

Scope and Sequence: Science Grades K-2

		Lower School		
		K	1	2
		Examples at Terra Verde include, but are not limited to:		
PROCESS SKILLS				
Make predictions, inferences, and definitions based on observations.		X (verbal)	X	X (written)
Identify questions and make predictions that can be addressed by conducting investigations.		X	X	X
Make and use models for visualization and evaluation.		X	X	X
Collect, organize, and interpret the data that results from observations experiments.		X	X	X
Use tools and technologies to collect data.		X	X	X
MATHEMATICAL APPLICATIONS				
Use estimation, measurement, and computation when doing science.		X	X	X
Use standard and non-standard units of measurement for length and weight.		X	X	X
Use appropriate tools in measuring length, weight, volume, time, and temperature.		X	X	X
Identify patterns when making observations.		X	X	X
Create and use tables and graphs to represent and interpret data.		X	X	X

NATURE AND THE PROCESS OF TECHNOLOGY

Select and use simple tools and materials to complete a task.

X X X

Make a plan in order to design a solution to a problem.

X X X

Describe a familiar object as a system with parts that work together.

X X X

Compare and contrast things that occur in nature and those that have been designed to solve human problems.

X X X

LIFE SCIENCE

Investigate the needs of living things.

- Fall gardening lessons, K-2

X X X

Compare and contrast the characteristics of living and non-living things.

- Animal research projects, K

X X X

Identify the structure, function, and behavior of an invertebrate.

- Life cycle of butterfly/frog/ladybug, K

X X

Describe the life cycle of an organism.

- Rainforest Study, K

X X X

Illustrate that plants and animals are composed of different parts performing different functions and working together for the well-being of the organism.

- Life Cycle of a Pumpkin, K

X X X

Describe differences within various species including humans.

- Non-fiction insect research projects, 1st Grade

X X X

Identify features that allow animals and plants to live in various habitats.

- Owl study, 1st and 4th Grade

X X X

Identify the roles that organisms may serve in a food chain and a food web.

X

Name members of a plant community.

X X X

Identify tree leaves by shape and venation.	<ul style="list-style-type: none"> • Chicken Project, 2nd Grade • Bird Week, K-5th Grades 		X	
Uses a dichotomous key to identify plant and animal species.			X	
Observe and analyze plant growth and development.		X	X	X
Describe the process and products of photosynthesis.		X		
Compare and contrast organisms based on their characteristics.		X	X	X
Collect data on local bird populations.		X	X	X

CHEMISTRY

Sort objects based on their physical properties.	<ul style="list-style-type: none"> • K Chemistry experiments: volcano, balloons, soda geyser, Goopy Glop, the Wizard of Ooze, lava bottles • 1st Grade Chemistry experiments: Chlorophyll extraction, Borax glue balls 	X	X	X
Make mixtures and solutions.		X	X	X
Use magnifiers to observe matter.		X	X	X
Define the characteristics of solids, liquids, and gases.		X		X
Know that water can be a liquid, solid, or gas.		X		X
Combine two or more materials and show that the new materials that may have properties that are different from the original materials.		X		X
Recognize evidence of a chemical change.		X		X

PHYSICS

Demonstrate the different ways objects can move.	<ul style="list-style-type: none"> • 1st Grade experiments: Force and Motion study; K'Nex playground design, team engineering challenges, OU 		X	
Show that the position and motion of an object can be changed by pushing or pulling.			X	
Identify the force that changes the speed or direction of a moving object.			X	

Recognize that everything on or near the earth is pulled toward the earth's center by gravitational force.	Engineering Lab field trip • K experiments: sinking and floating, electrical circuits, magnets		X	
Explore magnets and their interaction with everyday materials.		X		
Identify how magnets are used.		X		
Design an electric circuit to investigate the behavior of a system.		X		
Explore the concept of sinking and floating.		X		
Identify 6 simple machines and their uses.		X		

EARTH SCIENCE

Describe and illustrate the water cycle.	• 2 nd Grade Water Cycle Study • K Daily Calendar Routine • 2 nd Grade Weather Unit • 2 nd Grade Rock Study			X
Explore condensation, evaporation, transpiration, and infiltration.				X
Create and observe a working model of a water cycle.				X
Compile a daily weather chart.		X		X
Describe seasonal weather conditions.		X	X	X
Observe that rocks and soils are made up of several substances and minerals.				X
Summarize the processes involved in the rock cycle and describe the characteristics of the rocks involved.				X
Observe the characteristics of the rocks that were used for tool making.				
Explain what fossils are and how they are formed.				
Recognize that fossils provide evidence about plants and animals that lived long ago.				

ASTRONOMY AND SPACE SCIENCE				
Recognize that the sun supplies heat and light to the earth.	<ul style="list-style-type: none"> 1st Grade Night Sky Unit 		X	
Observe the patterns of day and night in the movements of the shadows of objects on the Earth during the course of a day.			X	
Recognize that the sun can only be seen during the day, but the moon can be seen sometimes at night and sometimes during the day.			X	
Recognize that the sun is a star.			X	
Describe the earth as one of the planets that orbit the sun.			X	
Describe the moon as a satellite of the sun.			X	
Explain that stars differ in size and brightness.			X	
ENVIRONMENTAL STUDY				
Associate organisms' basic needs with how they meet those needs within their surroundings.	<ul style="list-style-type: none"> School-wide focus on environmental conservation: trash-less lunches, recycling, composting, organic gardening, pond study, Bird Week, "outside every day" philosophy 	X	X	X
Describe the impact of human activity on our ecosystem and list meaningful ways we can reduce human impact.		X	X	X
Engage in personal and community-wide conservation efforts.		X	X	X
Identify natural resources that meet the various needs of humans.		X	X	X
Explain how meeting human requirements effects the environment.		X	X	X
Experience a sense of place through continuous exploration of local environment (Terra Verde property and beyond).		X	X	X