



Grade 1 Science

PROFILE

Science is a way of knowing and experiencing the natural world. It is a social and intellectual endeavor that provides the foundation for life-long informed decision-making, problem-solving, improved, quality of life and technological advances. Learning science is an active process, and all students should have access to challenging, relevant, exciting, "hands-on," and content-rich science experiences.

THE CURRICULUM

The Pasadena Independent School District offers students a challenging science curriculum that utilizes inquiry and discovery models of instruction which provide opportunities for all students to participate and master science concepts. Students will experience the richness of science through hands-on laboratory and field investigations through inquiry and active experimentation. Emphasized science process skills include: observing, measuring, identifying, classifying, predicting, comparing, inferring, and drawing conclusions. Students will also develop a proficient use of technology through analyzing and collecting data for real world science applications. The science curriculum is based on the Texas Essential Knowledge and Skills curriculum framework.



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EXPECTATIONS

1. Tools of Science

The students will be able to gather, analyze, and interpret information using selected equipment and tools to extend the senses. *Measuring cups and spoons, computers, hand lenses, metric rulers, thermometers, balances, magnets, collection nets, meter sticks, clocks, and safety goggles are used in Grade 1 Science.*

2. Vocabulary

The student will build and expand vocabulary, through a print-rich environment, to increase fluency and understanding by incorporating scientific vocabulary into their everyday speaking, listening, and writing routines.

3. Content Integration

The student will read a variety of texts to gain information and write to inform using correct sentence structure, capitalization, punctuation, and usage. The student will also draw a picture, complete a graph, and label a graphic aide.

4. The student will...

- a. Demonstrate safe practices
- b. Ask questions
- c. Plan and conduct simple, descriptive investigations
- d. Compare results with those of other investigators
- e. Use equipment and tools to extend the senses
- f. Communicate feelings
- g. Give explanations based on information
- h. Measure and compare using standard and nonstandard units
- i. Make decisions using information
- j. Justify merits of decision
- k. Explain a problem and propose a solution



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SCIENCE PROCESS SKILLS

Throughout the year, students will master certain required skills. These skills are important to a student's understanding of the nature of science. The Science Process Skills are not designed to be taught in isolation. They are to be embedded in each instructional unit and some should be practiced each time science is taught.

Science Process Skills are the same for every grade level (Grade K – Grade 5). At each grade level, however, the teacher is expected to approach the skill at the level appropriate for their students' age, grade, and cognitive development.

The student will:

1. Demonstrate safe and ethical practice in school, field, and home. **(TEKS 1.1A / TEKS 2.1A / TEKS 3.1A / TEKS 4.1A / TEKS 5.1A)**
2. Use and dispose of materials wisely, conserve and recycle materials and resources when possible. **(TEKS 1.1B)**
3. Plan and implement descriptive investigations. **(TEKS 1.2B / TEKS 5.2A)**
4. Isolate variables and conduct controlled experiments; repeat experiments to demonstrate that repetition increases reliability of results. **(TEKS 3.4B)**
5. Collect data by observing and measuring. **(TEKS 1.4A / TEKS 5.2B)**
6. Gather, analyze, and interpret information using selected equipment and tools to extend the senses, including measuring cups and spoons, hand lenses, metric rules, thermometers, magnets, balances, collection nets, meter sticks, non-standard measuring units, clocks, and safety goggles. **(TEKS 1.2C / TEKS 1.4A, C / TEKS 5.4A)**
7. Record data through graphic works including simple graphs, tables, maps, charts. **(TEKS 1.2E / TEKS 5.2E)**
8. Draw inferences, in particular with regards to the validity of advertising, and analyze information. **(TEKS 1.3A, B / TEKS 3.3B)**
9. Classify, analyze, and interpret information to make and justify decisions and construct reasonable explanations. **(TEKS 1.2D / TEKS 5.2C)**
10. Communicate problems, propose solutions, ask questions, record results, and conclusions in a student's own words. **(TEKS 1.2A, D, E / TEKS 1.3C / TEKS 5.2D)**
11. Analyze, review, and critique scientific explanations, hypotheses, and theories as to strengths and weaknesses. **(TEKS 1.3B / TEKS 3.3A)**
12. Represent the natural world using models and identify their limitations. **(TEKS 3.3C)**
13. Evaluate the impact of research on scientific thought, society, and the environment. **(TEKS 3.3D)**
14. Connect grade level science concepts with the history of science and contributions of scientists. **(TEKS 3.3E / TEKS 4.3E / TEKS 5.3E)**



