

Introduction

Curriculum Overview

Welcome! The second semester of your Texas Tech University K-12 Kindergarten Science Curriculum will provide you and your student with opportunities to learn about Earth's resources, including rocks, water, and soil. We will explore weather and learn essential weather vocabulary, along with ways to measure weather. We will investigate the four seasons and learn about the weather that is related to each season. Next, we will look at the night and day sky and the vocabulary related to each category.

Then we will spend some time discussing animals. We will begin by defining living and nonliving things, and move on to animal coverings and animal needs. Last, we will look at plants. Your student will learn about different plant leaves, parts of a plant, plant needs, and how plants grow and change.

We will also use a Science Journal during this semester. You may continue in your journal from the first semester or begin a new one. The journal will serve as a review throughout the year and provide a place for your student to revisit previous lessons. This journal should be a wide-ruled spiral notebook, approximately 80 pages.

Before beginning the curriculum, please take a few minutes and look through the text, *Texas Science Fusion* at www-k6.thinkcentral.com. Your student will use this digital text for all assignments and independent practice.

This course is completed entirely online in Blackboard using the PDF **Unit Lessons** and **Worksheets** documents, along with the digital textbook.

Vocabulary

Throughout the lessons, you will notice important vocabulary words in **bold print** to prompt you to emphasize these words in your lessons. As young children learn about science, it is important for them to use the correct vocabulary to describe their processes and observations. This vocabulary will act as the foundation for all future science instruction.

Kindergarten Science

Kindergarten students are naturally curious about the world around them and are constantly interacting with their environment. This 75-day curriculum engages kindergarten students to become scientists as they observe, compare and contrast, ask questions, design experiments, and discover answers about the world around them.

We will continue our journey using our five senses to explore and gather information about the world around us. We will use basic science skills such as classifying and sorting as we learn to safely investigate and use technology to perform science experiments.

Course Objectives

The [Texas Essential Knowledge and Skills](#) (TEKS) require that, at the end of this course, the student should be able to do all of the following:

1. Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and uses environmentally appropriate and responsible practices. The student is expected to:
 - A. identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;
 - B. discuss the importance of safe practices to keep self and others safe and healthy; and
 - C. demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reusing or recycling paper, plastic, and metal.
2. Scientific investigation and reasoning. The student develops abilities to ask questions and seek answers in classroom and outdoor investigations. The student is expected to:
 - A. ask questions about organisms, objects, and events observed in the natural world;
 - B. plan and conduct simple descriptive investigations such as ways objects move;
 - C. collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;
 - D. record and organize data and observations using pictures, numbers, and words; and
 - E. communicate observations with others about simple descriptive investigations.
3. Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:
 - C. explore that scientists investigate different things in the natural world and use tools to help in their investigations.
4. Scientific investigation and reasoning. The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:
 - A. collect information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as terrariums and aquariums; and
 - B. use senses as a tool of observation to identify properties and patterns of organisms, objects, and events in the environment.

7. Earth and space. The student knows that the natural world includes earth materials. The student is expected to:
 - A. observe, describe, compare, and sort rocks by size, shape, color, and texture;
 - B. observe and describe physical properties of natural sources of water, including color and clarity; and
 - C. give examples of ways rocks, soil, and water are useful.
8. Earth and space. The student knows that there are recognizable patterns in the natural world and among objects in the sky. The student is expected to:
 - A. observe and describe weather changes from day to day and over seasons;
 - B. identify events that have repeating patterns, including seasons of the year and day and night; and
 - C. observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun.
9. Organisms and environments. The student knows that plants and animals have basic needs and depend on the living and nonliving things around them for survival. The student is expected to:
 - A. differentiate between living and nonliving things based upon whether they have basic needs and produce offspring; and
 - B. examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.
10. Organisms and environments. The student knows that organisms resemble their parents and have structures and processes that help them survive within their environments. The student is expected to:
 - A. sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape;
 - B. identify parts of plants such as roots, stem, and leaves and parts of animals such as head, eyes, and limbs;
 - C. identify ways that young plants resemble the parent plant; and
 - D. observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit.

Source: The provisions of this §112.11 adopted to be effective August 4, 2009, 34 TexReg 5063.

