Introduction

Curriculum Overview

Congratulations on choosing an outstanding 3rd grade curriculum! Using this curriculum, you and your student will become scientists. You will be conducting experiments, making observations and drawing conclusions. You will also read nonfiction selections, present data in charts, graphs, and graphic organizers, 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 teacher's classrooms in our nation.

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

3rd Grade Science

Science 3A is composed of three units. The first two units present plants and animals as living things that have special structures or body parts to meet their needs. In the second unit, the interactions between plants and animals and their environments are studied. The third unit is an introduction to earth science. This unit discusses the composition of the earth's crust and describes the forces that change the earth and its landforms. In addition to learning science content, the student is encouraged to act like a scientist through practicing process skills such a forming hypotheses, observing, measuring, collecting data, making graphs and charts, and drawing conclusions.

At the end of each unit, the student will take a **Unit Test**. In addition, your student is expected to do one of the **Unit Projects** listed in the unit folder. Each unit has three projects from which to choose. For each Unit Test, the student will download and complete PDF test pages, then scan or take digital photographs 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.

A project grading rubric is included in the **Resources** section of this course to help you understand the important aspects of the project. We suggest that you and your student look over the project list before you begin each unit so that the student will finish the project at about the same time he or she is coming to the end of the unit.

It is strongly recommended that your student keep a 3-ring binder for written work throughout this course. It is also suggested that the student create a vocabulary file on index cards and add to the file as the course progresses. Both binder and vocabulary cards will be a valuable tool to

build concepts and develop understanding. On days when your student moves quickly through the suggested activities, the binder and vocabulary cards will be on hand for study and review.

Course Objectives

This curriculum meets all the Texas Essential Knowledge and Skills (TEKS) objectives. At the end of the first semester, the student should be able to:

