HISD | Elementary Curriculum and Development

INSPIRING TEACHING, IGNITING LITERACY & LEARNING.

2019-2020 Scope and Sequence
Science – Grade 2

Cycle 1	**38 Days** Aug. 26 – Oct. 18, 2019	The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
Unit 1: Setting Up for Science In this unit, students explore what scientists do, identify safe practices in science, set up interactive notebooks, and review important tools they will be using in science.	**5** 45-minute lessons **Part 1** **Suggested Pacing:** Aug. 26-27 **Part 2** **Suggested Pacing:** Aug. 28-30 *Labor Day* *Sept. 2*	**Part 1: What Scientists Do** (2 lessons) (PS) **SCI.2.3C** Identify what a scientist is and explore what different scientists do. **Part 2: Safety and Tools** (3 lessons) (PS) **SCI.2.1A** Identify, describe, and demonstrate safe practices as outlined in the Texas Education Agency-approved safety standards during classroom and outdoor investigations, including wearing safety goggles or chemical splash goggles, as appropriate, washing hands, and using materials appropriately. (PS) **SCI.2.4A** Collect, record, and compare information using tools, including computers, hand lenses, rulers, plastic beakers, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums.
Unit 2: Movement and Magnetism In this unit, students conduct investigations to compare patterns of movement over time and identify how magnets are used in everyday life.	**8** 45-minute lessons **Part 1** **Suggested Pacing:** Sept. 3-6 **Part 2** **Suggested Pacing:** Sept. 9-12	**Part 1: Patterns of Movement** (4 lessons) **SCI.2.6C** Trace and compare patterns of movement of objects such as sliding, rolling, and spinning over time. (PS) **SCI.2.2B** Plan and conduct descriptive investigations (PS) **SCI.2.2E** Communicate observations and justify explanations using student-generated data from simple descriptive investigations. **Part 2: Magnets** (4 lessons) **SCI.2.6B** Observe and identify how magnets are used in everyday life.
Unit 3: Properties of Solids and Liquids In this unit, students classify solid and liquid matter by their physical properties.	**6** 45-minute lessons **Suggested Pacing:** Sept. 13-20 **Extend** **Review** **Assess** **Reteach** Sept. 23-27 *Early Dismissal* *Sept. 27*	**Unit 3: Properties of Solids and Liquids** (6 lessons) **SCI.2.5A** Classify matter by physical properties, including relative temperature, texture, flexibility, and **whether material is a solid or liquid.**

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Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
	District Formative Assessment 1 **Suggested Window:** Sept. 25-27 See Outline for TEKS Details	
Unit 4: Properties and Changes in Matter In this unit, students make observations and collect data using science tools to understand that physical properties of an object can be measured and may be changed.	**10** 45-minute lessons **Part 1** **Suggested Pacing:** Sept. 30	**Part 1: Matter Has Texture** (1 lesson) **SCI.2.5A** Classify matter by physical properties, including relative temperature, **texture**, flexibility, and whether material is a solid or liquid.
	Part 2 **Suggested Pacing:** Oct. 1	**Part 2: Matter Has Flexibility** (1 lesson) **SCI.2.5A** Classify matter by physical properties, including relative temperature, texture, **flexibility**, and whether material is a solid or liquid.
	Part 3 **Suggested Pacing:** Oct. 2-4 **Part 4** **Suggested Pacing:** Oct. 7-10 *Fall Holiday* *Oct. 9*	**Part 3: Matter Has a Temperature** (3 lessons) **SCI.2.5A** Classify matter by physical properties, including **relative temperature**, texture, flexibility, and whether material is a solid or liquid. (PS) **SCI.2.4A** Collect, record, and compare information using tools, including computers, hand lenses, rulers, plastic beakers, magnets, collecting nets, notebooks, and safety goggles or chemical splash goggles, as appropriate; timing devices; weather instruments such as **thermometers**, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums.
	Part 5 **Suggested Pacing:** Oct. 11-14	**Part 4: Matter Can Be Classified in Multiple Ways** (3 lessons) **SCI.2.5A** Classify matter by physical properties, including relative temperature, texture, flexibility, and whether material is a solid or liquid.
	Extend **Review** **Assess** **Reteach** Oct. 15-18 *Early Dismissal* *Oct. 18*	**Part 5: Matter Can Change** (2 lessons) **SCI.2.5C** Demonstrate that things can be done to materials such as cutting, folding, sanding, and melting to change their physical properties. (PS) **SCI.2.2B** Plan and conduct descriptive investigations. (PS) **SCI.2.2E** Communicate observations and justify explanations using student-generated data from simple descriptive investigations.