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FIRST NINE WEEKS VOCABULARY

- **Mastery** words are the concepts that students should have a clear understanding of after instruction.
- **Maintenance** words are the vocabulary words that students should already understand, but may need remediation.
- **Listening/Speaking** words are the words that students should “hear, see, and use” throughout instruction. The use of these words allow for easier transition in subsequent years.

Mastery	Maintenance	Listening/Speaking
attract	air	appearance
change	cold	architect
compass	color	cow magnet
float	heat	direction
force	hot	iron
friction	light	lodestone
gas	magnet	magnet engineer
liquid	move	magnetic force
matter	rough	magnetize
melt	smooth	physical property
motion	sort	position
poles	swing	prism
pull	water	reflect
push		refract
repel		speed
sink		straight
solid		strength
surface		weight
wheel		zigzag

* This is not an all-inclusive list of first grade science vocabulary terms.



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FIRST NINE WEEKS BENCHMARK CALENDAR

DATE	BENCHMARK TARGETS	INSTRUCTIONAL RESOURCES
Week 1	Making Things Move – Pushes and Pulls <ol style="list-style-type: none"> 1. Identify that a force is a push or a pull. (TEKS 1.7A / TEKS 3.6A) 2. Investigate pushes and pulls. (TEKS 1.7A) 3. Observe and record how objects move. (TEKS 1.7A) 4. Observe changes in the position and direction of an object. (TEKS 1.7A / TEKS 3.6A) 	<u>Harcourt Science</u> Unit F – Ch. 1 Lessons 1-3
Week 2	How Do Objects Move on Surfaces? <ol style="list-style-type: none"> 5. Identify friction as a force that makes it harder to move things. (TEKS 1.7A) 6. Observe, measure, and record how different objects move on smooth and rough surfaces. (TEKS 1.7A) 7. Investigate how wheels help move objects. (TEKS 1.7A) 	<u>Harcourt Science</u> Unit F – Ch. 1 Lessons 4-5
Week 3	Magnets <ol style="list-style-type: none"> 8. Identify the properties of a magnet. (TEKS 1.6A) 9. Observe, measure and record properties of magnets. (TEKS 1.7A) 	<u>Harcourt Science</u> Unit F – Ch. 2 Lessons 1-2 “What Will a Magnet Attract”, <i>Mostly Magnets</i> , Pgs. 7-12
Week 4	Magnets (continued) <ol style="list-style-type: none"> 10. Investigate what things a magnet can pull through. (TEKS 1.7A) 11. Observe how to make a magnet. (TEKS 1.7A) 	<u>Harcourt Science</u> Unit F – Ch. 2 Lessons 3-4 “Hungry Hounds”, <i>Mostly Magnets</i> , Pgs. 57-60
Week 7	Investigate Matter – Solids and Liquids <ol style="list-style-type: none"> 12. Sort solid objects based on properties and patterns. (TEKS 1.5A / TEKS 4.6A / TEKS 5.7A) 13. Observe, measure and record properties of liquids. (TEKS 1.5A / TEKS 4.6A / TEKS 5.7A) 	<u>Harcourt Science</u> Unit E – Ch. 1 Lessons 1-2 “Rocks and More Rocks”, <i>Primarily Earth</i> , Pgs. 38-45



