

Garriga and Derry Elementary
Course/Grade Level: Science/_4th_
Science Curriculum Map

(This timeline is subject to change in order to meet the needs of students.)

Week	Dates	Topic(s)/Student Expectation (SE)/Focus Skill	Student Expectation (SE)/Scientific Investigation and Reasoning Skills
Sample Week	10/1 – 5	Matter and Energy/5.5B/Identify boiling, freezing and melting points	5.2A/Describe, plan and implement simple investigations
1	8/22-8/26	Scientific investigation and reasoning/4.1A Demonstrate safe practices and the use of safety equipment during classroom & outdoor investigations. Lesson 1: Science and Safety Notebooks	4.1A Demonstrate safe practices and the use of safety equipment during classroom & outdoor investigations. 4.2B record data by observing and using descriptive words such as labeled drawings, writing, and concept maps. 4.2 C construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data 4.2 F communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools, including notebooks; 4.4B Use safety equipment as appropriate, including safety goggles and gloves. 4.5A measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float; 4.5B predict the changes caused by heating and cooling such as ice becoming liquid water and condensation forming on the outside of a glass of ice water; and
2	8/29-9/02	Matter and Energy/4.5A Measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float. Unit 1: Physical Properties of Matter Lesson 2: Probing Properties	4.1A Demonstrate safe practices and the use of safety equipment during classroom and outdoor investigations. 4.2C Construct simple tables, charts, to organize, examine, and evaluate data. 4.2F Communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools including, hand lenses, metric rulers, Celsius thermometers, triple beam balances, graduated cylinders, magnets, and notebooks

3	9/5 Holiday 9/6-9/9	Matter and Energy/4.5A Measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float. Unit 1: Physical Properties of Matter Lesson 2 continued Lesson 3: The Heat is On	4.1A Demonstrate safe practices and the use of safety equipment during classroom 4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.
4	9/12-9/16	Matter and Energy/4.5B Predict the changes caused by heating and cooling such as ice becoming liquid water and condensation forming on the outside of a glass of ice water. Lesson 3: The Heat is On	4.1A Demonstrate safe practices and the use of safety equipment during classroom 4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.
5	9/19-9/23	Matter and Energy/4.5C Compare and contrast a variety of mixtures and solutions such as rocks in sand, sand in water, or sugar in water. Unit 2: Mixtures and Solutions , 12 days	4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations. 4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions. 4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data 4.2F Communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools, including Celsius thermometers, triple beam balances, graduated cylinders, beakers, and notebooks 4.4B Use safety equipment as appropriate, including safety goggles and gloves.
6	9/26-9/30	Matter and Energy/4.5C Compare and contrast a variety of mixtures and solutions such as rocks in sand, sand in water, or sugar in water. Unit 2: Mixtures and Solutions	4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations. 4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions. 4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals

			<p>such as labeled drawings, writing, and concept maps.</p> <p>4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.4A Collect, record, and analyze information using tools, including Celsius thermometers, triple beam balances, graduated cylinders, beakers, and notebooks</p> <p>4.4B Use safety equipment as appropriate, including safety goggles and gloves.</p>
7	10/03-10/07	<p>Force, motion, and energy/4.6A Differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal.</p> <p>4.6B Differentiate between conductors and insulators.</p> <p>Unit 3: Forms of Energy Lesson 1: 9days</p>	<p>4.1A Demonstrate safe practices and the use of safety equipment during classroom and outdoor investigations.</p> <p>4.2A plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.</p> <p>4.2B Collect and record data by observing and using descriptive words and numbers such as labeled drawings, writing, and concept maps.</p> <p>4.2C Construct simple tables, charts, bar graphs to organize, examine, and evaluate data.</p> <p>4.2E Perform repeated investigations to increase the reliability of results.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3B Draw inferences and evaluate accuracy of services and product claims found in advertisements and labels such as for toys, food, and sunscreen.</p> <p>4.4A Collect, record, and analyze information using tools, including calculators, cameras, computers, metric rulers, notebooks timing devices, including clocks and stopwatches;</p>
8	<p>10/10 -Staff Development</p> <p>10/11-10/14</p> <p><i>Last day of 1st Quarter</i></p>	<p>Force, motion, and energy/4.6A Differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal.</p> <p>4.6B Differentiate between conductors and insulators.</p> <p>Unit 3-Lesson 1 continued</p>	

