

Third Grade Science Alignment Record Science GLCE v.12.07

GLCE Code	Expectation	District Resources	Vocabulary	Additional Resources
Science Processes	Inquiry Process			
Performance Indicator [P.E.1]	Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.		observation reasoning	
P.03.11	Make purposeful observation of the natural world using the appropriate senses.	Structures of Life Investigation 1, Parts 1-3, pp. 8-24 Plants and Animals Investigation 3, Parts 1-2, pp. 120-134	controlled experiment senses	
P.03.12	Generate questions based on observations.	Measurement Investigation 3, Part 3, pp. 18-21 Plants and Animals Investigation 1, Parts 1-2, pp. 47-62		
P.03.13	Plan and conduct simple and fair investigations.	Measurement Investigation 2, Part 3, pp. 18-24 Plants and Animals Investigation 1, Parts 1-3, pp. 52-75		
P.03.14	Manipulate simple tools that aid observation and data collection (for example: hand lens, balance, ruler, meter stick, measuring cup, thermometer, spring scale, stop watch/timer).	Measurement Investigation 1, Part 2-3, pp. 16-24 Investigation 2, Part 2-3, pp. 14-24 Investigation 3, Part 1-3, pp. 8-21 Investigation 4, Part 1-3, pp. 8-21		
P.03.15	Make accurate measurements with appropriate units (centimeters, meters, Celsius, grams, seconds, minutes) for the measurement tool.	Measurement Investigation 1, Part 2-3, pp. 16-24 Investigation 2, Part 2-3, pp. 14-24 Investigation 3, Part 1-3, pp. 8-21 Investigation 4, Part 1-3, pp. 8-21		
P.03.16	Construct simple charts and graphs from data and observations.	Measurement Investigation 4, Part 1-2, pp. 8-17	data analysis, interpretation, presentation	
Science Processes	Inquiry Analysis and Communication			
Performance Indicator [A.E.1]	Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.			
A.03.11	Summarize information from charts and graphs to answer scientific questions.	Measurement Investigation 4, Part 1-2, pp. 8-17		

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A.03.12	Share ideas about science through purposeful conversation in collaborative groups.	Measurement Investigation 4, Part 2-4, pp. 16-30 Insects and Plants Investigation 3, Parts 1-3, pp. 129-151		
A.03.13	Communicate and present findings of observations and investigations.	Physics of Sound Investigation 1, Parts 1-3, pp. 8-29 Insects and Plants Investigation 4, Parts 1-5, pp. 166-191		
A.03.14	Develop research strategies and skills for information gathering and problem solving.	Physics of Sound Investigation 4, Parts 1, pp. 6-15 Insects and Plants Investigation 5, Parts 1-3, pp. 206-225		
A.03.15	Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.	Physics of Sound Investigation 2, Parts 1-3, pp. 8-24 Insects and Plants Investigation 2, Part 3, pp. 105-115		
Science Processes	Reflection and Social Implications			
Assessment RS.E.1	Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.			
RS.03.11	Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.	Physics of Sound Investigation 2, Parts 1-3, pp. 8-24 Insects and Plants Investigation 3, Parts 1-3, pp. 91-115		
RS.03.14	Use data/samples as evidence to separate fact from opinion.	Measurement Investigation 4, Part 1-2, pp. 8-17		
RS.03.15	Use evidence when communicating scientific ideas.	Physics of Sound Investigation 3, Parts 1-2, pp. 8-19 Insects and Plants Investigation 3, Parts 1-3, pp. 129-151		
RS.03.16	Identify technology used in everyday life.	Physics of Sound Science Stories, pp. 32-35		
RS.03.17	Identify current problems that may be solved through the use of technology.	Physics of Sound Science Stories, pp. 32-35		

