

Introduction

Curriculum Overview

Congratulations on choosing an outstanding first-grade curriculum! Using this curriculum, you and your student will be engaged in conducting experiments, reading fiction and nonfiction selections, making investigations, observing our changing weather, recording and evaluating data, sequencing events, and a plethora of other activities. One of the advantages in selecting Texas Tech University K-12 curriculum is that you will have an all-encompassing curriculum similar to what you would find in some of the most outstanding teachers' classrooms in our nation.

This course is completed online in Blackboard using the PDF **Unit Lessons** and **Worksheets** documents.

Unit assessments in this course consist of two parts, the **Unit Test** and the **Unit Project**. For each Unit Test, the student will download and complete PDF test pages, then scan or take a digital photograph of the completed pages showing his or her work. Completed Unit Projects must also be scanned or photographed. Combine the images for each assignment into a single PDF (see **Requirements for Creating PDFs** on the course home page) and upload the file for grading as instructed in the assignment.

1st Grade Science

The student will explore weather by learning about thermometers, temperature, wind, clouds, and rain. Lessons and activities will show that weather changes for each of the four seasons. The student will understand solids, liquids, and gases by looking into the properties of each type of matter. Investigations will be made into parts and how they work. Examining sources of heat and light will lead to the understanding of how heat can change matter and how light affects our world. When objects are set into motion, different movements occur; various types of movement will be explored. Students will learn what magnets are, how they work, and how we use them.

Course Objectives

The [Texas Essential Knowledge and Skills](#) (TEKS) objectives are covered throughout the science curriculum. At the end of this course, the student should be able to:

- demonstrate safe practices during classroom and field investigations;
- learn how to use and conserve resources and materials;
- ask questions about organisms, objects, and events;

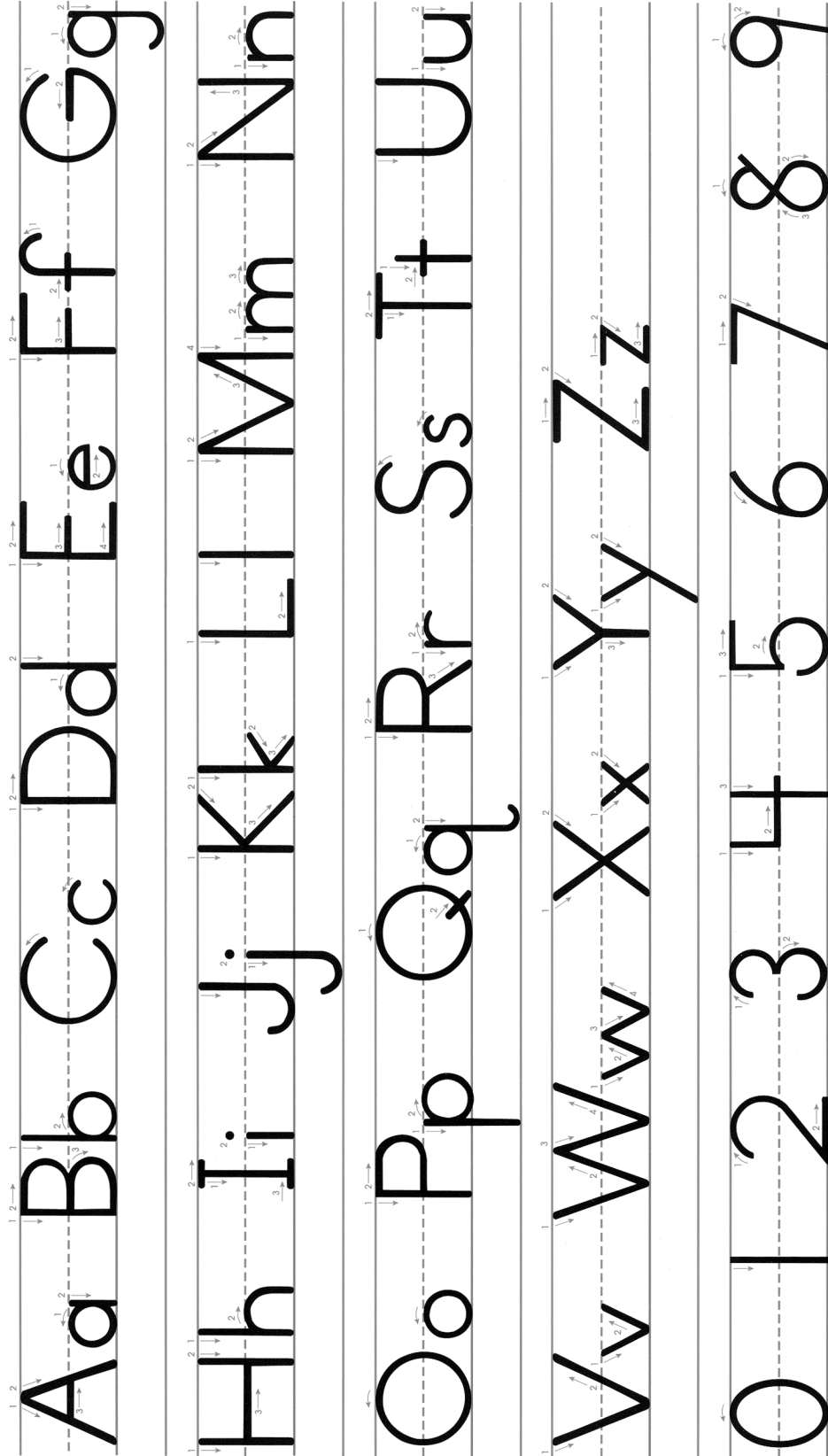
- plan and conduct simple descriptive investigations;
- gather information using simple equipment and tools to extend the senses;
- construct reasonable explanations and draw conclusions;
- communicate explanations about investigations;
- make decisions using information;
- discuss and justify the merits of decisions;
- explain a problem in his or her own words and identify a task and solution related to the problem;
- collect information using tools including hand lenses, clocks, computers, thermometers, and balances;
- record and compare collected information;
- measure organisms and objects and parts of organisms and objects, using non-standard units such as paper clips, hands, and pencils;
- sort objects and events based on properties and patterns;
- identify, predict, and create patterns including those seen in charts, graphs, and numbers;
- sort organisms and objects according to their parts and characteristics;
- observe and describe the parts of plants and animals;
- manipulate objects such as toys, vehicles, or construction sets so that the parts are separated from the whole, which may result in the part or the whole not working;
- identify parts that, when put together, can do things they cannot do by themselves, such as a working camera with film, a car moving with a motor, and an airplane flying with fuel;
- observe, measure, and record changes in size, mass, color, position, quantity, sound, and movement;
- identify and test ways that heat may cause change, such as when ice melts;
- observe and record changes in weather from day to day and over seasons;
- observe and record changes in the life cycle of organisms;
- identify characteristics of living organisms that allow their basic needs to be met;

