Introduction

Curriculum Overview

Congratulations on choosing an outstanding first-grade curriculum! Using this curriculum, you and your student will be engaged in reading nonfiction selections, conducting experiments and research, exploring scientific methodology, observing science in our environment, investigating careers, and a myriad 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 teacher's 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

In Grade 1 science, the student will explore the five senses and how they help us in our everyday lives. Distinctions will be made between living and nonliving objects. The student will learn the parts of plants, each part's job, and what the plants need in order to live.

Animals will be categorized according to their traits. Students will explore the needs of animals and how they are met.

The student will be able to identify the scientific parts of an insect and understand the life cycle of a butterfly and a frog. Animal habitats will be explored to show how the environment best suits animals.

The students will observe the earth's surface components: soil, rocks, water, and air.

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:

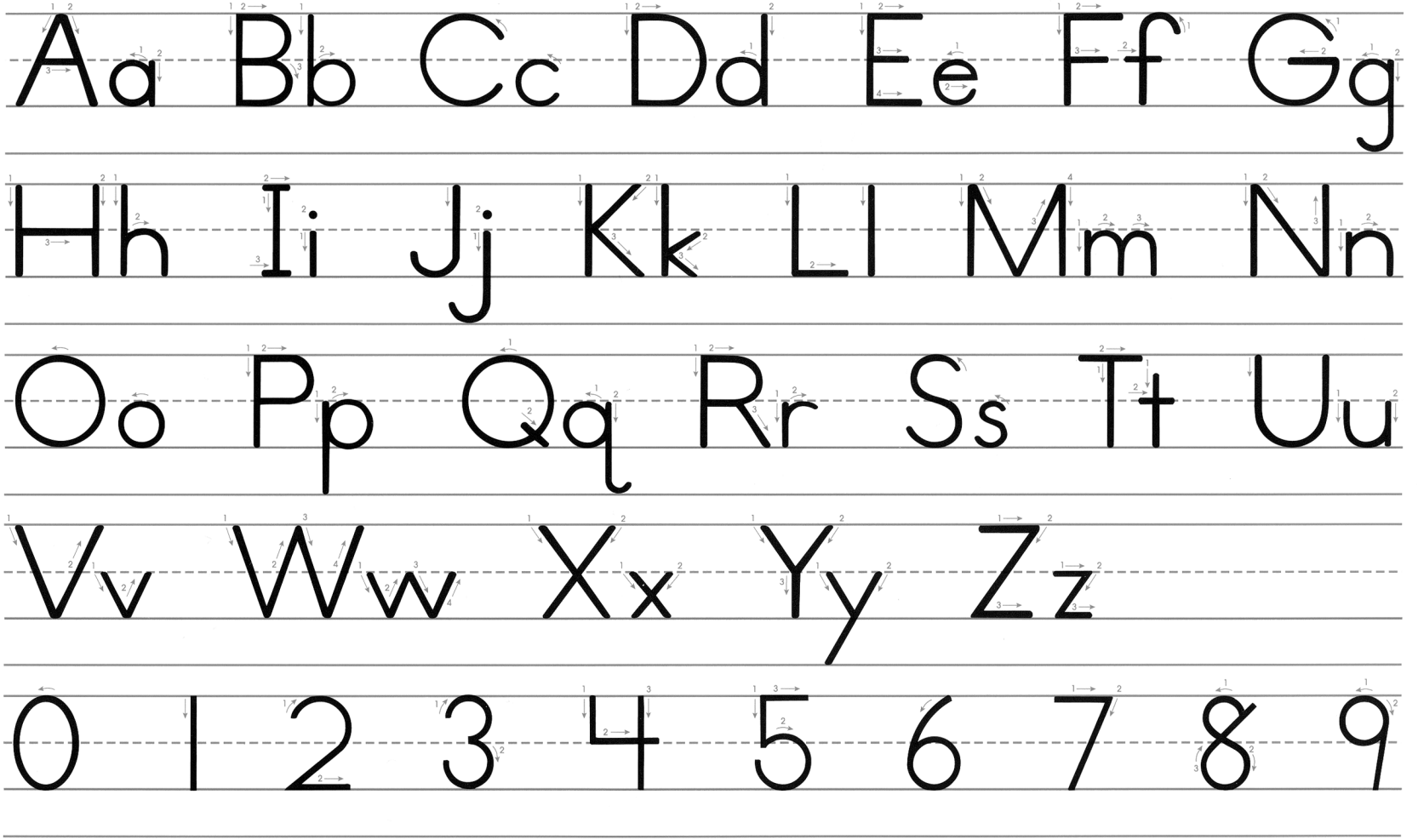
- demonstrate safe practices during classroom and field investigations;
- learn how to use and conserve resources and materials;

- 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;
- record and compare collected information;
- sort objects and events based on properties and patterns;
- sort organisms and objects according to their parts and characteristics;
- observe and describe the parts of plants and animals;
- 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;
- observe and record changes in the life cycle of organisms;
- group living organisms and nonliving objects;
- compare living organisms and nonliving objects;
- 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;
- communicate explanations about investigations;
- make decisions using information;
- discuss and justify the merits of decisions;
- collect information using tools including hand lenses, clocks, computers, thermometers, and balances;
- identify how rocks, soil, and water are used and how they can be recycled;
- measure organisms and objects and parts of organisms and objects using non-standard units such as paper clips, hands, and pencils;
- identify and test ways that heat may cause change, such as when ice melts;
- identify and describe a variety of natural sources of water including streams, lakes, and oceans;
- observe and describe differences in rocks and soil samples;
- identify, predict, and create patterns including those seen in charts, graphs, and numbers.