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RS.03.18	Describe the effect humans and other organisms have on the balance of the natural world.	Earth Materials Science Stories, pp. 6-9		
RS.03.19	Describe how people have contributed to science throughout history and across cultures.	Structures of Life Science Stories, pp. 24-26		
Physical Science	Force and Motion			
Standard FM.E.2	Gravity- Earth pulls down on all objects with a force called gravity. With very few exceptions, objects fall to the ground no matter where the object is on the Earth.		gravity force	
FM.03.22	Identify the force that pulls objects towards the Earth.	Force and Motion Delta Science Module (DSM) Activity 1, pp. 13-22 Reader, p. 2		
Standard FM.E.3	Force- A force is either a push or a pull. The motion of objects can be changed by forces. The size of the change is related to the size of the force. The change is also related to the weight (mass) of the object on which the force is being exerted. When an object does not move in response to a force, it is because another force is being applied by the environment.		applied force Mass	“Sheep in a Jeep” from “Picture Perfect Science Lessons” pp. 181-204
FM.03.35	Describe how a push or a pull is a force.	Force and Motion (DSM) Activity 3-5, pp. 31-55 Reader, p. 2	acceleration Push Pull	
FM.03.36	Relate a change in motion of an object to the force that caused the change of motion.	Force and Motion (DSM) Activity 2-8, pp. 23-82		
FM.03.37	Demonstrate how the change in motion of an object is related to the strength of the force acting upon the object and to the mass of the object.	Force and Motion (DSM) Activity 3-5, pp. 31-55	change of direction motion speed friction	
FM.03.38	Demonstrate when an object does not move in response to a force, it is because another force is acting on it.	Force and Motion (DSM) Activity 3, pp. 31-39		
Standard FM.E.4	Speed- An object is in motion when its position is changing. The speed of an object is defined by how far it travels divided by the amount of time it took to		speed	

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	travel that far.			
EM.03.41	Compare and contrast the motion of objects in terms of direction.	Force and Motion (DSM) Activity 4-8, pp. 41-82	directions	
EM.03.42	Identify changes in motion (change direction, speeding up, slowing down).	Force and Motion (DSM) Activity 4-8, pp. 41-82		
EM.03.43	Calculate the speed of an object based on the distance it travels divided by the amount of time it took to travel that distance.			
Physical Science	Energy			
Statement EN.E.1	Forms of Energy- Heat, electricity, light, and sound are forms of energy.			
EN.03.11	Identify light and sound as forms of energy.	Physics of Sound Investigation 1, Part 3, pp. 21-29 Science Stories, pp. 6, 14, 17-20, 26		
Statement EN.E.2	Light Properties- Light travels in straight lines. Shadows result from light not being able to pass through an object. When light travels at an angle from one substance to another (air and water), it changes direction.		direct light indirect light reflected	“The Magic School Bus Gets a Bright Idea” pp. 14-15
EN.03.21	Demonstrate that light travels in a straight line and that shadows are made by placing an object in a path of light.		translucent transparent opaque	“Light is Energy you can See” and “Light Basics”
EN.03.22	Demonstrate what happens to light when it travels from water to air (straw half in water looks bent).		refraction reflection	Science Magic “Bending a Pencil” p. 28 “Light Moves in Straight Lines”
Statement EN.E.3	Sound- Vibrating objects produce sound. The pitch of sound varies by changing the rate of vibration.		vibration sound volume	“The Magic School Bus in the Haunted House” pp. 20-21
EN.03.31	Relate sounds to their sources of vibrations (for example: a musical note produced by a vibrating guitar string, the sounds of a drum made by the vibrating drum head).	Physics of Sound Investigation 1, Part 1-3, pp. 8-29 Investigation 2, Parts 1-3, pp. 8-24 Investigation 3, Parts 1-2, pp. 8-19	sound discrimination	“Good Vibrations” pp. 64-66 “Play It Loudly” pp. 70-72 “Sounds of Science” pp.