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 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

Aa Bb Cc Dd Ee Ff Gg

Hh Ii Jj Kk Ll Mm Nn

Oo Pp Qq Rr Ss Tt Uu

Vv Ww Xx Yy Zz

0 1 2 3 4 5 6 7 8 9

Books and Materials for SCI K this Semester

Textbook

- *Texas Science Fusion* (Student Edition). (2015). Houghton Mifflin Harcourt. ISBN 978-0-544-06782-0 (digital)
- *Texas Science Fusion* (Write-in Student Edition). (2015). Houghton Mifflin Harcourt. ISBN 978-0-544-02545-5 (print)

Other Required Books

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

Unit 4

- Baylor, *Everybody Needs a Rock*
- Christian, *If You Find a Rock*
- Green, *Why Should I Save Water?*
- Lindeen, *Natural and Human-Made (Nature Basics)*
- Lyon, *All the Water in the World*
- Roca, *The Three R's: Reduce, Reuse, Recycle (What Do You Know About?)*
- Rosinsky, *Rocks: Hard, Soft, Smooth, and Rough (Amazing Science)*
- Rosinsky, *Water: Up, Down, and All Around (Amazing Science)*
- Wick, *A Drop of Water (A Book of Science and Wonder)*

Unit 5

- Seuss, *The Cat in the Hat*
- Ehlert, *Snowballs*
- Branley, *The Sun: Our Nearest Star (Let's Read and Find Out)*
- Gibbons, *The Seasons of Arnold's Apple Tree*
- Carle, *Papa, Please Get the Moon for Me*
- Hall, *Day and Night (Patterns in Nature)*
- Rockwell, *Our Stars*

Unit 6

- Lindeen, *Living and Nonliving (Nature Basics)*

- Kalman, *What Kind of Coverings Do Animals Have? (All About Animals Close-Up)*
- Palmer and Eastman, *A Fish Out of Water (Beginner Books)*
- Bunting, *Sunflower House*

Materials

Required:

- balance scale
- bingo dabber, white, or white liquid shoe polish
- bowl
- colored pencils (optional)
- crayons
- cup, clear
- decorating materials: scrapbook paper, gift wrap paper, artwork your child has made previously
- flashlight
- food can, empty and clean with label removed
- found objects for decoration: seeds, scrap fabric, bottle lids, twigs, buttons
- globe on stand (optional)
- globe that student can hold (inflatable ones are a good choice)
- glue
- Google Earth access
- ice
- ink pad, red, washable
- leaves, 4 different types
- lid or some other object to trace a circle, about 7" across
- lima beans, 3-4
- magazines, 2 different kinds
- magnifying lens
- markers, red and black
- notepad
- paint: white and tempera black
- paintbrushes, 2
- paper plates, 3
- paper: construction (white: 8½" × 11", 9" × 12", and 9" × 18"; 9" × 12" brown, green, yellow orange, red, and white; 12" × 18" dark blue), drawing paper (optional), plain white; large piece of white paper, 11" × 17" or 12" × 18" (construction paper or copy paper will work)

- paperclip, jumbo
- paperclips, standard, 2
- pencils
- permanent marker, black
- photo of real sunflower
- pictures of historic statues and monuments on the Internet
- potting soil
- rocks, 10, assorted sizes (if possible, include one rock that is large but lightweight)
- rocks, 5, different sizes, textures, shapes, and colors
- round cookies or cheese slices cut into circles
- ruler
- scissors
- soil from your yard or other local area
- sticker
- sunflower seeds, 11
- thermometer (not digital)
- tissue paper, pink
- water
- wiggle eyes, 2 pairs

Optional:

- container, large, to hold recyclable items
- decorative tape
- fabric trim
- packing tape
- paint, various colors