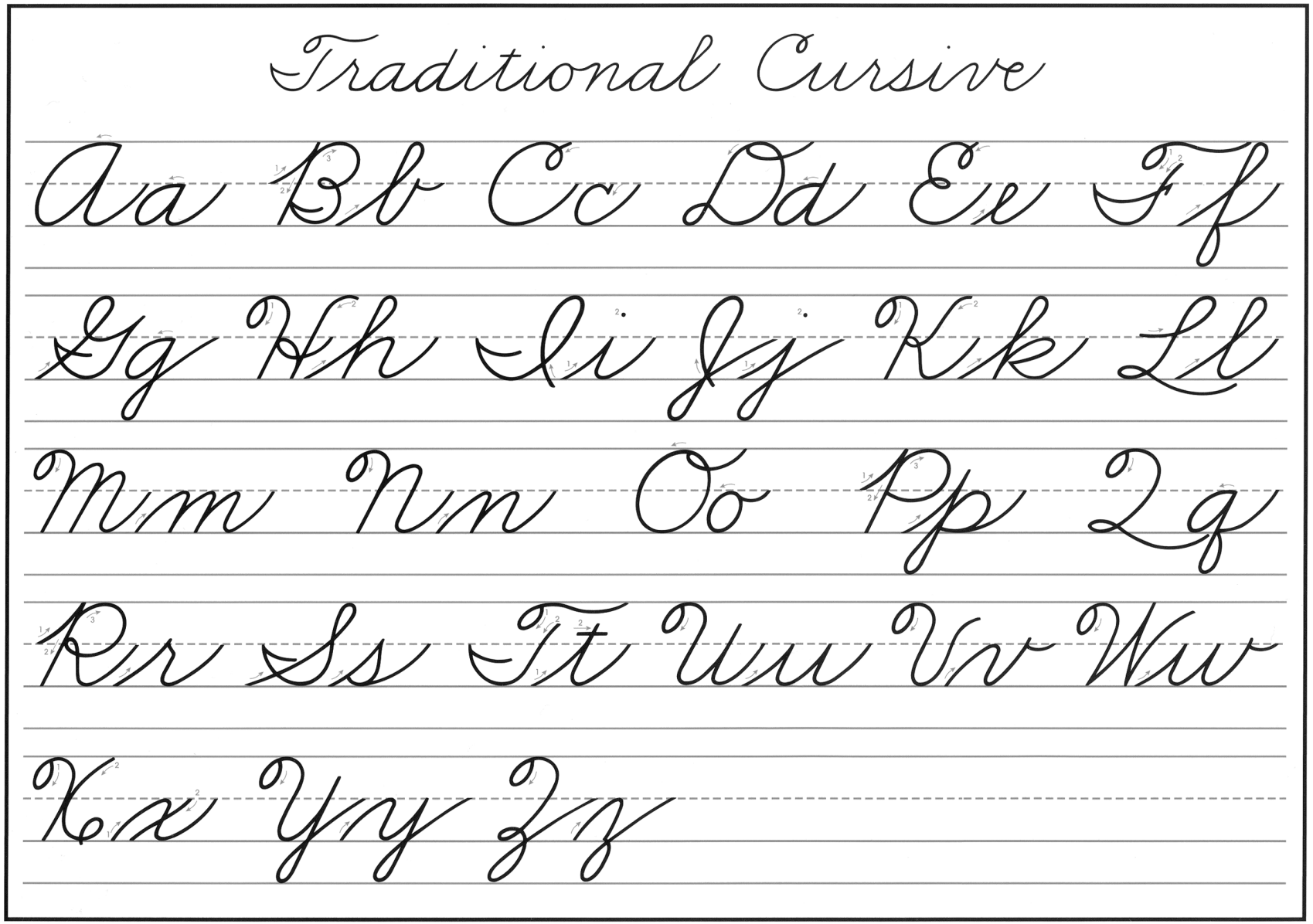
- compare and classify;
- use models;
- draw inferences;
- draw conclusions;
- observe and measure;
- collect, display, and analyze data;
- predict and hypothesize;
- practice safety during investigations;
- dispose of materials wisely;
- evaluate the impact of research and technology on society and the environment;
- recognize the contributions of scientists to daily life;
- connect science concepts with the history of science and the contributions of scientists;
- identify careers related to science;
- use numbers;
- use the tools and instruments of science;
- plan and conduct investigations;
- identify the needs of plants and animals;
- analyze how adaptations increase a species' chance for survival;
- identify inherited traits of plants and animals that help them survive;
- observe and identify simple systems;
- recognize that seeds need certain conditions to sprout;
- observe and describe habitats and homes of animals;
- describe how some animals change their environment;
- identify environmental changes that would be harmful to organisms;
- classify animals as vertebrates or invertebrates;
- identify the traits of the five vertebrate groups;
- observe and describe the habitats of organisms within an ecosystem;

- recognize that organisms with similar needs compete for resources;
- identify various ecosystems of planet earth;
- identify living things that make their homes in particular ecosystems;
- recognize that the energy needs of living things originate with the sun;
- conclude that living things get energy from the food they eat;
- understand that there is interdependence among living things;
- recognize that the nonliving parts of the ecosystem support life;
- identify food chains, food webs, and energy pyramids as models that demonstrate how energy flows through an ecosystem;
- describe the structure of the earth;
- identify the landforms of the earth;
- discuss the forces that change the earth;
- understand the formation of the earth's rocks;
- recognize fossils as evidence of things once living on the earth;
- understand the importance of the conservation and recycling of the earth's resources;
- classify resources as renewable, nonrenewable, and inexhaustible;
- identify and record properties of soil, especially those that support plant life.

