To the Parent(s):

After registration is complete, your child may take the Credit by Examination for SCI 1. (If the child is taking the print exam, their proctor must be approved.)

ABOUT THE EXAM

The examination for first-grade Science consists of 57-60 multiple choice, fill-in-the-blank, and matching questions. The exam is based on the Texas Essential Knowledge and Skills (TEKS) for this subject. The full list of TEKS is included in this document (it is also available online at the Texas Education Agency website). The TEKS outline specific topics covered in the exam, as well as more general areas of knowledge and levels of critical thinking. Use the TEKS to focus your study in preparation for the exam. TEKS covered in this semester are indicated by a checkmark; the exam will focus on the checkmarked TEKS, but may touch on any of the full list.

The examination will take place under supervision, and the recommended time limit is three hours. You may not use any notes or books. A percentage score from the examination will be reported to the official at your school.

In preparation for the examination, review the TEKS for this subject. A list of key concepts is included in this document to focus your studies. It is important to prepare adequately. Since questions are not taken from any one source, you can prepare by reviewing any textbook from the Texas Adoption list. The digital textbook used with our SCI 1 course is:

> *Texas Science Fusion, Level 1* (2015). Houghton Mifflin Harcourt, Inc.
> ISBN 978-0-544-06774-5

Good luck on your test!

SCI 1 Key Concepts

The student should be familiar with the following concepts:

- safe practices as described in the Texas Safety Standards during classroom and outdoor investigations;
- conservation and reuse or recycling of paper, plastic, and metals;
- collecting, recording, and comparing information using tools, including computers, hand lenses, primary balances, magnets, collecting nets, safety goggles, clocks and timers, weather instruments such as thermometers and wind socks, and materials to support observations of habitats of organisms such as aquariums and terrariums;
- recording and organizing data using pictures, numbers, and words;
- making predictions based on observable patterns;
- what scientists do;
- classifying objects by observable properties of the materials from which they are made such as larger and smaller, heavier and lighter, shape, color, and texture;
- predicting and identifying changes in materials caused by heating and cooling such as ice melting, water freezing, and water evaporating;
- different forms of energy such as light, heat, and sound;
- using a magnet to push or pull an object;
- ways that objects can move such as in a straight line, zig-zag, up and down, back and forth, round and round, and fast and slow;
- objects in the natural world, including rocks, soil, and water that can be observed in cycles, patterns, and systems;
- identifying and describing a variety of natural sources of water, including streams, lakes, and oceans;
- how rocks, soil, and water help to make useful products;
- recording weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy;
- changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;
- classifying living and nonliving things based upon whether or not they have basic needs and produce offspring;
- analyzing and recording examples of interdependence found in various situations such as terrariums and aquariums or pet and caregiver;
- energy transfer through food chains;
- examples of animals using plants for shelter;

- how the external characteristics of an animal are related to where it lives, how it moves, and what it eats;
- the parts of plants;
- ways that young animals resemble their parents; and
- the life cycles of animals such as a chicken, frog, or fish.

