

Third Grade Science Grade Level Content Expectations (GLCEs) v.12.07

Content Statement / Content Expectation	Words to Know	Know –Nouns-Content	Be Able to Do –Verbs-Skills and Processes
SCIENCE PROCESSES: Inquiry Process			
<i>S.IP.E.1 Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.</i>			
S.IP.03.11 Make purposeful observation of the natural world using the appropriate senses.	5 senses, plant parts, animal parts	Natural world	Observation
S.IP.03.12 Generate questions based on observations.	Questions that pertain to the topic of study	Questions	Generate
S.IP.03.13 Plan and conduct simple and fair investigations.	Light properties (straw and water, and shadow)	Investigations	Plan and conduct
S.IP.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).	Force and Motion	Data collection, hand lens, balance, meter stick, spring scale	Manipulate
S.IP.03.15 Make accurate measurements with appropriate units (centimeters, meters, Celsius, grams, seconds, minutes) for the measurement tool.	Force and Motion	Units, centimeters, meters, Celsius, grams	Measurements
S.IP.03.16 Construct simple charts and graphs from data and observations.	Force and Motion (cars travel) Earth Science (renewable, nonrenewable)	Simple charts, graphs	Construct
SCIENCE PROCESSES: Inquiry Analysis and Communication			
<i>S.IA.E.1 Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.</i>			
S.IA.03.11 Summarize information from charts and graphs to answer scientific questions.	Build Common Assessment from charts from above S.IP.03.16	Charts, graphs	Summarize
S.IA.03.12 Share ideas about science through purposeful conversation in collaborative groups.	All units	Conversation	Share ideas
S.IA.03.13 Communicate and present findings of observations and investigations.	Animal Creation	Communicate and present findings	Communicate and present
S.IA.03.14 Develop research strategies and skills for information gathering and problem solving.	Earth Systems (Information gathering)	Problem solving	Develop

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	Recycle)		
S.IA.03.15 Compare and contrast sets of data from multiple trials of a science investigation to explain reasons for differences.	Motion - Cars	Data, science investigation	Compare and contrast
SCIENCE PROCESSES: Reflection and Social Implications			
<i>S.RS.E.1 Reflecting knowledge is the application of scientific knowledge to new and different situations. Reflecting knowledge requires careful analysis of evidence that guides decision making and the application of science throughout history and within society.</i>			
S.RS.03.11 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.	See unit plans Plants, Rocks	Illustrations, performances, models, exhibits	Demonstrate
S.RS.03.14 Use data/samples as evidence to separate fact from opinion.	Teacher made renewable and nonrenewable material	Fact, opinion	Use data
S.RS.03.15 Use evidence when communicating scientific ideas.	All units	Scientific ideas	Use evidence
S.RS.03.16 Identify technology used in everyday life.	All units	Technology	Identify
S.RS.03.17 Identify current problems that may be solved through the use of technology.	Web Quest - light		Identify
S.RS.03.18 Describe the effect humans and other organisms have on the balance of the natural world.	Earth Science Pollution	Organisms, natural world	Describe
S.RS.03.19 Describe how people have contributed to science throughout history and across cultures.		Cultures	Describe
PHYSICAL SCIENCE: Force and Motion			
<i>P.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.</i>			
P.FM.03.22 Identify the force that pulls objects towards the Earth.	gravity	Pulling force	Identify
<i>P.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.</i>			
P.FM.03.35 Describe how a push or a pull is a force.	Work being done, applied work	Force, push, pulls	Describe
P.FM.03.36 Relate a change in motion of an object to the force that caused the change of motion.	Cause, force, speed,	Change in Motion	Relate a change
P.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.	Strength of force, mass of object	Change in motion relates to	Demonstrate