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<p>Week 6</p>	<p>Investigate Matter – Liquids and Gases 14. Observe and identify objects that float or sink. (TEKS 1.7A) 15. Observe, measure and record properties of gases. (TEKS 1.5A / TEKS 4.6A / TEKS 5.7A)</p>	<p><u>Harcourt Science</u> Unit E – Ch. 1 Lessons 3-4 “Floating Fruit”, <i>Spring Into Math & Science</i>, Pgs. 46-49</p>
<p>Week 7</p>	<p>Investigate Matter – Changing Objects 16. Observe, measure, and record changes in matter. (TEKS 1.7A / TEKS 5.7A) 17. Identify parts that, when put together, can do things they cannot do by themselves. (TEKS 1.6D / TEKS 5.5A, B) 18. Manipulate objects such as toys, vehicles, or flashlights so that the parts are separated from the whole which may result in the part or the whole not working. (TEKS 1.6C)</p>	<p><u>Harcourt Science</u> Unit E – Ch. 1 Lessons 5-6 “Room For Change”, <i>Winter Wonders</i>, Pgs. 56-61 “Fishing For Fins”, <i>Critters</i>, Pgs. 90-95</p>
<p>Week 8</p>	<p>Heat & Light 19. Identify and test ways that heat may cause change such as when ice melts. (TEKS 1.7B / TEKS 5.7D) 20. Recognize the importance of light. (TEKS 1.7A, B / TEKS 5.8A) 21. Identify and demonstrate everyday examples of how light is reflected and refracted. (TEKS 1.7A, B / TEKS 5.8B)</p>	<p><u>Harcourt Science</u> Unit E – Ch. 2 Lessons 1-2 “Melt An Ice Cube”, <i>Primarily Physics</i>, Pgs. 148-153 “ I See the Light”, <i>Sense-able Science</i>, Pgs. 16-19 “Mirrors Reflect”, <i>Primarily Physics</i>, Pgs. 85-90</p>



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SECOND NINE WEEKS VOCABULARY

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Mastery	Maintenance	Listening/Speaking
daylight	air	clay soil
fall	big	cloud
fresh water	clear	condensation
lake	cool	enrich
ocean	day	evaporation
rock	farmer	geologist
river	night	hail
salt water	rain	mass
sand	rainy	meteorologist
season	small	precipitation
soil	sunny	rough
spring	tiny	sandy soil
stream	warm	scientist
summer	water	sleet
texture	wind	smooth
thermometer		snow
weather		temperature
winter		topsoil
		water cycle
		water vapor
		windmill
		wind vane



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SECOND NINE WEEKS BENCHMARK CALENDAR

DATE	BENCHMARK TARGETS	INSTRUCTIONAL RESOURCES
Week 1	<p>Earth's Land – Rocks</p> <p>22. Observe and describe differences in rock samples. (TEKS 1.10B / TEKS 4.11A)</p> <p>23. Identify how rocks are used and how they can be recycled. (TEKS 1.10C)</p>	<p><u>Harcourt Science</u> Unit C – Ch. 1 Lesson 1</p> <p>“Rock Groups”, <i>Primarily Earth</i>, Pgs. 32-37</p>
Week 2	<p>Earth's Land – Soil</p> <p>24. Observe and describe differences in soil samples. (TEKS 1.10B / TEKS 4.11A)</p> <p>25. Identify how soil is used and how it can be recycled. (TEKS 1.10C)</p>	<p><u>Harcourt Science</u> Unit C – Ch. 1 Lessons 2-3</p> <p>“Soil Study”, <i>Primarily Earth</i>, Pgs. 56-62</p>
Week 3	<p>Earth's Air</p> <p>26. Identify where air is on Earth and how we use it. (TEKS 1.10A)</p>	<p><u>Harcourt Science</u> Unit C – Ch. 2 Lesson 1</p> <p>“Air Is There”, <i>Primarily Earth</i>, Pgs. 116-119.</p>
Week 4	<p>Earth's Water</p> <p>27. Identify and describe a variety of natural sources of water including streams, lakes, rivers, and oceans. (TEKS 1.10A)</p> <p>28. Identify how water is used and how it can be recycled. (TEKS 1.10C)</p> <p>29. Explain the differences between fresh water and salt water. (TEKS 1.10A)</p>	<p><u>Harcourt Science</u> Unit C – Ch. 2 Lessons 2-3</p>
Week 5	<p>Measuring Weather</p> <p>30. Investigate different types of weather. (TEKS 1.7C)</p> <p>31. Observe and record changes in weather from day to day. (TEKS 1.7C / TEKS 4.6A / TEKS 5.6A)</p>	<p><u>Harcourt Science</u> Unit D – Ch. 1 Lessons 1-2</p> <p>“Watching The Weather”, <i>Primarily Earth</i>, Pgs. 135-141</p>
Week 6	<p>Winds, Clouds, and Rain</p> <p>32. Observe and describe wind. (TEKS 1.7C)</p> <p>33. Illustrate the water cycle. (TEKS 2.10A / TEKS 4.11C / TEKS 5.6B)</p>	<p><u>Harcourt Science</u> Unit D – Ch. 1 Lessons 3-4</p> <p>“Which Way,” <i>Primarily Earth</i>, Pgs. 125-127</p>