9	10/17-10/21	<p>Force, motion, and energy/4.6D Design an experiment to test the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.</p> <p>Unit 3 –Lesson 2: Forces 9 days</p>	<p>4.1A Demonstrate safe practices and the use of safety equipment during classroom investigations.</p> <p>4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.</p> <p>4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps.</p> <p>4.2C Construct simple tables, charts, using tools and current technology to organize, examine, and evaluate data.</p> <p>4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.</p> <p>4.2E Perform repeated investigations to increase the reliability of results.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.</p> <p>4.4A Collect, record, and analyze information using tools, including calculators, cameras, computers, metric rulers, spring scales, meter sticks, magnets, and notebooks timing devices, including clocks and stopwatches</p> <p>4.4B Use safety equipment as appropriate, including safety goggles</p>
10	10/24-10/28	<p>Force, motion, and energy /4.6D Design an experiment to test the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.</p> <p>Unit 3-Lesson 2 continued</p>	
11	10/31-11/04	<p>Force, motion, and energy /4.6B Differentiate between conductors and insulators. 4.6C Demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field.</p> <p>Unit 3-Lesson 3: Electric Energy 7 days</p>	<p>4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations.</p> <p>4.2C Construct simple tables, charts, bar graphs, using tools and current technology to organize, examine, and evaluate data.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3A In all fields of science, analyze, evaluate, and critique</p>

			<p>scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student.</p> <p>4.4B Use safety equipment as appropriate, including safety goggles and gloves.</p>
12	11/07-11/11	<p>Earth and Space/4.7A Examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants.</p> <p>Complete- Unit 3-Lesson 3 Unit 4: The Changing Earth Lesson 1- Properties of Soil 9 days</p>	<p>4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations.</p> <p>4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.</p> <p>4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps</p> <p>4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data.</p> <p>4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.</p> <p>4.2E Perform repeated investigations to increase the reliability of results.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.</p> <p>4.4A Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, graduated cylinders and notebooks</p>
13	11/14-11/18	<p>Earth and Space/4.7A Examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants.</p>	
14	11/21-11/25 <i>Thanksgiving Break</i>	HOLIDAY	

15	11/28-12/02	<p>Earth and Space /4. 7A examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants;</p> <p>Unit 4- The Changing Earth Lesson 1- Properties of soil</p>	<p>4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations.</p> <p>4.2A Plan and implement descriptive investigations, including asking well-defined questions, making inferences, and selecting and using appropriate equipment or technology to answer his/her questions.</p> <p>4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps</p> <p>4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data.</p> <p>4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.</p> <p>4.2E Perform repeated investigations to increase the reliability of results.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.</p> <p>4.4A Collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, graduated cylinders and notebooks</p>
16	12/05-12/09	<p>Earth and Space/4.7B Observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice.</p> <p>Unit 4-The Changing Earth Lesson 2: Weathering and Erosion 10 days</p>	<p>4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations.</p> <p>4.3C Represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size.</p> <p>4.4A Collect, record, and analyze information using tools, including, hand lenses, <i>metric rulers</i>, Celsius thermometers, graduated cylinders, hot plates, and notebooks timing devices, including clocks</p> <p>4.4B Use safety equipment as appropriate, including safety goggles</p>
17	12/12-12/16 <i>Last day of 2nd Quarter</i>	<p>Earth and Space/4.7B Observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice. Lesson 2: Weathering and Erosion 10 days</p>	
18	12/19-12-20 12/22-12/26 <i>Christmas Break</i>	HOLIDAY	

19	12/29-1/2 <i>Christmas Break</i>	HOLIDAY	
20	1/2 HOLIDAY 1/3 WORKDAY 1/4-1/6 Staff Development	Earth and Space /4.7C Identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation. Unit 5: Natural Resources 9 days	4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations. 4.1B Make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper, aluminum, glass, cans, and plastic. 4.2C Construct simple table charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data; 4.2F Communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools, including notebooks
21	1/09-1/13	Earth and Space /4.7C Identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation. Unit 5: Natural Resources 9 days	
22	1/16-1/20	Earth and Space /4.8A Measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key. Unit 6: Patterns of the Earth Lesson 1: Weather Patterns	4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps. 4.2C Construct simple tables, charts, bar graphs, and maps using tools and current technology to organize, examine, and evaluate data. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools, including computers, Celsius thermometers, compasses, and notebooks
23	1/23-1/27	Earth and Space /4.8B Describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process. Unit 6: Patterns of the Earth	4.1A Demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations. 4.2F Communicate valid, oral, and written results supported by data. 4.3C Represent the natural world using models and identify their limitations, including accuracy and size. 4.4A Collect, record, and analyze information using tools,

		Lesson 2: Patterns in the Water Cycle	including beakers, hot plates, and notebooks 4.4B Use safety equipment as appropriate, including safety goggles and gloves.
24	1/30-2/03	Earth and Space /4.8C Collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time. Unit 6: Patterns of the Earth Lesson 3: Patterns in shadows, tides, seasons and moon (7 days) Writing Simulated- (2/1)	4.1B Make informed choices in the use and conservation of natural resources and reusing and recycling of materials such as paper aluminum, glass, cans and plastic 4.2B Collect and record data by observing and measuring, using the metric system, and using descriptive words and numerals such as labeled drawings, writing, and concept maps. 4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools, including calculators, computers, metric rulers, meter sticks, compasses, and notebooks
25	2/06-2/10	Organisms and environments/4.10B Demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses. Finish Unit 6-Lesson 3 Begin Unit 7: Traits - 10 Days for entire unit	4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid, oral, and written results supported by data. 4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. 4.4A Collect, record, and analyze information using tools, including mirrors and notebooks
26	2/13-2/17	Organisms and environments/4.10B Demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses. Begin Unit 7: Traits -10 Days for entire unit	4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured. 4.2F Communicate valid, oral, and written results supported by data. 4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. 4.4A Collect, record, and analyze information using tools, including mirrors and notebooks