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Cycle 2	39 Days Oct. 21 – Dec. 19, 2019	The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
Unit 5: Effects of Heat, Light, and Sound Energy In this unit, students conduct simple experiments to determine what may occur when the amounts of heat, light, and sound are increased or decreased.	**15** 45-minute lessons **Part 1** **Suggested Pacing:** Oct. 21-25 **Part 2** **Suggested Pacing:** Oct. 28 – Nov. 1 **Part 3** **Suggested Pacing:** Nov. 4-8 *Early Dismissal Nov. 8* **Extend** **Review** **Assess** **Reteach** Nov. 11-15 **District Formative Assessment 2** **Suggested Window:** Nov. 13-15 See Outline for TEKS Details	**Part 1: Heat Energy** (5 lessons) **SCI.2.5B** Compare changes in materials caused by heating and cooling. **SCI.2.6A** Investigate the effects on objects by increasing or decreasing amounts of light, **heat**, and sound energy such as how the color of an object appears different in dimmer light or how heat melts butter. Ⓟ **SCI.2.2F** Compare results of investigations with what students and scientists know about the world. **Part 2: Light Energy** (5 lessons) **SCI.2.6A** Investigate the effects on objects by increasing or decreasing amounts of **light**, heat, and sound energy such as how the color of an object appears different in dimmer light or how heat melts butter. **Part 3: Sound Energy** (5 lessons) **SCI.2.6A** Investigate the effects on objects by increasing or decreasing amounts of light, heat, and **sound** energy such as how the color of an object appears different in dimmer light or how heat melts butter.

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Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
Unit 6: Parts Working Together In this unit, students investigate the idea that individual parts must be combined in order to have a functioning system.	**5** 45-minute lessons **Suggested Pacing:** Nov. 18-22 *Thanksgiving Holiday* *Nov. 25-29*	**Unit 6: Parts Working Together** (5 lessons) **SCI.2.5D** Combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties. Ⓟ **SCI.2.3B** Make predictions based on observable patterns.
Unit 7: Weather and Seasons In this unit, students observe and record weather conditions and seasonal changes.	**11** 45-minute lessons **Suggested Pacing:** Dec. 2-16 **Extend** **Review** **Assess** **Reteach** Dec. 17-19 *Teacher Preparation Day* *Dec. 20* *Winter Break* *Dec. 23 – Jan. 3*	**Unit 7: Weather and Seasons** (11 lessons) **SCI.2.8A** Measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data. **SCI.2.8B** Identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation.

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Cycle 3	49 Days Jan. 6 – Mar. 13, 2020	The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
Unit 8: Natural Resources In this unit, students observe and describe the properties of natural resources and understand that some resources are manmade.	**19** 45-minute lessons **Part 1** **Suggested Pacing:** Jan. 6-10 **Part 2** **Suggested Pacing:** Jan. 13-17 *Early Dismissal Jan. 17* *MLK Jr. Day Jan. 20* **Part 3** **Suggested Pacing:** Jan. 21-24 **Part 4** **Suggested Pacing:** Jan. 27-31	**Part 1: Properties of Rocks** (5 lessons) **SCI.2.7A** Observe, describe, and compare rocks by size, texture, and color. **Part 2: Properties of Water** (5 lessons) **SCI.2.7B** Identify and compare the properties of natural sources of freshwater and saltwater. **Part 3: Distinguishing Resources** (4 lessons) **SCI.2.7C** Distinguish between natural and manmade resources. **Part 4: Conservation of Resources** (5 lessons) (PS) **SCI.2.1B** Identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal. (PS) **SCI.2.3C** Identify what a scientist is and explore what different scientists do.
Unit 9: Patterns of Objects in the Sky In this unit, students observe, describe, and record patterns of objects in the sky.	**10** 45-minute lessons **Suggested Pacing:** Feb. 3-14 *Early Dismissal Feb. 14* **Extend** **Review** **Assess** **Reteach** Feb. 17-21	**Unit 9: Patterns of Objects in the Sky** (10 lessons) **SCI.2.8C** Observe, describe, and record patterns of objects in the sky, including the appearance of the Moon. (PS) **SCI.2.3C** Identify what a scientist is and explore what different scientists do.