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 015307496X

Other Required Books

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

- Gibbons, *From Seed to Plant* (Holiday House, 1993), ISBN 0823410580
- Gibbons, *Monarch Butterfly* (Holiday House, 1992), ISBN 0823409090
- Williams, *The Velveteen Rabbit* (Avon, 1978), ISBN 0380002558

Optional Books

- Anderson, *The Ugly Duckling* (Dorling Kindersley, 1994)
- Arnosky, *All Night Near the Water* (Penguin Putnam Books for Young Readers, 1999)
- Asch, *Water* (Gulliver Green, 1995)
- Baines, *The Flower: An Ecology Story Book* (The Ecology Series, Crocodile Books, 1998)
- Bear, *Living or Nonliving* (Harcourt School Publishers, 1999)
- Carle, *The Very Hungry Caterpillar* (Penguin Putnam Books for Young Readers, 1994)
- Charman, *I Wonder Why Trees Have Leaves: And other Questions About Plants* (Kingfisher Books, 1997)
- Ehlert, *Planting a Rainbow* (Harcourt, 1998)
- Gibbons, *Frogs* (Holiday House, 1994)
- Gibbons, *The Honey Makers* (William Morrow, 1997)
- Glaser, *Beautiful Bats* (Millbrook Press, 1997)
- Goldish, *How Do Plants Get Food?* (Steck-Vaughn, 1992)
- Goor, *Insect Metamorphosis: From Egg to Adult* (Atheneum, 1991)
- Heiligham, *From Caterpillar to Butterfly* (Harper Collins, 1997)
- Hirshland, *How Animals Care for Their Babies* (National Geographic, 1996)
- Ling, *Fox* (Dorling Kindersley, 1992)
- Miller, *My Five Senses* (Harper Collins Children's Books, 1991)
- McMillan, *Apples: How They Grow* (Houghton Mifflin, 1979)

- Morgan, *Flowers, Trees, and Fruits* (Young Discovers: Biology Facts and Experiments Series, Kingfisher Books, 1996)
- Schmid, *The Squirrel and the Moon* (North–South Books, 1996)
- Steig, *Sylvester and the Magic Pebble* (Simon & Schuster Children's, 1988)
- Zakowski, *The Insect Book: A Basic Guide to the Collection and Care of Common Insects for Young Children* (Rainbow Books, 1991)

Materials

- alum
- balloon, blue, medium to large
- beans, white, small
- birdseed
- bowls, 2 (1 large)
- bread: dark rye, white, whole wheat
- bucket
- butterfly larvae (ordered on Day 8 from 1-800-livebug)
- candles, 4
- celery stick
- cloth, small piece
- coffee filter or other paper filter
- cola, regular
- cooking oil
- corn syrup
- cotton ball
- crayons
- cups, plastic or styrofoam, 9
- cutting board
- edible roots, at least 3 different kinds
- eggshells, white, 2
- flour
- flowering plants, small 4-pack
- fluoride toothpaste
- foil
- food ads (from magazines, newspaper inserts, etc.)
- food coloring: blue, red

- frying pan with lid, large
- glass
- glass jars, clear, 5: 1 small, 1 medium, 2 large, 1 with lid
- glue
- hand lens (magnifying glass)
- hole punch
- jelly
- knife
- Kool-Aid, red, 2 packages
- leaves, 5–7 different kinds
- library reference books
- lima beans or other large beans, 5
- M&Ms chocolate candy, 1 cup
- magazine with pictures of plant and animal products
- magazines with picture of animals that live near ponds (optional)
- magazines with pictures of animals
- marbles
- markers
- masking tape
- matches
- measuring cup
- nail
- object to use as nonstandard unit of measure
- objects of various weights
- paper plate
- paper sack
- paper towels
- paper: butcher, construction, drawing, heavy, tissue, white, writing
- peanut butter, crunchy
- peanuts, shelled, 1 cup
- pebbles
- pencils, several
- pennies, milk lids, or other small objects

- pinecone
- pipe cleaner
- plants, small
- plastic produce bag
- plastic wrap
- plastic zip-close bags: 2 quart-size, 1 small
- plate
- poster boards, 4
- pretzels, 1 cup
- raisins, 1 cup
- rock
- rubber bands, 5
- salt
- sand
- scissors
- seeds, fast-growing
- shortening or lard
- small pom-poms or cotton balls, 3
- small stone, bean, or any other small object
- sock
- soil, different types: topsoil, clay, and sandy
- spoon
- stapler
- straw (as for weaving, not a drinking straw)
- straw, stick, or hanger
- string
- tablespoon
- tape
- thermometer
- toothbrush
- twigs, small
- water
- world map (not a globe)
- yarn

Grading Procedures and Unit Assignment Checklists

Grades are calculated for Unit 1, Unit 2, and Unit 3. 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 1 and Unit 2 Tests and Projects are located in their respective Unit folders in this online course; the Unit 3 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 1:

- Days 22-23: Work on the Unit 1 Project
- Day 24: Review for the Unit 1 Test
- Day 25: Administer the Unit 1 Test and submit the Unit 1 Project

Unit 2:

- Days 47-48: Work on the Unit 2 Project
- Day 49: Review for the Unit 2 Test
- Day 50: Administer the Unit 2 Test and submit the Unit 2 Project

Unit 3:

- Days 72-73: Work on the Unit 3 Project
- Day 74: Review for the Unit 3 Test
- Day 75: Administer the Unit 3 Test and submit the Unit 3 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.