27	2/20-2/24	<p>Organisms and environments /4.10B Demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses.</p> <p>Begin Unit 7: Traits -10 Days for entire unit</p>	<p>4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.</p> <p>4.4A Collect, record, and analyze information using tools, including mirrors and notebooks</p>
28	2/27-3/03	<p>Organisms and environments /4.10B Demonstrate that some likenesses between parents and offspring are inherited, passed from generation to generation such as eye color in humans or shapes of leaves in plants. Other likenesses are learned such as table manners or reading a book and seals balancing balls on their noses.</p>	<p>4.2D Analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured.</p> <p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3D Connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists.</p> <p>4.4A Collect, record, and analyze information using tools, including mirrors and notebooks</p>
29	3/06-3/10 <i>Last day of 3rd quarter</i>	<p>Organisms and environments/4.9A Investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food.</p> <p>4.9B Describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest.</p> <p>Unit 8: Energy Flow in Living Systems Lesson 1: Producers and Consumers (7 days)</p>	
30	3/13-3/17 <i>Spring Break</i>	Holiday	<p>4.2F Communicate valid, oral, and written results supported by data.</p> <p>4.3C Represent the natural world using models and identify their limitations, including accuracy and size.</p> <p>4.4A Collect, record, and analyze information using tools, including microscopes, hand lenses and notebooks materials to support observation of habitats of organisms such as terrariums and aquariums.</p>

31	3/21-3/24 3/20- Staff Development 4 day week	Organisms and environments /4.9BDescribe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest. Lesson 2: Food Webs (8 days) TELPAS Window	4.2F Communicate valid, oral, and written results supported by data. 4.3CRepresent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size. 4.4A Collect, record, and analyze information using tools, including notebooks materials to support observation of habitats of organisms such as terrariums and aquariums.
32	3/27-3/31	4.9BDescribe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest. Lesson 2: Food Webs (8 days) STAAR Writing Day- 3/28 TELPAS Window	4.2F Communicate valid, oral, and written results supported by data. 4.3CRepresent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size. 4.4A Collect, record, and analyze information using tools, including notebooks materials to support observation of habitats of organisms such as terrariums and aquariums.
33	4/03-4/07	Organisms and environments /4.9BDescribe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest. Lesson 2: Food Webs 8 days Math Simulated- (4/4) Reading Simulated- (4/5) TELPAS Window	4.2F Communicate valid, oral, and written results supported by data. 4.3CRepresent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size. 4.4A Collect, record, and analyze information using tools, including notebooks materials to support observation of habitats of organisms such as terrariums and aquariums.
34	4/10-4/14 4/14 Holiday	Matter and Energy/4.5A Measure, compare, and contrast physical properties of matter, including size, mass, volume, states (solid, liquid, gas), temperature, magnetism, and the ability to sink or float.	4.1A Demonstrate safe practices and the use of safety equipment during classroom and outdoor investigations. 4.2CConstruct simple tables, charts, to organize, examine, and evaluate data. 4.2F Communicate valid, oral, and written results supported by data. 4.4A Collect, record, and analyze information using tools including, hand lenses, metric rulers, Celsius thermometers, triple beam balances, graduated cylinders, magnets, and notebooks

35	4/17-4/21 4/17 Holiday	Organisms and environments/4.10A Explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants. Unit 9: Adaptations for Survival	4.3A science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student. 4.3C Represent the natural world using models such as, or fossils and identify their limitations, including accuracy and size. 4.4A Collect, record, and analyze information using tools, including notebooks
36	4/24-4/28	Organisms and environments /4.10A Explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants Unit 9: Adaptations for Survival	4.3A science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student. 4.3C Represent the natural world using models such as, or fossils and identify their limitations, including accuracy and size. 4.4A Collect, record, and analyze information using tools, including notebooks
37	5/01-5/05	Organisms and environments/4.10C Explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans. Unit 10: Life Cycles of Living Organisms	4.2C construct simple tables and charts using current technology to organize, examine, and evaluate data 4.4A Collect record and analyze information using tools including notebooks.
38	5/08-5/12	Organisms and environments /4.10C Explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans. Unit 10: Life Cycles of Living Organisms STAAR Math-5/8 Reading- 5/9	4.2C construct simple tables and charts using current technology to organize, examine, and evaluate data 4.4A Collect, record and analyze information using tools including notebooks
39	5/15-5/18 Workday <i>May 19</i>	Organisms and environments /4.10C Explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans. Unit 10: Life Cycles of Living Organisms	4.2C construct simple tables and charts using current technology to organize, examine, and evaluate data 4.4A Collect, record and analyze information using tools including notebooks