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; in Grades 3, 4, and 5, cursive is preferred. When teaching your child handwriting, please consider the appropriate letter and number formation and spacing. Please refer to the cursive 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 Cursive



Books and Materials for SCI 3 This Semester

Textbooks

- Frank, Marjorie Slavick, et al., *Harcourt Science*, Grade 3 (Harcourt, Inc., 2000), ISBN 0-15-311206-9

Materials

- aluminum cans the student's family uses in one week
- apple peels
- apples, 2
- aquarium or other large, clear plastic container
- bags: 2 plastic (1 thick sealable), 2 brown paper
- bottle, empty 0.5-liter plastic
- calculator
- cans, metal, 2
- celery stalks, 3
- chalk or dry erase markers
- chalkboard or dry erase board
- clay modeling tools, plastic
- clay, modeling, 5 colors
- clock
- cookie, oatmeal-raisin
- cotton batting
- crayon, dark color
- cups: 6 paper, 1 plastic
- desert plants, 2-3
- dictionary
- dowel (optional)
- dropper
- elodea (available in tropical fish or pet stores)
- fish

- food coloring, red
- glasses, large clear, 2
- glue
- grass clippings
- gravel
- hand lens
- hand towels or bath towels of different colors, several
- hanger, wire
- hole punch
- index cards, 66
- jars: 1 small, 1 quart
- knife
- leaf litter
- leaves, at least 10 different kinds
- lima beans: 8-10 large, several dry
- magazines, *National Geographic* or travel
- marble, glass
- marker
- masking tape
- measuring cup
- meter stick
- microscope, low-power
- mineral samples, 6, varying hardness
- mirror
- mixing spoon
- nails, 2 (1 iron, 1small)
- newspaper
- oatmeal
- paper clips, small (size #1)
- paper plate
- paper towels, 6
- paper, white, several sheets

- peanuts, 1 lb. (if allergic to peanuts, student may substitute green beans, fresh peas in their pods, or black-eyed peas in their shells)
- pencils, 6
- penny
- plants, freshwater
- plants, young, 6
- plastic wrap
- potting soil
- rocks: 1 sandstone, 2-3 from outside the student's home, several small
- ruler, metric
- safety goggles
- salt
- sand
- sandpaper, coarse
- scale, bathroom
- scissors
- seashells, 5 different
- shoe box
- snails
- soil: clay, loam or potting soil, sample from student's yard, sandy
- spoons, plastic, 2
- string
- string, cotton
- styrofoam, small piece
- tablespoon
- tape
- teaspoon
- *The Magic School Bus Inside the Earth* by Joanna Cole (optional)
- thermometers, 3
- toothpicks
- toy dinosaur, plastic
- trash bag, large plastic
- trowel or small shovel

- twist tie
- watch or clock
- water
- wax paper, 6 sheets
- wide-ruled spiral notebook
- worms
- yarn or string, 4 pieces

Mineral Sources: Elementary Science Suppliers

The student will require a set of mineral samples and a low-power microscope during Unit 3. Below are some possible sources:

1. **ETA hand2mind**
   500 Greenview Court
   Vernon Hills, IL 60061-1862
   Toll-free: 800-288-9920
   Fax: 800-875-9643
2. **Delta Education**
   80 Northwest Blvd.
   Nashua, NH 03061-3000
   Toll-free: 800-258-1302
   Fax: 800-282-9560
3. **Carolina Biological Supply Company**
   2700 York Road
   Burlington, NC 27215-3398
   Toll-free: 800-334-5551
   Fax: 800-222-7112
4. **Schoolmasters Science**
   School-Tech, Inc.
   745 State Circle
   Ann Arbor, MI 48106
   Toll-free: 800-521-2832
   Fax: 800-654-4321
5. **Scientifics Direct**
   532 Main St.
   Tonawanda, NY 14150
   Toll-free: 800-818-4955
   Fax: 800-460-6830

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 a digital photograph 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:

- Day 25: Chapter Review
  Complete the Unit 1 Project
  Administer the Unit 1 Test

Unit 2:

- Day 50: Chapter Review
  Complete the Unit 2 Project
  Administer the Unit 2 Test

Unit 3:

- Day 75: Chapter Review
  Complete the Unit 3 Project
  Administer the Unit 3 Test

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.