Second Grade Science Indicators
Class Summary

Second Grade																												
	Assessment		**Type of Intervention**																									
Earth and Space Standard																												
Observe constant and changing patterns of objects in the day and night sky.																												
1. Recognize that there are more stars in the sky than anyone can easily count.																												
2. Observe and describe how the sun, moon and stars all appear to move slowly across the sky.																												
3. Observe and describe how the moon appears a little different every day but looks nearly the same again about every four weeks.																												
Explain that living things cause changes on Earth.																												
Observe, describe and measure changes in the weather, both long term and short term.																												
4. Observe and describe that some weather changes occur throughout the day and some changes occur in a repeating seasonal pattern.																												
5. Describe weather by measurable quantities such as temperature and precipitation.																												
Describe what resources are and recognize some are limited but can be extended through recycling or decreased use.																												
Life Standard																												
Discover that there are living things, non-living things and pretend things, and describe the basic needs of living things (organisms).																												

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	Assessment		**Types of Intervention**																									
Life Standard																												
1. Explain that animals, including people, need air,																												
water, food, living space and shelter; plants need air,																												
water, nutrients (e.g., minerals), living space																												
and light to survive.																												
5. Explain that food is a basic need of plants and																												
animals (e.g., plants need sunlight to make food and																												
to grow, animals eat plants and/or other animals																												
for food (food chain) and is important because it is a																												
source of energy (e.g., energy used to play, ride																												
bicycles, read, etc.).																												
Explain how organisms function and interact with																												
their physical environment.																												
2. Identify that there are many distinct environments																												
that support different kinds of organisms.																												
3. Explain why organisms can survive only in																												
environments that meet their needs (e.g., organisms																												
that once lived on Earth have disappeared for																												
different reasons such as natural forces or human-																												
caused effects).																												
6. Investigate the different structures of plants and																												
animals that help them live in different environments																												
(e.g., lungs, gills, leaves and roots).																												
7. Compare the habitats of many different kinds of																												
Ohio plants and animals and some of the ways																												
animals depend on plants and each other.																												
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	Assessment		**Types of Intervention**																									

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Life Standard
8. Compare the activities of Ohio's common animals (e.g., squirrels, chipmunks, deer, butterflies, bees, ants, bats and frogs) during the different seasons by describing changes in their behaviors and body covering.
9. Compare Ohio plants during the different seasons by describing changes in their appearance.
Describe similarities and differences that exist among individuals of the same kind of plants and animals.
4. Compare similarities and differences among individuals of the same kind of plants and animals, including people.
Physical Standard
Discover that many objects are made of parts that have different characteristics. Describe these characteristics and recognize ways an object may change.
Recognize that light, sound and objects move in different ways.
1. Explore how things make sound (e.g., rubber bands, tuning fork and strings).
3. Explore with flashlights and shadows that light travels in a straight line until it strikes an object.
Recognize sources of energy and their uses.
2. Explore and describe sounds (e.g., high, low, soft and loud) produced by vibrating objects.

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	Assessment	**Types of Intervention**	
Science and Technology Standard			
Explain why people, when building or making something, need to determine what it will be made of, how it will affect other people and the environment.			
1. Explain that developing and using technology involves benefits and risks.			
2. Investigate why people make new products or invent new ways to meet their individual wants and needs.			
3. Predict how building or trying something new might affect other people and the environment.			
Explain that to construct something requires planning, communication, problem solving and tools.			
4. Communicate orally, pictorially, or in written form the design process used to make something.			
Scientific Inquiry Standard			
Ask a testable question.			
1. Ask, "how can I/we" questions.			
2. Ask, "how do you know" questions (not "why" questions) in appropriate situations and attempt to give reasonable answers when others ask questions.			
3. Explore and pursue student-generated "how" questions.			
Design and conduct a simple investigation to explore a question.			
Second Grade			
	Assessment	**Types of Intervention**	

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Scientific Inquiry Standard
4. Use appropriate safety procedures when completing scientific investigations.
7. Use appropriate tools and simple equipment/ instruments to safely gather scientific data (e.g., magnifiers, timers and simple balances and other appropriate tools).
8. Measure properties of objects using tools such as rulers, balances and thermometers.
Scientific Inquiry Standard
Gather and communicate information from careful observations and simple investigation through a variety of methods.
5. Use evidence to develop explanations of scientific investigations. (What do you think? How do you know?)
6. Recognize that explanations are generated in response to observations, events and phenomena.
9. Use whole numbers to order, count, identify, measure and describe things and experiences.
10. Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.

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Scientific Ways of Knowing Standard																												
Recognize that there are different ways to carry out scientific investigations. Realize that investigation can be repeated under the same conditions with similar results and may have different explanations.																												
1. Describe that scientific investigations generally work the same way under the same conditions.																												
Recognize the importance of respect for all living things.																												
3. Describe ways in which using the solution to a problem might affect other people and the environment.																												
Estimate and compute various attributes, including length, angle measure, area, surface area and volume, to a specified level of precision.																												
2. Explain why scientists review and ask questions about the results of other scientists' work.																												
4. Demonstrate that in science it is helpful to work with a team and share findings with others.																												