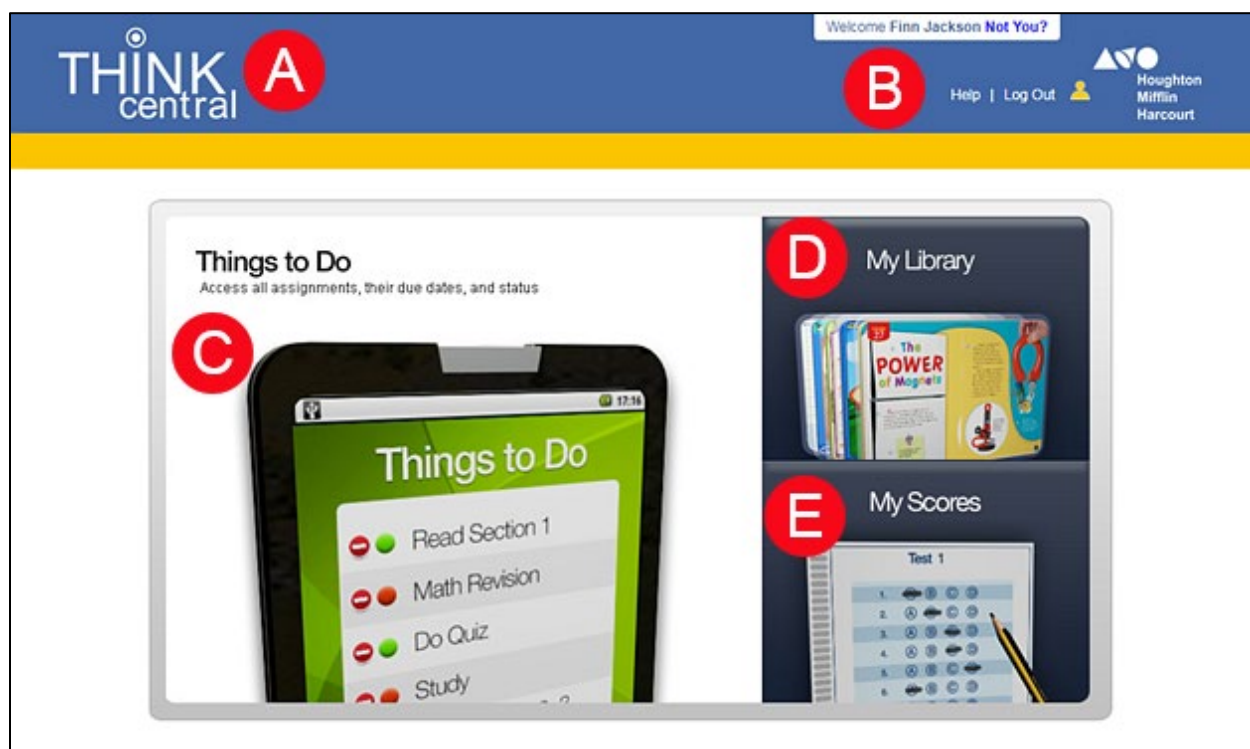
Online Resources

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Navigate ThinkCentral


To move around in *ThinkCentral*:

→ Click one of the areas on the *ThinkCentral* home page to open that page: **Things to Do**, **My Library**, or **My Scores**.

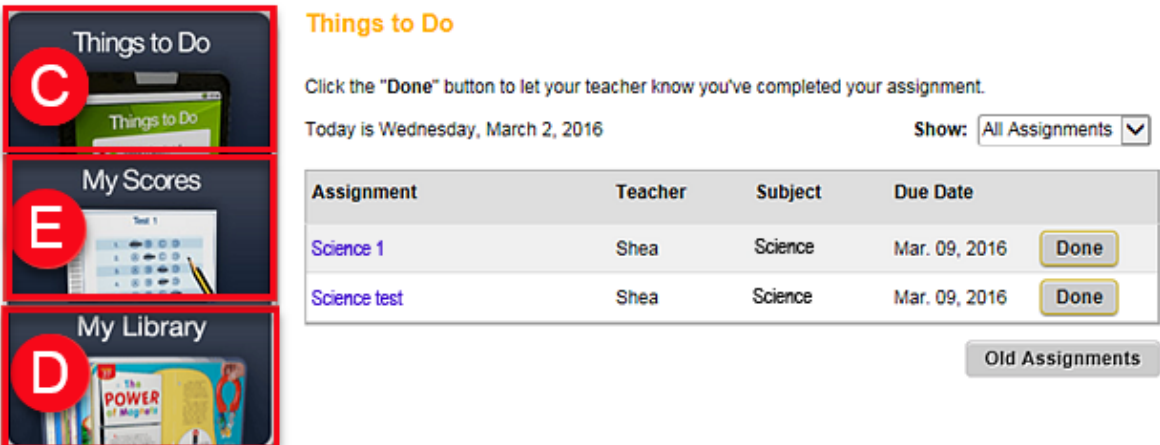


Descriptions of each area is provided in the following table.

Area	Area Name	Description
	ThinkCentral logo	Returns you to the <i>ThinkCentral</i> home page.