Texas Essential Knowledge and Skills
SCI 1 – Science, Grade 1

TTU K-12: SCI 1 CBE, v.4.1	
TEKS §112.10 - Science, K-5 Elementary	
TEKS Requirement (Elementary)	**TEKS Covered**
§112.12. Science, Grade 1, Beginning with School Year 2010-2011.	
(a) Introduction.	
(1) Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process."	
(2) Recurring themes are pervasive in sciences, mathematics, and technology. These ideas transcend disciplinary boundaries and include patterns, cycles, systems, models, and change and constancy.	
(3) The study of elementary science includes planning and safely implementing classroom and outdoor investigations using scientific processes, including inquiry methods, analyzing information, making informed decisions, and using tools to collect and record information, while addressing the major concepts and vocabulary, in the context of physical, earth, and life sciences. Districts are encouraged to facilitate classroom and outdoor investigations for at least 80% of instructional time.	
(4) In Grade 1, students observe and describe the natural world using their five senses. Students do science as inquiry in order to develop and enrich their abilities to understand the world around them in the context of scientific concepts and processes. Students develop vocabulary through their experiences investigating properties of common objects, earth materials, and organisms.	
(A) A central theme in first grade science is active engagement in asking questions, communicating ideas, and exploring with scientific tools in order to explain scientific concepts and processes like scientific investigation and reasoning; matter and energy; force, motion, and energy; Earth and space; and organisms and environment. Scientific investigation and reasoning involves practicing safe procedures, asking questions about the natural world, and seeking answers to those questions through simple observations and descriptive investigations.	
(B) Matter is described in terms of its physical properties, including relative size and mass, shape, color, and texture. The importance of light, heat, and sound energy is identified as it relates to the students' everyday life. The location and motion of objects are explored.	
(C) Weather is recorded and discussed on a daily basis so students may begin to recognize patterns in the weather. In addition, patterns are observed in the appearance of objects in the sky.	
(D) In life science, students recognize the interdependence of organisms in the natural world. They understand that all organisms have basic needs that can be satisfied through interactions with living and nonliving things. Students will investigate life cycles of animals and identify likenesses between parents and offspring.	
(b) Knowledge and skills.	
(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) recognize 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) recognize the importance of safe practices to keep self and others safe and healthy; and	✓
(C) identify and learn how to use natural resources and materials, including conservation and reuse or recycling of paper, plastic, and metals.	✓
(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 using pictures, numbers, and words; and	✓
(E) communicate observations and provide reasons for explanations using student-generated data from simple descriptive investigations.	✓

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TEKS §112.10 - Science, K-5 Elementary	
TEKS Requirement (Elementary)	**TEKS Covered**
(3) Scientific investigation and reasoning. The student knows that information and critical thinking are used in scientific problem solving. The student is expected to:	
(A) identify and explain a problem such as finding a home for a classroom pet and propose a solution in his/her own words;	✓
(B) make predictions based on observable patterns; and	✓
(C) describe what scientists do.	✓
(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, record, and compare information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as classroom demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as aquariums and terrariums; and	✓
(B) measure and compare organisms and objects using non-standard units.	✓
(5) Matter and energy. The student knows that objects have properties and patterns. The student is expected to:	
(A) classify objects by observable properties of the materials from which they are made such as larger and smaller, heavier and lighter, shape, color, and texture; and	✓
(B) predict and identify changes in materials caused by heating and cooling such as ice melting, water freezing, and water evaporating.	✓
(6) Force, motion, and energy. The student knows that force, motion, and energy are related and are a part of everyday life. The student is expected to:	
(A) identify and discuss how different forms of energy such as light, heat, and sound are important to everyday life;	✓
(B) predict and describe how a magnet can be used to push or pull an object;	✓
(C) describe the change in the location of an object such as closer to, nearer to, and farther from; and	✓
(D) demonstrate and record the ways that objects can move such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow.	✓
(7) Earth and space. The student knows that the natural world includes rocks, soil, and water that can be observed in cycles, patterns, and systems. The student is expected to:	
(A) observe, compare, describe, and sort components of soil by size, texture, and color;	✓
(B) identify and describe a variety of natural sources of water, including streams, lakes, and oceans; and	✓
(C) gather evidence of how rocks, soil, and water help to make useful products.	✓
(8) Earth and space. The student knows that the natural world includes the air around us and objects in the sky. The student is expected to:	
(A) record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy;	✓
(B) observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;	✓
(C) identify characteristics of the seasons of the year and day and night; and	✓
(D) demonstrate that air is all around us and observe that wind is moving air.	✓
(9) Organisms and environments. The student knows that the living environment is composed of relationships between organisms and the life cycles that occur. The student is expected to:	
(A) sort and classify living and nonliving things based upon whether or not they have basic needs and produce offspring;	✓

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TEKS §112.10 - Science, K-5 Elementary	
TEKS Requirement (Elementary)	**TEKS Covered**
(B) analyze and record examples of interdependence found in various situations such as terrariums and aquariums or pet and caregiver; and	✓
(C) gather evidence of interdependence among living organisms such as energy transfer through food chains and animals using plants for shelter.	✓
(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) investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats;	✓
(B) identify and compare the parts of plants;	✓
(C) compare ways that young animals resemble their parents; and	✓
(D) observe and record life cycles of animals such as a chicken, frog, or fish.	✓
Source: The provisions of this §112.12 adopted to be effective August 4, 2009, 34 TexReg 5063.	