2nd Grade Year at a Glance

Grading Period	Investigations	Learning Targets
Process Skills **Incorporated in all units throughout the year**	*identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately *describe the importance of safe practices *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 *ask questions about organisms, objects, and events during observations and investigations *plan and conduct descriptive investigations such as how organisms grow *collect data from observations using simple equipment such as hand lenses, primary balances, thermometers, and non-standard measurement tools *record and organize data using pictures, numbers, and words *communicate observations and justify explanations using student-generated data from simple descriptive investigations *compare results of investigations with what students and scientists know about the world *identify and explain a problem in his/her own words and propose a task and solution for the problem such as lack of water in a habitat *make predictions based on observable patterns *identify what a scientist is and explore what different scientists do *collect, record, and compare information using tools, including computers, hand lenses, rulers, primary balances, plastic beakers, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and stopwatches; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums *measure and compare organisms and objects using nonstandard units that approximate metric units	
First Grading Period	Inv. 1: Students combine materials to explore numerous ways to balance objects. Inv. 2: Explore forces that make objects move, and variables that influence the	*demonstrate that things can be done to materials to change their physical properties such as cutting, folding, sanding, and melting *combine materials that when put together can do things that they cannot do by themselves

Balance and Motion **FOSS Module 1**	movement of an object. Observe the force of gravity on an object. Inv. 3: Investigate and describe change in positions of rolling objects. Inv. 4: Explore the production of sound by vibrations using a variety of objects.	*justify the selection of building materials based on physical properties *explore changes in materials caused increasing or decreasing light, heat, and sound energy *trace the changes in the position of an object over time *compare patterns of different movement (sliding, rolling, spinning)
Second Grading Period **Air, Weather, and Earth** **FOSS Module 2**	Inv. 1: Explore properties of air as a mixture. Inv. 2: Use instruments to observe and record weather **throughout the year**. Identify three basic cloud types. Inv. 3: Look for evidence of moving air. Inv. 4: Using collected data look for weather patterns and compare the seasons. Make observations of the sky during day and night and look for observable changes of the Sun, Moon, and stars. Inv. 5: Observe and describe the properties of rocks. Classify matter by physical properties and demonstrate that they can be changed by heating and cooling. Investigate the effects of increasing and decreasing the amount of light on an object. Explore natural and man-made resources and how they can be conserved. Investigate the role of magnets in everyday life.	*classify matter by physical properties *compare changes in materials caused by heating and cooling * demonstrate that things can be done to materials to change their physical properties such as cutting, folding, sanding, and melting *combine materials that when put together can do things that they cannot do by themselves *justify the selection of building materials based on physical properties *explore changes in materials caused increasing or decreasing light, heat, and sound energy *observe and identify how magnets are used in everyday life *observe and describe rocks by size, texture, and color *compare the sources of natural freshwater and saltwater *distinguish between natural and manmade resources *measure, record, and graph weather information *identify the importance of weather and season information in making choices about clothing, activities, and travel *explore the water cycle as connected to weather *observe, describe, and record patterns of objects in the sky, including the appearance of the Moon

Third Grading Period **Insects and Plants** **FOSS Module 3**	Inv. 1: Observe the life cycle of a mealworm over 10 weeks. Inv. 2: Observe and record the complete life cycle of a brassica plant over a month from seed to seed. Inv. 3: Prepare a habitat that meets the needs of a milkweed bug. Observe the structure, pattern, and behavior as insects advance through simple metamorphosis. Identify plants and animals around the schoolyard. Inv. 4: Observe the life cycle of a silkworm. Search the schoolyard for evidence of plants being eaten by insects of other animals. Inv. 5: Observe the stages of complete metamorphosis and compare the behaviors of moths and butterflies. Explore the process of pollination.	*identify the basic needs of plants and animals *identify factors in the environment including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things (may need additional resources besides FOSS to meet this learning target) *observe, record, and compare how the physical characteristics of plants help meet their basic needs such as stems carry water throughout the plant *observe, record, and compare how the physical characteristics and behaviors of animals help them meet their basic needs such as fins help fish move and balance in the water. *compare and give examples of the ways living organisms depend on each other and on their environments such as food chains within a garden, park, beach, lake, and wooded area *investigate and record some of the unique stages that insects undergo during their life cycle
Fourth Grading Period **Continue Insects and Plants**		(see above)