Science Curriculum Map

4th Grade

Month	Content	Skills	Assessment	Standards
August	**Chapter 1 – Classifying Living Things** **Lesson 1:** *How Are Living Things Classified?* **Lesson 2:** *How Are Plants and Fungi Classified?* **Lesson 3:** *How Are Animals Classified?*	►Describe structures that make up plant and animal cells. ►Describe the structures of vascular and nonvascular plants. ►Describe characteristics of vertebrates and invertebrates.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook **+** End of Chapter Test	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and measuring. **11.A.2d**: Use data to produce reasonable explanations. **12.A.2a**: Describe simple life cycles of plants and animals and the similarities and differences in their offspring.
Month	**Content**	**Skills**	**Assessment**	**Standards**
September	**Chapter 2 – Life Cycles** **Lesson 1:** *What is Heredity?* **Lesson 2:** *What Are Some Life*	►Describe how traits are inherited and develop. ►Describe the stages in the life cycle of flowering and non-flowering plants. ►Describe the stages of an animal's life cycle, including growth and	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and measuring. **11.A.2d**: Use data to

	Cycles of Plants? **Lesson 3:** *What Are Some Life Cycles of Animals?* **Chapter 3 – Adaptations** **Lesson 1:** *How Do the Bodies of Animals Help Them Meet Their Needs?* **Lesson 2:** *How Do the Behaviors of Animals Help Them Meet Their Needs?* **Lesson 3:** *How Do Living Things of the Past Compare with Those of Today?*	development. ►Explain how adaptations help living things meet their needs. ►Describe how instinctual and learned behaviors help animals survive and meet their needs. ►Describe how plants and animals have changed over time.	**+** End of Chapter Test	produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations. **12.A.2a**: Describe simple life cycles of plants and animals and the similarities and differences in their offspring. **12.A.2b**: Categorize features as either inherited or leaned **12.B.2b**: Identify physical features of plants and animals that help them live in different environments.
Month	**Content**	**Skills**	**Assessment**	**Standards**
October	**Chapter 4 – Human Body** **Lesson 1:** *How Does Your Body Get Oxygen and Nutrients?*	►Describe how oxygen and nutrients travel through the body. ►Describe how the systems of the body work together to enable people to think and move.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and measuring. **11.A.2d**: Use data to

	Lesson 2: *How Does Your Body Think and Move?* **Chapter 5 – Understanding Ecosystems** **Lesson 1:** *What Are the Parts of an Ecosystem?* **Lesson 2:** *What Facts Influence Ecosystems?* **Lesson 3:** *How Do Humans Affect Ecosystems?*	►Explain how the parts of an ecosystem interact. ►Describe the different factors that affect an ecosystem. ►Explain how human actions affect ecosystems.	**+** End of Chapter Test	produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations. **12.A.2a**: Describe simple life cycles of plants and animals and the similarities and differences in their offspring. **12.E.2a**: Identify and explain natural cycles of the Earth's land, water and atmospheric systems
Month	**Content**	**Skills**	**Assessment**	**Standards**
November	**Chapter 6 – Energy Transfer in Ecosystems** **Lesson 1:** *What Are the Roles of Living Things?* **Lesson 2:** *How Do Living Things Get Energy?*	►Explain how living things use energy from the sun. ►Describe how energy moves through food chains and webs. ►Compare living things of long ago with those of today.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook **+** End of Chapter Test	**11.A.2d**: Use data to produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations. **12.B.2a**: Describe relationships among various organisms in their environments

December	**Chapter 7 – The Rock Cycle** **Lesson 1:** *What Are the Types of Rocks?* **Lesson 2:** *What is the Rock Cycle?* **Lesson 3:** *How Do Weathering and Erosion Affect Rocks?* **Lesson 4:** *What is Soil?* ***Review skills*** ***Catch Up*** ***Winter Break***	►Identify the three types of rocks and the processes of the rock cycle. ► Understand how weathering and erosion affect rocks. ►Understand what soil is, how it forms, and its properties.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook **+** End of Chapter Test	**11.A.2d**: Use data to produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations. **11.B.2c**: Build a prototype of the design using available tools and materials. **12.C.2b**: Describe and explain the properties of solids, liquids, and gases. **12.E.2a**: Identify and explain natural cycles of the Earth's land, water and atmospheric systems **12.E.2b**: Describe and explain short-term and long-term interactions of the Earth's components.
Month	**Content**	**Skills**	**Assessment**	**Standards**
January	**Chapter 8 – Changes to Earth's Surface** **Lesson 1:**	►Identify and describe major landforms, how they develop, and how they are changed. ► Describe the structure of Earth.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and

