



6th Grade Science Scope & Sequence

Darul Arqam North

1 st Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
Week 1	What is Science? Science in Action Models in Science	<ol style="list-style-type: none"> 1. Define science and identify questions that science cannot answer. 2. Compare and contrast theories and laws. 3. Identify the three branches of science. 4. Identify laboratory tools, safety and procedures scientists use. 5. Describe various types of models. 6. Discuss limitations of models. 	<i>(6.3, 6.4 TEKS IMBEDED IN ALL LEARNING OBJECTIVES)</i> 6.1 A, 6.1B,
Week 2	Scientific Method Evaluating Scientific Explanation	<ol style="list-style-type: none"> 1. Define hypothesis. 2. Recognize the difference between observation and inference. 3. Identify and recognize the roles of variables, constants, and controls in scientific experiments. 4. Recognize bias in experiments and how to avoid it. 5. Evaluate scientific explanations. 	6.2 A, 6.2B
Week 3	Description and Measurement Drawings, Tables, and Graphs	<ol style="list-style-type: none"> 1. Determine how reasonable a measurement is by estimating. 2. Identify and use the rules for rounding a number. 3. Distinguish between precision and accuracy in measurements. 4. Identify the purpose of SI. 5. Identify the SI units of length, volume, mass, temperature, time, and rate. 	6.3 (A-D), 6.4 (A-B)

1st Quarter

Resources:

Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
Week 4	Description and Measurement Drawings, Tables, and Graphs	<ol style="list-style-type: none"> 1. Describe how to use pictures and tables to give information. 2. Identify and use three types of graphs. 3. Distinguish the correct use of each type of graph. 	6.3 (A-D), 6.4 (A-B)
Week 5	Matter & Atoms Elements & Compounds Classification of Elements	<ol style="list-style-type: none"> 1. Define matter 2. Recognize the atom and its sub-particles as the building block of matter 3. Recognize that a limited number of the many known elements comprise the largest portion of solid Earth, living matter, oceans, and the atmosphere 	6.5 A, 6.5B
Week 6	Elements & Compounds Classification of Elements Chemical Properties and Changes	<ol style="list-style-type: none"> 1. Distinguish between elements and compounds 2. Recognize chemical properties and classify matter accordingly. 3. Identify chemical changes. 4. Identify the formation of a new substance by using the evidence of a possible chemical change such as production of a gas, change in temperature, production of a precipitate, or color change 	6.5C, 6.5D
Week 7	Physical Properties and Changes	<ol style="list-style-type: none"> 1. Identify Physical properties of matter 2. Describe the states of matter. 3. Classify matter using physical properties 4. Recognize that elements are classified as metals, nonmetals, and metalloids based on their physical properties. 5. Calculate the density of an unknown substance. 	6.6A, 6.6B
Week 8	Minerals	<ol style="list-style-type: none"> 1. What are minerals? 2. What are the Physical properties of minerals? 3. Test the physical properties of minerals, including hardness, color, luster, and streak 	6.6C



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Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
Week 9	Energy sources	<ol style="list-style-type: none"> 1. Research and debate the advantages and disadvantages of using coal, oil, natural gas, nuclear power, biomass, wind, hydropower, geothermal, and solar resources 2. Design a logical plan to manage energy resources in the home, school, or community 	6.7 (A-B)

2nd Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
Week 1	Potential and Kinetic Energy Thermal Energy	<ol style="list-style-type: none"> 1. Explain what energy is. 2. Distinguish between kinetic energy and potential energy. 3. Identify the various forms of KE and PE energy. 4. Apply the law of conservation of energy to energy transformations. 	6.8A, 6.9(A-B)
Week 2	Energy transformation	<ol style="list-style-type: none"> 1. Identify how energy changes form. 2. Demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy 3. Explain what renewable, nonrenewable, and alternative resources are. 4. Develop an awareness that the use of any energy source has positive and negative consequences. 	6.9C

2nd Quarter

Resources:

Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS)
Week 3	Describing Motion Forces	<ol style="list-style-type: none"> 1. Identify when motion occurs. 2. Identify force, balanced forces, and net force. 3. Compare speed, velocity, and acceleration. 4. Calculate average speed using distance and time measurements 5. Measure and graph changes in motion 	6.8(B,C)
Week 4	The laws of motion Inclined planes and pulleys	<ol style="list-style-type: none"> 1. Analyze motion using Newton's laws. 2. Investigate how inclined planes and pulleys can be used to change the amount of force to move an object 3. Explain friction. 	6.8(D-E)
Week 5	Layers of the Earth	<ol style="list-style-type: none"> 1. Describe how Earth's interior is divided into layers. 2. Build a model of the Earth to identify the structural layers. 	6.10A
Week 6		Science fair prep	
Week 7		Science Fair	
Week 8	Igneous and Sedimentary Rocks Metamorphic Rocks and the Rock Cycle	<ol style="list-style-type: none"> 1. Classify Rocks as Igneous, Sedimentary and Metamorphic 2. Describe how different types of sedimentary rocks form. 3. Describe the conditions needed for metamorphic rocks to form. 4. Explain how all rocks are linked by the rock cycle. 5. Describe weathering and erosion and their agents 	6.10B
Week 9	Review Benchmark		