Area	Area Name	Description
B	Banner Links	<ul style="list-style-type: none"> • Help – Opens an online help system that provides detailed instructions for ThinkCentral tasks. • Log Out – Logs you out of ThinkCentral. •  Account linking icon – If you have more than one account (accounts in more than one school or more than one class), this allows you to select and open another account.
C	Things to Do	Opens the Things to Do page, which lists all of the tests and assignments your teacher has assigned to you. You can even find your old assignments after you are done with them.
D	My Library	Opens the My Library page, where you can find all of your online classroom resources, such as books, movies, sound files, worksheets, and more.
E	My Scores	Opens the My Scores page, which lists the scores that you received on tests and assignments that you have taken. If your teacher has written a comment on your assignment, you can find it here. You can even look at your old tests to see how well you did on each question.

→ Once you open a page, you can move to a different page by clicking the area with the page name on the left panel.



Things to Do

Click the "Done" button to let your teacher know you've completed your assignment.

Today is Wednesday, March 2, 2016 Show: All Assignments

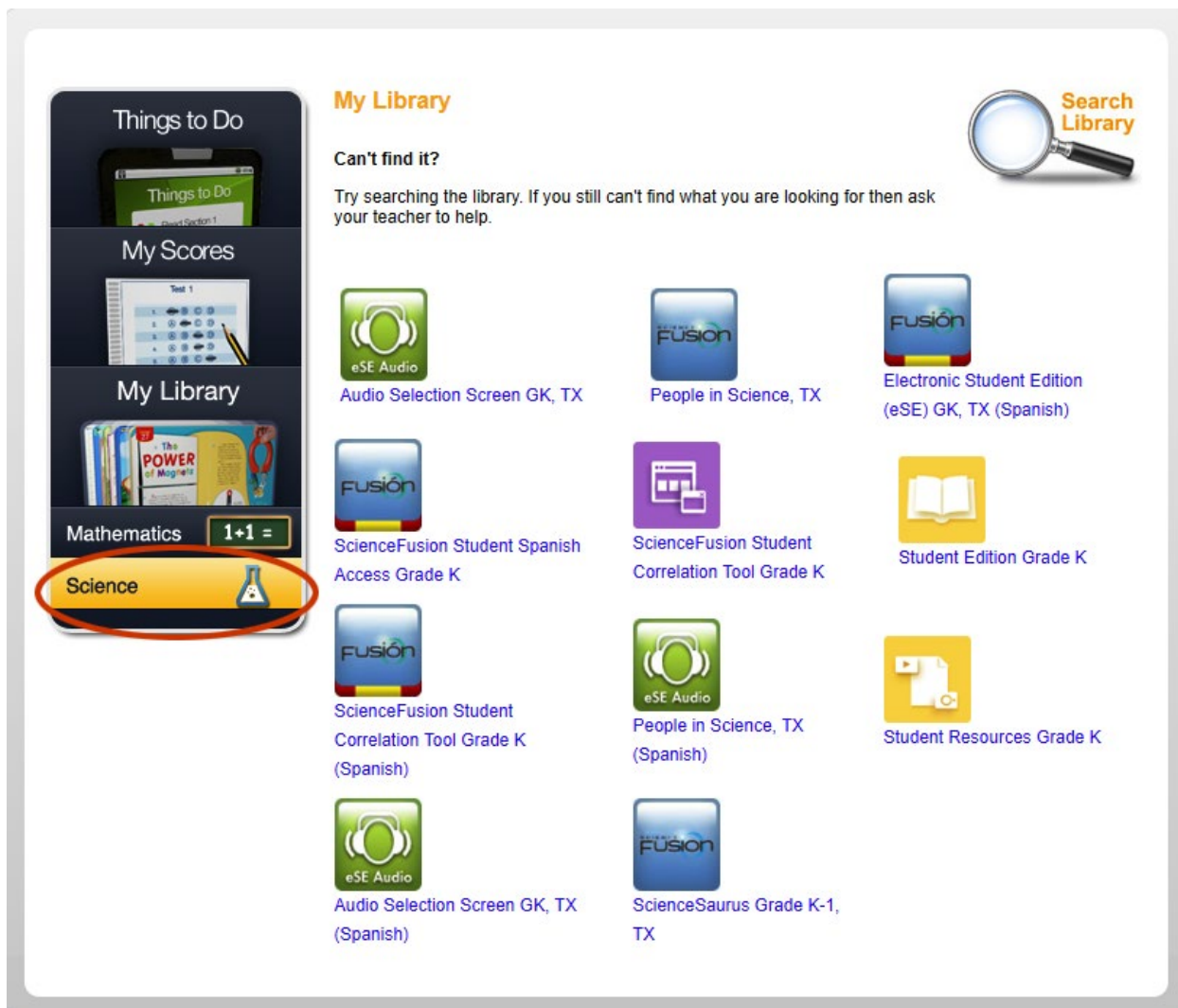
Assignment	Teacher	Subject	Due Date	
Science 1	Shea	Science	Mar. 09, 2016	Done
Science test	Shea	Science	Mar. 09, 2016	Done