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Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
	District Formative Assessment 3 **Suggested Window:** Feb. 19-21 See Outline for TEKS Details	
Unit 10: Physical Characteristics and Needs of Plants In this unit, students observe, record, and compare how the physical characteristics of plants help them meet their basic needs.	**10** 45-minute lessons **Suggested Pacing:** Feb. 24 – Mar. 6 **Extend** **Review** **Assess** **Reteach** Mar. 9-13 *Spring Break* *Mar. 16-20*	**Unit 10: Physical Characteristics and Needs of Plants** (10 lessons) **SCI.2.9A** Identify the basic needs of **plants** and animals. **SCI.2.10B** Observe, record, and compare how the physical characteristics of plants help them meet their basic needs.

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Cycle 4	47 Days Mar. 23 – May 29, 2020	The recommended number of lessons is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
Unit 11: Physical Characteristics, Needs, and Behaviors of Animals In this unit, students investigate how the physical characteristics and behaviors of animals help them meet their basic needs.	**9** 45-minute lessons **Suggested Pacing:** Mar. 23 – Apr. 3 *Chávez/Huerta Day* *Mar. 30*	**Unit 11: Physical Characteristics, Needs, and Behaviors of Animals** (9 lessons) **SCI.2.9A** Identify the basic needs of plants and **animals**. **SCI.2.10A** Observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs.
Unit 12: Life Cycle of an Insect In this unit, students investigate the life cycles of insects.	**9** 45-minute lessons **Suggested Pacing:** Apr. 6-17 *Spring Holiday* *Apr. 10*	**Unit 12: Life Cycle of an Insect** (9 lessons) **SCI.2.10C** Investigate and record some of the unique stages that insects such as grasshoppers and butterflies undergo during their life cycle.
Unit 13: Interdependency In this unit, students investigate how organisms depend on other living organisms and nonliving objects and their environment. Students also identify environmental factors that affect organism's growth and behavior.	**10** 45-minute lessons **Part 1** **Suggested Pacing:** Apr. 20-24 **Part 2** **Suggested Pacing:** Apr. 27 – May 1 **Extend** **Review** **Assess** **Reteach** May 4-8	**Part 1: Food Chains** (5 lessons) **SCI.2.9C** Compare the ways living organisms depend on each other and on their environments, such as through food chains. (PS) **SCI.2.3A** Identify and explain a problem and propose a task and solution to the problem. **Part 2: Environmental Effects** (5 lessons) **SCI.2.9B** Identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things. (PS) **SCI.2.3C** Identify what a scientist is and explore what different scientists do.

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Unit	**Number of Lessons**	**Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The student will:**
	District Formative Assessment 4 **Suggested Window:** May 6-8 See Outline for TEKS Details	
Unit 14: Designing Investigations In this unit, students plan and conduct descriptive investigations.	**10** 45-minute lessons **Suggested Pacing:** May 11-22 *Memorial Day* *May 25* **Extend** **Review** **Assess** **Reteach** May 26-29	**Unit 14: Designing Investigations** (10 lessons) (PS) **SCI.2.2B** Plan and conduct descriptive investigations (PS) **SCI.2.2E** Communicate observations and justify explanations using student-generated data from simple descriptive investigations. (PS) **SCI.3.2A** Plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed to solve a specific problem in the natural world.

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