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3rd Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
Week 1	Tectonic Plates	<ol style="list-style-type: none"> 1. Explain how plates of Earth’s lithosphere move. 2. Discuss why Earth’s plates move. 	6.10C
Week 2	Tectonic Plates	<ol style="list-style-type: none"> 1. Identify the major tectonic plates, including Eurasian, African, Indo-Australian, Pacific, North American, and South America 	6.10C-D
Week 3	Celestial objects	<ol style="list-style-type: none"> 1. Describe the physical properties, locations, and movements of the Sun, planets, Galilean moons, meteors, asteroids, and comets. 	6.11A
Week 4	Gravity	<ol style="list-style-type: none"> 1. What is Gravity 2. To understand that gravity is the force that governs the motion of our solar system 	6.11B
Week 5	Space Explorations	<ol style="list-style-type: none"> 1. To describe the history and future of space exploration, including the types of equipment and transportation needed for space travel. 	6.11C
Week 6	Cells	<ol style="list-style-type: none"> 1. understand that all organisms are composed of one or more cells 2. Identify names and functions of each part of a cell. 3. Explain how important a nucleus is in a cell. 	6.12 A
Week 7	Prokaryotes and Eukaryotes	<ol style="list-style-type: none"> 1. What is the difference between unicellular and multi-cellular? 2. What are the two types of cell classification? 3. To recognize that the presence of a nucleus determines whether a cell is prokaryotic or eukaryotic 4. How does the presence of a nucleus provide a method of basic classification of cells? 5. Summarize the discoveries that led to the development of the cell theory. 	6.12B

3rd Quarter

Resources:

Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
Week 8	Classification of Organisms	<ol style="list-style-type: none"> 1. Describe the three domains. 2. Describe four kingdoms in the domain Eukarya. 	6.12C
Week 9	Classification of Organisms	<ol style="list-style-type: none"> 1. Explain why and how organisms are classified. 2. List the eight levels of classification. 3. Explain scientific names. 4. Explain how classification developed as greater numbers of organisms became known. 	6.12 D

4th Quarter

Resources:

Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
Week 1	Classification of Organisms (cont.)	<ol style="list-style-type: none"> 1. Explain why and how organisms are classified. 2. List the eight levels of classification. 3. Explain scientific names 4. Explain how classification developed as greater numbers of organisms became known. 	6.12D
Week 2	The Environment Interactions Among Living Organisms	<ol style="list-style-type: none"> 1. Identify biotic and abiotic factors in an ecosystem. 2. Describe the different levels of biological organizations. 3. Explain how ecology and the environment are related. 	6.12E
Week 3	Interactions Among Living Organisms (cont.)	<ol style="list-style-type: none"> 1. Identify the common characteristics of populations. 2. Examine the different types of relationships in a community. 3. Determine the habitat and niche of a species in a community 	6.12 E
Week 4	Interactions Among Living Organisms (cont.)	<ol style="list-style-type: none"> 1. Explain the difference between a food chain and a food web. 2. Describe how energy flows through an ecosystem. 3. Examine how materials such as water, carbon, and nitrogen are used repeatedly. 	6.12E



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4th Quarter			
Resources:			
Week	Unit/Lesson	Learning Objectives	Reporting Categories (TEKS SEs)
Week 5	Organization and interaction in Ecosystems	<ol style="list-style-type: none"> 1. What are Levels of organization? 2. How are different levels of organization within an ecosystem classified? 3. What are populations? 4. What are Communities? 	6.12F
Week 6	Weather	<ol style="list-style-type: none"> 1. List the factors of weather. 2. Compare ways that heat is transferred on Earth. 3. Describe the formation of different kinds of clouds and precipitation. 4. Explain what causes wind. 5. Explain the ways that air masses and fronts form. 6. Discuss the causes of severe weather. 	
Week 7	Earth's Season Phases	<ol style="list-style-type: none"> 1. Explain why Earth has seasons. 2. Describe the motions that cause Moon phases. 	
Week 8	Wrap up Activities/make up work	Review for finals	
Week 9	Wrap up Activities/ make up work Graduation	FINAL EXAMS /WRAP-UP WEEK	