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P.FM.03.38 Demonstrate when an object does not move in response to a force, it is because another force is acting on it.	stationary	Force equals energy,	Demonstrate
<i>P.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 travel that far.</i>			
P.FM.03.41 Compare and contrast the motion of objects in terms of direction.	Cardinal direction, up, down, right, left,	Motion of Objects	Compare and contrast
P.FM.03.42 Identify changes in motion (change direction, speeding up, slowing down).	Change direction, speed up, slow down	Changes in motion	Identify
P.FM.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.	Speed, time	Calculate distance	Calculate the speed
Energy			
<i>P.EN.E.1 Forms of Energy- Heat, electricity, light, and sound are forms of energy.</i>			
P.EN.03.11 Identify light and sound as forms of energy.	Forms of energy	Light, sound, energy	Identify
<i>P.EN.E.2 Light Properties- Light travels in straight lines.</i>			
P.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.	Straight lines, path of light	Shadows	demonstrate
P.EN.03.22 Demonstrate what happens to light when it travels from water to air. (straw half in water looks bent).	Water, air, bent, refract	Light Travels	Demonstrate
<i>P.EN.E.3 Sound- Vibrating objects produce sound. The pitch of sound varies by changing the rate of vibration.</i>			
P.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).	Vibrations, instrument names	Sound sources	Relate
P.EN.03.32 Distinguish the effect of fast or slow vibrations as pitch.	Fast and slow vibrations	pitch	Distinguish
Properties of Matter			
<i>P.PM.E.5 Conductive and Reflective Properties- Objects vary to the extent they absorb and reflect light energy and conduct heat and electricity.</i>			
P.PM.03.51 Demonstrate how some materials are heated more than others by light that shines on them.	Black/dark material vs. light or white material	Heated materials	Demonstrate
P.PM.03.52 Explain how we need light to see objects: light from a source	Flashlight,	Light, objects,	Explain

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reflects off objects and enters our eyes.	mirrors, eyes,	reflection	
LIFE SCIENCE: Organization of Living Things			
<i>L.OL.E.3 Structures and Functions- Organisms have different structures that serve different functions in growth, survival, and reproduction.</i>			
L.OL.03.31 Describe the function of the following plant parts: flower, stem, root and leaf.	Jobs, flower, stem, root, leaf, structures	Plant Function	Describe
L.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).	Body temperature, support, movement, food-getting, protection Fur, wings, teeth, claws	Animal structures	Identify and compare
<i>L.OL.E.4 Classification- Organisms can be classified on the basis of observable characteristics.</i>			
L.OL.03.41 Classify plants on the basis of observable physical characteristics (roots, leaves, stems, and flowers).	Roots, leaves, stems, flowers	observable characteristics	Classify
L.OL.03.42 Classify animals on the basis of observable physical characteristics (backbone, skin, shell, limbs, scales).	Backbone, skin, shell, limbs, scales	Observable physical characteristics	Classify
Evolution			
<i>L.EV.E.1 Environmental Adaptation- Different kinds of organisms have characteristics that help them to live in different environments.</i>			
L.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).	Leaf, shape, thorns, odor, color	Environment characteristics and functions	Relate
L.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).	Sharp teeth, claws, color, body covers	Characteristics and functions	Relate
EARTH SCIENCE: Earth Systems			
<i>E.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.</i>			
E.ES.03.41 Identify natural resources (metals, fuels, fresh water, farmland, and forests).	metals, fuels, fresh water, farmland, forests	Natural resources	Identify
E.ES.03.42 Classify renewable (fresh	Fresh water,	Renewable,	Classify

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water, farmland, forests) and nonrenewable (fuels, metals) resources.	farmland, forests, fuels, metals	nonrenewable,	
E.ES.03.43 Describe ways humans are protecting, extending, and restoring resources (recycle, reuse, reduce, renewal).	recycle, reuse, reduce, renewal	Protecting, extending, restoring resources	Describe
E.ES.03.44 Recognize that paper, metal, glass, and some plastics can be recycled.	Paper, metal, glass, plastic	recycled	Recognize
<i>E.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.</i>			
E.ES.03.51 Describe ways humans are dependent on the natural environment (forests, water, clean air, earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).	Forests, water, clean air, earth materials, homes, neighborhoods, factory and industry	Dependent, natural environment, constructed environments	Describe
E.ES.03.52 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable and non-renewable resources).	garbage, habitat destruction, land management, renewable, nonrenewable resources	Helpful, harmful effects	Describe
Solid Earth			
<i>E.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.</i>			
E.SE.03.13 Recognize and describe different types of earth materials (mineral, rock, clay, boulder, gravel, sand, soil).	mineral, rock, clay, boulder, gravel, sand, soil	Earth materials,	Recognize and describe
E.SE.03.14 Recognize that rocks are made up of minerals.	rocks	minerals	Recognize
<i>E.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.</i>			
E.SE.03.22 Identify and describe natural causes of change in the Earth's surface (erosion, glaciers, volcanoes, landslides, and earthquakes). LITTLE GRUNT - HARCOURT	Fast processes and slow processes	Earth's surface, erosion, glaciers, volcanoes, landslides, earthquakes	Identify and describe

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<i>E.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.</i>			
E.SE.03.31 Identify Earth materials used to construct some common objects (for example: bricks, buildings, roads, glass).	Bricks, building, roads, glass	Earth materials, objects	Identify and construct
E.SE.03.32 Describe how materials taken from the Earth can be used as fuels for heating and transportation.	Fuels, heating, transportation	Earth materials	Describe