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Week 7	The Seasons – Spring and Summer 34. Observe and record changes in weather associated with the seasons – spring and summer. (TEKS 1.7C)	<u>Harcourt Science</u> Unit D – Ch. 2 Lessons 1-2 “ A Snap Of Time”, Cycles of Knowing and Growing, Pgs. 68-76
Week 8	The Seasons – Fall and Winter 35. Observe and record changes in weather associated with the seasons – fall and winter. (TEKS 1.7C)	<u>Harcourt Science</u> Unit D – Ch. 2 Lessons 3-4
Week 9	Review Concepts	



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THIRD NINE WEEKS VOCABULARY

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Mastery	Maintenance	Listening/Speaking
hatch	air	adult
insect	animals	alligator
larva	bird	amphibian
leaves	change	artist
living	feel	butterfly
nonliving	flower	caterpillar
pupa	food	chrysalis
roots	frog	doctor
seed	grow	gills
seed coat	hearing	mammal
senses	light	measure
stem	sight	park ranger
sunlight	smell	pouches
tadpoles	soil	reptile
	taste	scales
	touch	seedling
	water	symmetry
	wings	



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THIRD NINE WEEKS BENCHMARK CALENDAR

DATE	BENCHMARK TARGETS	INSTRUCTIONAL RESOURCES
Week 1	<p>Living and Nonliving Things</p> <p>36. Identify the five senses. (TEKS 1.9A)</p> <p>37. Group and compare living organisms and nonliving objects. (TEKS 1.8A, B)</p> <p>38. Identify, predict, and create patterns including those seen in charts, graphs, and numbers. (TEKS 1.5B)</p>	<p><u>Harcourt Science</u> Unit A – Ch. 1 Lessons 1-2</p> <p>“Peeking At Patterns”, <i>Sense-able Science</i>, Pgs. 20-26</p>
Week 2	<p>Needs of Animals</p> <p>39. Identify the needs of animals. (TEKS 1.9A / TEKS 2.9A / TEKS 5.9A)</p>	<p><u>Harcourt Science</u> Unit A – Ch. 3 Lesson 1</p>
Week 3	<p>Different Kinds of Animals</p> <p>40. Identify the characteristics of different kinds of animals that allow their needs to be met. (TEKS 1.9A / TEKS 2.9A / TEKS 5.9A)</p> <p>41. Compare different kinds of animals. (TEKS 1.8A, B)</p>	<p><u>Harcourt Science</u> Unit A – Ch. 3 Lesson 2</p>
Week 4	<p>Insects</p> <p>42. Identify the characteristics of insects that allow their needs to be met. (TEKS 1.9A / TEKS 2.9A / TEKS 5.9A)</p>	<p><u>Harcourt Science</u> Unit A – Ch. 3 Lesson 3</p> <p>“Camouflage”, <i>Brown Bag Science</i>, Pgs. 8-9</p>
Week 5	<p>How Do Animals Grow?</p> <p>43. Compare how different kinds of animals grow. (TEKS 1.7D)</p>	<p><u>Harcourt Science</u> Unit A – Ch. 3 Lesson 4</p>
Week 6	<p>Life Cycles</p> <p>44. Observe and record stages in the life cycle of a butterfly. (TEKS 1.7D / TEKS 5.6C)</p> <p>45. Observe and record stages in the life cycle of a frog. (TEKS 1.7D / TEKS 5.6C)</p>	<p><u>Harcourt Science</u> Unit A – Ch. 3 Lessons 5-6</p> <p>“A Time Of Their Own”, <i>Cycles of Knowing and Growing</i>, Pgs. 24-32</p>