- compare and give examples of the ways living organisms depend on each other for their basic needs;
- identify and describe a variety of natural sources of water including streams, lakes, and oceans;
- identify how rocks, soil, and water are used and how they can be recycled.

Handwriting

Handwriting is taught in the Language Arts course; however, good handwriting skills are necessary in all subjects including science. In Kindergarten, Grade 1, and Grade 2, manuscript is the preferred technique. When teaching your child handwriting, please consider the appropriate letter and number formation and spacing. Please refer to the manuscript chart included on the next page to assist you in appropriately teaching your child handwriting. Please reinforce the importance of good handwriting in all subject areas.

Traditional Manuscript



Books and Materials for SCI 1 this Semester

Textbook

- Frank et al., *Harcourt Science* (Harcourt, Inc., 2000) ISBN 0153112050

Other Required Books

These books can be purchased from any book vendor or borrowed from your public library.

- Gibbons, *The Reasons for Seasons* (Holiday House, 1996), ISBN 0823412385
- Branley, *What Makes a Magnet?* (Harper Trophy, 1996), ISBN 0064451488

Materials

- bag, plastic
- ball, plastic
- balloons, 6
- blocks, different sizes
- board or pole
- borax (optional)
- bowls, 7, one small
- bubble gum
- bubble liquid
- bucket or large bowl
- button, 1¼", with 2 or 4 holes
- cardboard
- cards, 2 or more decks, or equivalent number of 3" × 5" index cards
- cereal, Total[®]
- chalk
- clock
- Coca-Cola[®] or other soda
- coffee filter (optional)
- coins, including pennies
- compass

