.1 Check Yourself - Surface Water and Ground Water 8.2 Water Pollution 8.2 Check Yourself - Water Pollution Unit 8 Discussion: Water Pollution and Solutions Near You Unit 8 Lab: Aquifer in a Cup Unit 8: In Your Own Words
Unit Exam		*Exam: Units 6, 7, and 8 - The Solar System and the Earth Checkpoint 2 (Non-graded)
9	7-9	9.1 Levels of Organization and Food Webs 9.2 The Energy Pyramid 9.1 and 9.2 Check Yourself - The Energy Pyramid (and Food Webs) 9.3 Carbon and Nitrogen Cycles 9.3 Check Yourself - Carbon and Nitrogen Cycles Unit 9 Lab: Energy Pyramid Unit 9: In Your Own Words
10	10-12	10.1 Levels of Organization within Organisms 10.2 Body Systems by Function 10.1 and 10.2 Check Yourself - Body Systems by Function Unit 10 Discussion: Share Your Body System Notes Unit 10 Lab: Model of Digestive System Unit 10 Lab: Proposal for Building a Body System Model Unit 10: In Your Own Words
11	13-14	11.1 Reproduction 11.1 Check Yourself - Reproduction 11.2 Natural and Artificial Selection 11.2 Check Yourself - Natural and Artificial Selection Unit 11 Lab: Observing Populations Unit 11: In Your Own Words
Unit Exam		*Exam: Units 9, 10, and 11: Matter and Energy, Structure and Systems, and Inherited Traits

Unit	Weeks	Assignments
12	15-16	12.1 Introduction to Taxonomy 12.1 Check Yourself - The Taxonomic System 12.2 The Six Kingdoms 12.2 Check Yourself - The Six Kingdoms Unit 12: In Your Own Words Practice Exam: Unit 12: Taxonomy Checkpoint 3 (Non-graded)
	17	Unit 12 will be tested on the final exam. *Final Exam

Course Credit

The course grade will be calculated as follows:

- 50% coursework average;
- 50% summative assessment average, including the 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. Summative assessments may be proctored using the online proctoring system Proctorio. Information about Proctorio is provided in **Remote Proctoring** in the Syllabus section of your course. The summative assessments for this course are as follows:

- Summative Assessments (**20% of Course Grade**)
 - Unit Assessments (2 total)

- 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 K-12 Student Handbook.

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.