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Week 7	Parts of a Plant 46. Observe and record the functions of plant parts. (TEKS 1.6B)	<u>Harcourt Science</u> Unit A – Ch. 2 Lesson 1
Week 8	How Plants Grow 47. Identify and record the stages of how plants grow. (TEKS 1.7D / TEKS 5.6C)	<u>Harcourt Science</u> Unit A – Ch. 2 Lesson 2 “A Plant Begins”, <i>Primarily Plants</i> , Pgs. 18-23
Week 9	Needs of Plants 48. Identify the needs of plants. (TEKS 1.9A / TEKS 2.9A / TEKS 5.9A)	<u>Harcourt Science</u> Unit A – Ch. 2 Lesson 3 “What Do Plants Need To Grow”, <i>Primarily Plants</i> , Pgs. 120-125
Week 10	Review Concepts	



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FOURTH NINE WEEKS VOCABULARY

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Mastery	Maintenance	Listening/Speaking
algae desert forest ocean pollen rain forest shelter	animals Earth flower insects living nonliving plants soil trees water worms	adaptation characteristic enrich guide dog trainer marine biologist product yucca



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FOURTH NINE WEEKS BENCHMARK CALENDAR

DATE	BENCHMARK TARGETS	INSTRUCTIONAL RESOURCES
Week 1	<p>Plants and Animals Need Each Other</p> <p>49. Compare and give examples of the ways plants and animals depend on each other for their basic needs. (TEKS 1.9B / TEKS 2.9B)</p>	<p><u>Harcourt Science</u> Unit B – Ch. 1 Lessons 1-2</p>
Week 2	<p>People Need Plants and Animals</p> <p>50. Compare and give examples of the ways people depend on plants and animals for their basic needs. (TEKS 1.9B / TEKS 2.9B)</p>	<p><u>Harcourt Science</u> Unit B – Ch. 1 Lesson 3</p> <p>“People Need Plants”, <i>Primarily Plants</i>, Pgs. 149-152</p>
Week 3	<p>Where Plants and Animals Live – Forests</p> <p>51. Identify and describe forest habitats. (TEKS 1.9A, B)</p> <p>52. Provide examples of characteristics of living organisms that allow their basic needs to be met in a forest. (TEKS 1.9A, B)</p>	<p><u>Harcourt Science</u> Unit B – Ch. 2 Lesson 1</p>
Week 4	<p>Where Plants and Animals Live – Desert</p> <p>53. Identify and describe desert habitats. (TEKS 1.9A, B)</p> <p>54. Provide examples of characteristics of living organisms that allow their basic needs to be met in a desert. (TEKS 1.9A, B)</p>	<p><u>Harcourt Science</u> Unit B – Ch. 2 Lesson 2</p> <p>“Desert Lands”, <i>Exploring Environments</i>, Pgs. 109-123</p>
Week 5	<p>Where Plants and Animals Live – Rain Forest</p> <p>55. Identify and describe rain forest habitats. (TEKS 1.9A, B)</p> <p>56. Provide examples of characteristics of living organisms that allow their basic needs to be met in a rainforest. (TEKS 1.9A, B)</p>	<p><u>Harcourt Science</u> Unit B – Ch. 2 Lesson 3</p>
Week 6	<p>Where Plants and Animals Live – Ocean</p> <p>57. Identify and describe ocean habitats. (TEKS 1.9A, B)</p>	<p><u>Harcourt Science</u> Unit B – Ch. 2 Lesson 4</p>



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	58. Provide examples of characteristics of living organisms that allow their basic needs to be met in the ocean. (TEKS 1.9A, B)	“Oceans”, <i>Exploring Environments</i> , Pgs. 137-151
Week 7	Teacher Choice	
Week 8	Teacher Choice	
Week 9	Teacher Choice	
Week 10	Teacher Choice	