- containers of various shapes and sizes
- cooking oil
- cornstarch
- cotton balls
- craft sticks
- crayons
- crepe paper
- cups, 5, one clear
- drinking glass, clear
- drinking straw
- eye dropper
- fishing line (optional)
- flashlight
- foil
- food coloring, including blue
- funnel
- glass, tall
- glasses, clear, 2 (optional)
- glue
- hole punch
- honey
- ice cream
- ice cubes
- items with which to make bubbles: berry baskets, fly swatters, a Hula Hoop[®], plastic soda can rings (from a 6-pack of soda), etc.
- jars, clear glass: 2 with lids, 1 heat-proof
- JELL-O[®] gelatin
- juice
- knife, sharp
- leaves, different kinds
- library or Internet access
- liquid dish soap
- liquids, different kinds, 3

- magazines
- magnets: bar, 3 identical, several of different strengths, one new
- map colors (optional)
- marbles, different sizes
- markers, one permanent
- measuring cup
- measuring tape
- Mentos[®] candy, 1 or more rolls
- milk
- Mrs. Stewart's Blueing[®]
- nails, iron, 2
- newspaper bag, tall kitchen trash bag, or other tall, narrow plastic bag
- objects from home, 2-3
- objects, 5, different colors, sizes, shapes, and uses
- objects, metal and nonmetal, several
- objects, small, 5
- paint: white (optional), green tempera
- pan
- paper clips, plain and colored
- paper cups
- paper plates, 2
- paper sack
- paper towel tubes
- paper towels
- paper: chart (optional), construction (light blue, white), drawing, legal size, plain white, writing
- paraffin wax
- pen, ballpoint
- pencils
- pipe cleaner
- plastic tablecloth or butcher paper
- plastic tub or sink
- plate, plastic
- popsicle, ice cube, or other cold treat

- poster board, white and black
- Q-Tips® or other cotton swabs
- rocks, small
- ruler
- salt
- scissors
- soap, 1 bar
- sock
- soda bottles, plastic: one 2-liter, one 20 oz.
- soda: 2-liter plastic bottle (diet soda works best), 1 can diet, 1 can regular
- spoons
- Sprite® or other clear soda
- stapler
- sticks, rocks, or other path markers
- stop watch
- string
- syrup
- tape: duct, masking, transparent
- teaspoon
- thermometers: 2 indoor/outdoor, 1 oral
- things to make a block move: craft stick, rubber band, string, drinking straw, etc.
- timer or stop watch
- toilet paper tubes
- toothpicks
- toy car with working wheels (optional)
- toys cars and trucks, different sizes, with different-sized wheels
- toys, 10
- water
- watercolor markers or watercolor map colors
- wax paper
- wood for ramp
- wood, block the size of a hardback book
- yardstick (optional)
- yo-yo
- zip-close bag

Grading Procedures and Unit Assignment Checklists

Grades are calculated for Unit 4, Unit 5, and Unit 6. The semester grade is an average of the three unit grades. The unit grades will include a test and a project for each unit. The Units 4 and Unit 5 Tests and Projects are located in their respective Unit folders in this online course; the Unit 6 Test and Project are the Final Exam folder.

The Unit Tests and Unit Projects will be submitted **separately** to Texas Tech University K-12 to be graded. After the student has finished the Unit Test, scan or take digital photographs of the assigned pages, showing his or her work. Combine the images into a **single PDF** (see “Requirements for Creating PDFs” on the course home page).

Scan or photograph each Unit Project. (For audio or video projects, see “Audio Help” and “Video Help” on the course home page for information about saving these formats for upload.) Combine multiple images into a **single PDF**.

When you save your documents, use the naming convention given for each Unit Test or Unit Project as the name of your file. Upload the file according to the instructions given in the assignment.

Schedule for tests and projects

Unit 4:

- Days 97–98: Work on the Unit 4 Project
- Day 99: Review for the Unit 4 Test
- Day 100: Administer the Unit 4 Test and submit the Unit 4 Project

Unit 5:

- Days 122–123: Work on the Unit 5 Project
- Day 124: Review for the Unit 5 Test
- Day 125: Administer the Unit 5 Test and submit the Unit 5 Project

Unit 6:

- Days 147–148: Work on the Unit 6 Project
- Day 149: Review for the Unit 6 Test
- Day 150: Administer the Unit 6 Test and submit the Unit 6 Project

Unit Projects

Your student must complete a project for each unit. The student has the option of creating his or her own project or choosing one of those listed in **Suggested Projects** in this course. If the student chooses a topic, he or she must choose a topic based on the information presented in the unit, and it must be approved by Texas Tech University K-12. The student must also complete a **Unit Topic Planner**. Please submit these to Texas Tech University K-12 no later than one week after your student begins the unit.

The student's teacher will send feedback regarding whether or not your project has been approved. You will find it in the **My Grades** area of this course.