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		Investigation 4, Part 1, pp. 6-16		205-214
EN.03.32	Distinguish the effect of fast or slow vibrations as pitch.	Physics of Sound Investigation 2, Parts 1-3, pp. 8-24 Science Stories, pp. 11-13	pitch	“Perfect Pitch” pp. 67-69
Physical Science	Properties of Matter			
Standard PM.E.5	Conductive and Reflective Properties- Objects vary to the extent they absorb and reflect light energy and conduct heat and electricity.		absorb reflect conduct	
PM.03.51	Demonstrate how some materials are heated more than others by light that shines on them.			
PM.03.52	Explain how we need light to see objects: light from a source reflects off objects and enters our eyes.			
Life Science	Organization of Living Things			
Standard OL.E.3	Structures and Functions- Organisms have different structures that serve different functions in growth, survival, and reproduction.			
OL.03.31	Describe the function of the following plant parts: flower, stem, root and leaf.	Insects and Plants Investigation 2, Part 2, pp. 95-104		
OL.03.32	Identify and compare structures in animals used for controlling body temperature, support, movement, food-getting, and protection (for example: fur, wings, teeth, claws).			
Standard OL.E.4	Classification- Organisms can be classified on the basis of observable characteristics.			
OL.03.41	Classify plants on the basis of observable physical characteristics (roots, leaves, stems, and flowers).	Insects and Plants Investigation 2, Part 2, pp. 95-104		
OL.03.42	Classify animals on the basis of observable physical characteristics (backbone, skin, shell, limbs, scales).			
Life Science	Evolution			

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Expectation EV.E.1	Environmental Adaptation- Different kinds of organisms have characteristics that help them to live in different environments.			
EV.03.11	Relate characteristics and functions of observable parts in a variety of plants that allow them to live in their environment (for example: leaf shape, thorns, odor, color).	Insects and Plants Investigation 2, Parts 2-3, pp. 95-115 Science Resources, pp. 15-19		
EV.03.12	Relate characteristics and functions of observable body parts to the ability of animals to live in their environment (for example: sharp teeth, claws, color, body covers).			
Earth Science	Earth Systems			
Expectation ES.E.4	Natural Resources- The supply of many natural resources is limited. Humans have devised methods for extending their use of natural resources through recycling, reuse, and renewal.			
ES.03.41	Identify natural resources (metals, fuels, fresh water, farmland, and forests).			“Nature’s Gifts: The Materials of the Earth”
ES.03.42	Classify renewable (fresh water, farmland, forests) and non- renewable (fuels, metals) resources.			“Making Old Things New, Recycling to the Rescue”
ES.03.43	Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, reduce, renewal).			“Putting Trash in It’s Place”
ES.03.44	Recognize that paper, metal, glass, and some plastics can be recycled.			
Expectation ES.E.5	Human Impact- Humans depend on their natural and constructed environment. Humans change environments in ways that are helpful or harmful for themselves and other organisms.			
ES.03.51	Describe ways humans are dependent on the natural environment (forests, water, clean air, earth			“Oil Spill”, “Greenhouse Effect”, “Rain Forest on a

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	materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).			Stick”
ES.03.52	Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable and non-renewable resources).			“Two-Liter Landfills”
Earth Science	Solid Earth			
Statement SE.E.1	Earth Materials- Earth materials that occur in nature include rocks, minerals, soils, water, and the gases of the atmosphere. Some Earth materials have properties which sustain plant and animal life.			
SE.03.13	Recognize and describe different types of earth materials (mineral, rock, clay, boulder, gravel, sand, soil).			“Solid Earth” review sheets
SE.03.14	Recognize that rocks are made up of minerals.			
Statement SE.E.2	Surface Changes- The surface of Earth changes. Some changes are due to slow processes, such as erosion and weathering, and some changes are due to rapid processes, such as landslides, volcanic eruptions, and earthquakes.			
SE.03.22	Identify and describe natural causes of change in the Earth’s surface (erosion, glaciers, volcanoes, landslides, and earthquakes).			
Statement SE.E.3	Using Earth Materials- Some Earth materials have properties that make them useful either in their present form or designed and modified to solve human problems. They can enhance the quality of life as in the case of materials used for building or fuels used for heating and transportation.			
SE.03.31	Identify Earth materials used to construct some common objects (for example: bricks, buildings,			

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	roads, glass).			
3E.03.32	Describe how materials taken from the Earth can be used as fuels for heating and transportation.			