Old Assignments

Using My Library

The **My Library** page lists all of the library items available to you, including online classroom books, movies, sound files, worksheets, and more.

→ To open the **My Library** page, click **My Library** on the left panel, then click **Science** at the bottom of the panel.



- The **Student Edition** is an exact copy of the *Texas Science Fusion* Write-In Student Edition.
- The **Student Resources** are the resources that will be referred to in these lessons. Click on the corresponding unit name and follow the instructions in the lesson for the appropriate lesson or inquiry lab.
- When completing an inquiry lab, you will **save the report as a PDF** (or print and scan it) to upload for grading.

On the My Library page, you can do any of the following:

→ Open a library item by clicking the item. The item opens in a separate window.

Note: When you close an item, the **My Library** page is still open.

→ Click **My Library** to see all of your items again.


→ Click the **Search Library** magnifying glass.



Search My Library

My Library lists all of the library items that are available to you. You can search for a specific library item using the **Search Library** option.

To search My Library:

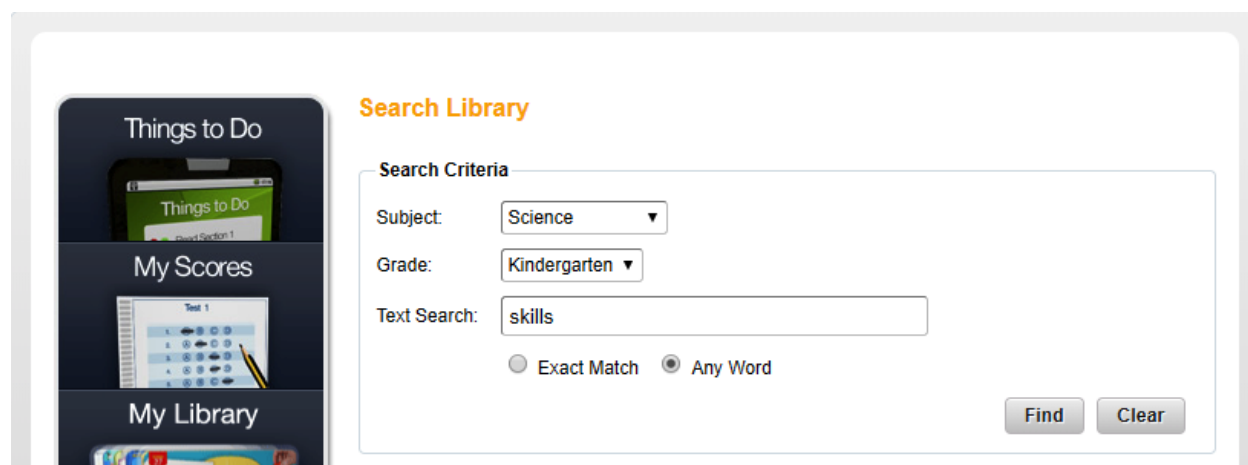
1. In **My Library**, click the **Search Library** magnifying glass.  The **Search Library** page appears.