	What Are Some of Earth's Landforms? **Lesson 2:** *What Causes Changes to Earth's Landforms?* **Lesson 3:** *What Are Fossils?* ***Winter Break*** ***ISAT review***	►Define fossils, how they form, and how they fit into the geological time scale.	**+** Discussion **+** Reading Support and Homework Workbook **+** End of Chapter Test	measuring. **11.A.2d**: Use data to produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations. **11.B.2c**: Build a prototype of the design using available tools and materials. **12.E.2a**: Identify and explain natural cycles of the Earth's land, water and atmospheric systems **12.E.2b**: Describe and explain short-term and long-term interactions of the Earth's components. **13.A.2c**: Explain why keeping accurate and detailed records is important.
Month	**Content**	**Skills**	**Assessment**	**Standards**
February	**Chapter 9 – The Water Cycle** **Lesson 1:**	►Describe the water cycle and understand different kinds of precipitation and how they form. ►Understand how	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review	**11.A.2b**: Collect data for investigations using scientific process skills including observing,

	What is the Water Cycle? **Lesson 2:** *How is the Water Cycle Related to Weather?* **Lesson 3:** *How Do Land Features Affect the Water Cycle?* **Lesson 4:** *How Can Weather Be Predicted?* ***ISAT review***	temperature and landforms affect the water cycle; Understand air masses, how they move, and how they affect weather.	**+** Labs **+** Discussion **+** Reading Support and Homework Workbook **+** End of Chapter Test	estimating, and measuring. **11.A.2d**: Use data to produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations.
Month	**Content**	**Skills**	**Assessment**	**Standards**
March	**Chapter 10 – Planets and Other Objects in Space** **Lesson 1:** *How Do Earth and Its Moon Move?*	►Understand how Earth's tilt affects the seasons. ►Describe our solar system and all the objects in it. ►Describe the sun, other stars, and groups of stars.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and measuring. **11.A.2d**: Use data to

	Lesson 2: *How Do Objects Move in the Solar System?* **Lesson 3:** *What Other Objects Can Be Seen in the Sky?* ***ISATs*** ***Spring break***		Homework Workbook **+** End of Chapter Test	produce reasonable explanations. **11.A.2e**: Report and display the results of individual and group investigations. **11.B.2c**: Build a prototype of the design using available tools and materials. **12.F.2a**: Identify and explain natural cycles and patterns in the solar system **12.F.2b**: Explain the apparent motion of the sun and stars. **12.F.2c**: Identify easily recognizable star patterns
Month	**Content**	**Skills**	**Assessment**	**Standards**
April	**Chapter 11 – Matter and Its Properties** **Lesson 1:** *How Can Physical Properties Be Used to Identify Matter?* **Lesson 2:**	► Define *matter, mass, volume*, and *density.* ► Explain how physical properties can be used to identify matter. ► Explain how temperature changes the states of matter. ► Explain that matter isn't lost or gained as matter changes states.	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook **+** End of Chapter Test	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and measuring. **11.A.2d**: Use data to produce reasonable explanations. **11.A.2e**: Report and

	How Does Matter Change States? **Lesson 3:** *What Are Mixtures and Solutions?* **Chapter 12 – Changes in Matter** **Lesson 1:** *What is Matter Made Of?* **Lesson 2:** *What Are Physical Changes in Matter?* **Lesson 3:** *How Does Matter React Chemically?*	► Define *mixture* and *solution*, and describe different kinds. ► Understand that the atom is the smallest particle of matter. ► Know that elements are substances made of just one kind of atom. ► Describe states of matter and changes of state.		display the results of individual and group investigations. **12.C.2a**: Describe and compare types of energy including light, heat, sound, electrical and mechanical **12.C.2b**: Describe and explain the properties of solids, liquids, and gases.
Month	**Content**	**Skills**	**Assessment**	**Standards**
May	**Chapter 13 – Sound** **Lesson 1:** *What is Sound?* **Lesson 2:** *What Are the Properties of Waves?*	► Explain what produces sound. ► Describe pitch and intensity. ► Explain how the attributes of a wave determine the sound that is produced. ► Explain how the human	**+** Assess prior knowledge **+** Focus skill questions **+** Lesson review **+** Labs **+** Discussion **+** Reading Support and Homework Workbook	**11.A.2b**: Collect data for investigations using scientific process skills including observing, estimating, and measuring. **11.A.2d**: Use data to produce reasonable

	Lesson 3: *How Do Sound Waves Travel?* **Chapter 14 – Light and Heat** **Lesson 1:** *How Does Light Behave?* **Lesson 2:** *How Can Heat Be Transferred?* **Lesson 3:** *How Is Heat Produced and Used?*	ear functions. ► List the three ways a sound wave can react when it strikes a surface. ► Define reflection, absorption, and refraction. ► Describe how light passes through eyes. ► Define temperature and heat. ► Describe three ways to transfer heat. ► Describe ways in which heat is used.	**+** End of Chapter Test	explanations. **11.A.2e**: Report and display the results of individual and group investigations. **11.B.2b**: Develop a plan, design a procedure to address the problem identifying constraints **11.B.2c**: Build a prototype of the design using available tools and materials. **11.B.2d**: Test the prototype using suitable instruments, techniques and quantitative measurements to record data. **11.B.2e**: Assess test results and the effectiveness of the design using given criteria and nothing possible sources of error. **11.B.2f**: Report test design, test process and test results. **12.C.2a**: Describe

				and compare types of energy including light, heat, sound, electrical and mechanical