Science, Grade 8 (SCI) 8B
Syllabus

Course Name

SCI 8B

Science, Grade 8 – Semester B

Course Information

SCI 8B is the first semester of this two-semester course.

Welcome to eighth-grade science. The second semester of SCI 8 includes reading assignments, web-based activities, hands-on labs, and other resources to help you understand aspects of change over time. This course is designed to help you see the world in a way that helps you understand it; you are encouraged to find answers to your questions and develop a better understanding of your surroundings. My goal is for you to be successful in science.

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. conduct investigations following safety procedures and environmentally appropriate and ethical practices;
2. use scientific inquiry methods, along with a variety of tools and safety equipment to conduct investigations;
3. use critical thinking, scientific reasoning, and problem solving to make informed decisions;

4. describe the contributions of relevant scientists;
5. recognize that matter is composed of atoms and has chemical and physical properties;
6. explain the relationship between force, motion, and energy;
7. describe the effects resulting from cyclical movements of the Sun, Earth, and Moon;
8. describe the characteristics of the universe; and
9. explain the climatic interactions that exist among Earth, ocean, and weather systems.

SCI 8 addresses the required Texas Essential Knowledge and Skills (TEKS). These can be found at the Texas Education Agency website.

Textbook and Materials

Textbook(s)

The required textbook for this course is:

- Biggs, Alton, et al., *Science Level Blue*. (2008). New York: Glencoe/McGraw-Hill. ISBN 978-0-07-877810-0.

Materials

You will also need a pair of safety glasses to protect your eyes when conducting some experiments. You may also want to have a spiral notebook available to take notes on your reading and activities. These notes will be handy when you are ready to study for the final exam.

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

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Course Organization

This course consists of ten lessons and a final examination. Each lesson contains the following:

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

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.

Lab Reports

You will need to complete a lab report for some of the activities that you perform. The **Lab Report Form** is located in the **Resources** section of the course. A **Completed Lab Report Example** is also available. If you have questions about completing your report, please reference the Completed Lab Report Example. Use your own words to complete the lab reports.

Use the following guidelines to complete your lab reports.

- **Title:** Type the name of the activity at the top of the page.

- **Hypothesis:** Before you complete the experiment, explain what you think will happen. The experiment instructions will guide you. Do not worry about writing an incorrect hypothesis; write what you honestly think will happen in the experiment.

- **Materials:** Make a list of all materials used in the experiment.

- **Procedure:** Read the whole experiment before you begin to get an idea of what you will be doing. Write down the procedure you follow to perform the experiment, and be sure you are reporting what you did ("I stretched the Slinky across the table.") rather than instructing someone how to perform the experiment ("Stretch the Slinky across the table."). Please see the **Completed Lab Report Example** in the **Resources** section of the course for an example.

- **Results:** Explain *in your own words* what happens when you perform the activity (what you are actually observing).

- **Conclusion:** Determine why the experiment happens the way it does and describe what you learned. You will also answer any assigned questions in this area.

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.

Lesson	Topic	Approximate Time for Completion
Lesson 1	The Sun-Earth-Moon System	Two weeks
Lesson 2	Stars and Galaxies	One week
Lesson 3	Inside the Atom	Two weeks
Lesson 4	The Periodic Table	Two weeks
Lesson 5	Chemical Reactions	Two weeks
Lesson 6	Newton's Laws of Motion	Two weeks
Lesson 7	Waves	Two weeks
Lesson 8	Energy Transfer in the Atmosphere and Air Currents	One week
Lesson 9	Ocean Currents and Weather Systems	One week
Lesson 10	Weather Forecasts	One week
Final Exam		

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.

Lesson	Weeks	Assignments
1	1-2	Checkpoint 1 (Non-graded) Assignment: Seasons Assignment: Moon Phases and Eclipses *Lab: Moon Phases and Eclipses Quiz: Sun-Earth-Moon System, Part I Assignment: Sun-Earth-Moon System, Part II

Lesson	Weeks	Assignments
2	3	Assignment: Light-Years Assignment: Hertzsprung-Russell Diagrams Quiz: Stars and Galaxies
3	4-5	Assignment: Name the Atom Quiz: Atoms, Part I Assignment: Atoms, Part II *Lab: Half-Life Quiz: Vocabulary Review Checkpoint 2 (Non-graded)
4	6-7	Assignment: The Periodic Table Assignment: The Elements Quiz: Vocabulary Review Quiz: Name that Element
5	8-9	Assignment: Chemical Reaction Video Assignment: Endothermic and Exothermic Experiments *Lab: Green Pennies Quiz: Chemical Reactions
6	10-11	Assignment: Forces in Motion Assignment: Newton's Third Law of Motion *Lab: Balloon Races Quiz: Forces and Motion, Part I Assignment: Forces and Motion, Part II
7	12-13	Assignment: What's in a Wave? Assignment: Water Bottle Xylophone *Lab: Sound Waves in Matter Quiz: Waves
8	14	Quiz: Energy Transfer in the Atmosphere Assignment: The Coriolis Effect Quiz: Air Pressure, Wind, and Heat
9	15	Assignment: Bill Nye — Ocean Currents Assignment: Life Cycle of a Hurricane Quiz: Ocean Currents and Weather Systems
10	16	Assignment: Predicting the Weather (NASA) Assignment: Weather Fronts Quiz: Weather Forecasts Checkpoint 3 (Non-graded)
		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)**
    - Lab: Moon Phases and Eclipses (30 points)
    - Lab: Half-Life (30 points)
    - Lab: Green Pennies (30 points)
    - Lab: Balloon Races (30 points)
    - Lab: Sound Waves in Matter (30 points)
- Summative Final Exam **(30% of Course Grade)**

Course Completion and Extensions

- Students may not complete the course in less than 30 days.
- All courses expire six months after the enrollment date. Student may purchase a single three-month extension for a fee.
- Extensions are non-refundable and non-transferrable.

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 email. For assignments that require you to upload a PDF or other document, please title your assignment files "lastName_firstName_assignmentName.*xxx* (.pdf, .doc, .xl, .jpg, etc.)".

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.