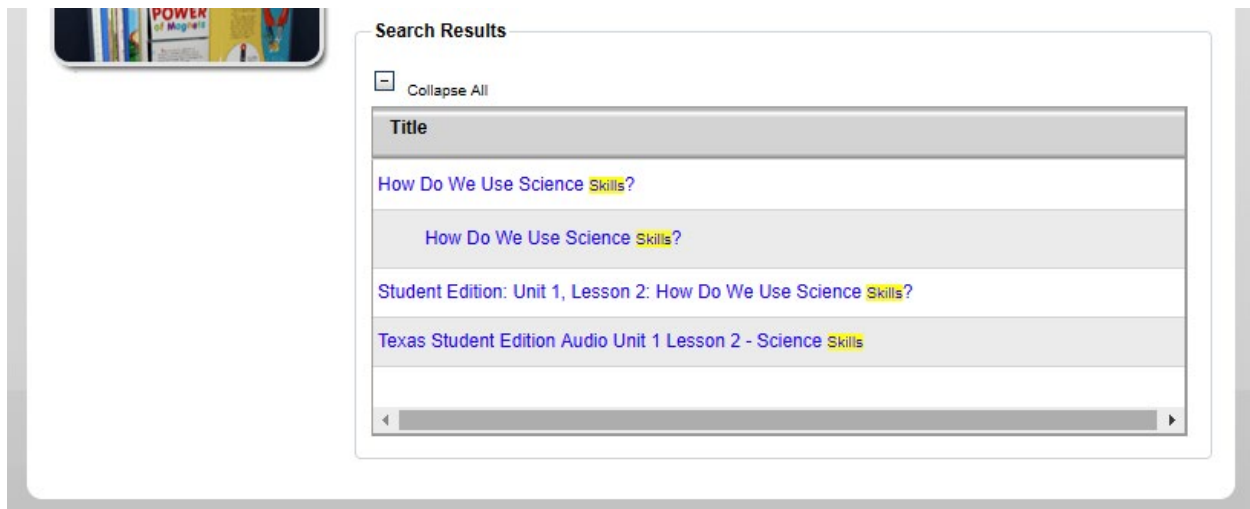
You can search for a library item by subject, by words, or by both subject and words.

2. In the **Subject** list, select the subject of the item.
3. In the **Text Search** box, type a word or words that identify the item.

Note: To empty the **Search Criteria** area and start a new search, click **Clear**.

4. Click **Find**. The items that match your search filters are listed in the **Search Results** area.

A screenshot of the "Search Library" interface. On the left is a vertical sidebar with four items: "Things to Do" (with a smartphone icon), "My Scores" (with a document icon), "Test 1" (with a document icon), and "My Library" (with a book icon). The "My Library" item is highlighted. To the right of the sidebar is the "Search Library" section. It has a title "Search Library" in orange. Below the title is a "Search Criteria" box. Inside this box, there are three fields: "Subject:" with a dropdown menu showing "Science", "Grade:" with a dropdown menu showing "Kindergarten", and "Text Search:" with a text input box containing the word "skills". Below these fields are two radio buttons: "Exact Match" and "Any Word", with "Any Word" selected. At the bottom right of the "Search Criteria" box are two buttons: "Find" and "Clear".



5. To open an item in the list, click the name of the item. The item opens in a separate window.
6. To return to **My Library**, click **My Library** on the left side of the page.

Grading Procedures and Unit Assignment Checklists

Grades are calculated for Unit 4, Unit 5, and Unit 6. Your student must complete 4–9 Assessment Projects for each unit. The semester grade is an average of the three unit grades.

The Unit Projects will be submitted **separately** to Texas Tech University K-12 to be graded. Scan or photograph each Unit Project according to the directions given and combine the images into a **single PDF** (see “Requirements for Creating PDFs” on the course home page). These projects are located in the appropriate lessons; the last Unit 3 project is in the Final Exam folder. The grading rubrics for each project are in the Resources section of the online course.

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

Schedule for Unit Projects

Unit 4, Day 100:

- Day 82: *Science Fusion* Inquiry: Rocks
- Day 83: My Rock Report
- Day 89: Forms of Water Project
- Day 100: Unit 4 Assessment

Unit 5, Day 125:

- Day 106: Weather Bears
- Day 111: Weather Graph
- Day 112: *Science Fusion* Inquiry: Weather
- Day 113: The Seasons of a Tree
- Day 118: Paper Plate Sun Project
- Day 123: Night Sky Project
- Day 124: *Science Fusion* Inquiry: Magnifiers
- Day 125: Unit 5 Assessment

Unit 6, Day 150:

- Day 129: Living and Nonliving Poster

- Day 130: *Science Fusion* Inquiry: Living Things
- Day 135: Animal Characteristics
- Day 140: What Do Animals Need?
- Day 143: Sum It Up: Plant Leaves
- Day 145: What Do Plants Need?
- Day 147: Plant Parts
- Day 149: *Science Fusion* Inquiry: Plants
- Day 150: Unit 6 Assessment