

Second Grade Science - First Six Weeks

Essential Questions: What tools, skills, knowledge, and dispositions are needed to conduct scientific inquiry? How are plant and animal cells organized to carry on the process of life?

Grade Level Expectations

GLE 0207.Inq.1 Observe the world of familiar objects using the senses and tools.

GLE 0207.Inq.2 Ask questions, make logical predictions, plan investigations, and represent data.

GLE 0207.Inq.3 Explain the data from an investigation.

GLE 0207.1.1 Recognize that plants and animals are made up of smaller parts and use food, water, and air to survive.

GLE 0207.6.1 Realize that the sun is our nearest star and that its position in the sky appears to change.

GLE 0207.6.2 Make observations of changes in the moon's appearance over time.

GLE 0207.10.1 Explain why the sun is the primary source of the earth's energy.

Checks for Understanding

✓ **0207.Inq.1** Use senses and simple tools to make observations.

http://www.crickweb.co.uk/ks2numeracy-shape-and-weight.html#boxing_weigh_inCW

<http://www.visualfractions.com/scale/platformscale.htm>

✓ **0207.Inq.2** Communicate interest in simple phenomena and plan for simple investigations.

<http://www.reekoscience.com/>

http://www.exploratorium.edu/science_explorer/

<http://www.funology.com/laboratory/>

<http://pbskids.org/zoom/activities/sci/>

✓ **0207.Inq.3** Communicate understanding of simple data using age- appropriate vocabulary.

<http://www.mcrel.org/whelmers/whelm07.asp>

http://www.internet4classrooms.com/excel_survey.htm

✓ **0207.Inq.4** Collect, discuss, and communicate findings from a variety of investigations.

<http://www.readwritethink.org/classroom-resources/lesson-plans/does-garden-grow-writing-846.html>

<http://www.fi.edu/tfi/activity/earth/earth-5.html>

✓ **0207.1.1** Design a new living thing and explain how it would acquire food, water, and air.

<http://pbskids.org/arthur/games/alien/alien.html>

<http://teacher.scholastic.com/activities/dinosaurs/buildadino/>

http://teacher.scholastic.com/activities/explorer/ecosystems/be_an_explorer/map/caterpillar_play.htm

✓ **0207.6.1** Observe and collect data on the sun's position at different times of the day.

<http://chalk.richmond.edu/education/projects/webunits/cycles/daynightexp.html>

http://www.exploratorium.edu/science_explorer/sunclock.html

✓ **0207.6.2** Use science journals to draw and record changes in the moon over a period of time.

http://www.calculatorcat.com/moon_phases/phasesnow.php

http://www.noao.edu/education/phases/phases_demo.html

The Sun is to the right of the Earth and Moon. (The animation is near the bottom of their page)

http://sunshine.chpc.utah.edu/labs/moon/lunar_phases_main.html

✓ **0207.10.1** Identify and explain how the sun affects objects on the surface of the earth.

http://www.daviddarling.info/childrens_encyclopedia/heat_Chapter6.html

<http://www.reachoutmichigan.org/funexperiments/agesubject/lessons/caps/sunandtemp.html>

✓ **0207.10.2** Investigate how the sun affects various objects and materials.

<http://www.sciencekids.co.nz/experiments/lightcolorheat.html>

Assessments: student work samples, selection assessments, centers, individual and group projects

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2nd Grade Science-Second Six Weeks

Interdependence

Essential Questions: How do living things interact with one another and with the non-living elements of their environment?

Grade Level Expectations:

GLE 0207.2.1 Investigate the habitats of different kinds of local plants and animals.

GLE 0207.2.2 Investigate living things found in different places.

GLE 0207.2.3 Identify basic ways that plants and animals depend on each other.

GLE 0207.3.1 Recognize that animals eat plants or other animals for food.

Checks for Understanding

0207.2.1 Draw or use pictures of a local environment to label the plants and animals.

<http://www.chesapeakebay.net/baybio.htm> Use this page as a source of pictures.

0207.2.2 Investigate ways that plants and animals depend on each other.

http://www.harcourtschool.com/activity/food/pond_activity.html

http://www.bbc.co.uk/schools/scienceclips/ages/8_9/habitats.shtml

0207.2.3

Construct a flow chart that demonstrates how plants, animals, and the environment interact to provide basic life requirements.

<http://www.vtaide.com/png/foodchains.htm> After learning about food webs, select the link named "**create a possible food web**" at the bottom of the page. Click and drag to create your own food web.

0207.3.1

Describe the habitat of a particular organism based on its food, water, and air requirements.

http://www.abpschools.org.uk/page/modules/humans_animal_habitats/activity.cfm?coSiteNavigation_allTopic=1

<http://kids.nationalgeographic.com/kids/animals/creaturefeature/>

0207.3.2

Design a model of a habitat for an organism in which all of its needs would be met.

<http://www.arkive.org/education/games> [Design a Habitat](#) - interactive game - Use the **No Sound** game

http://nationalzoo.si.edu/Education/ConservationCentral/design/daph_broadband.htm

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Second Grade Science -Third Six Weeks

Essential Questions: How do science concepts, engineering skills, and applications of technology improve the quality of life?

What are the scientific principles that explain gravity and electromagnetism?

Grade Level Expectations

GLE 0207.1 Recognize that both natural materials and human-made tools have specific characteristics that determine their uses.

GLE 0207.2 Apply engineering design and creative thinking to solve practical problems.

GLE 0207.12.1 Experiment with magnets to determine that objects can move without being touched.

GLE 0207.12.2 Realize that things fall toward the ground unless something holds them up.

Checks for Understanding

✓ **0207.1** Explain how simple tools are used to extend the senses, make life easier, and solve everyday problems.

<http://faculty.washington.edu/chudler/chsmell.html>

<http://science.pppst.com/humanbody/fivesenses.html>

✓ **0207.2** Invent designs for simple products.

<http://pbskids.org/zoom/activities/sci/puffmobile.html>

<http://themes.pppst.com/inventions.html>

✓ **0207.3** Use tools to measure materials and construct simple products.

<http://www.funbrain.com/cgi-bin/meas.cgi?A1=s&A2=0&A3=0&INSTRUCTS=1>

<http://www.funbrain.com/cgi-bin/meas.cgi?A1=s&A2=1&A3=0&INSTRUCTS=1>

✓ **0207.12.1** Explain how two magnets interact

<http://www.graves.k12.ky.us/powerpoints/elementary/> scroll down to “Magnets”

<http://science.pppst.com/magnets.html>

✓ **0207.12.2** Describe what happens when an object is dropped and record the observations in a science notebook.

<http://science.pppst.com/motion.html>

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Second Grade Science -Fourth Six Weeks

Essential Questions: What tools, skills, knowledge, and dispositions are needed to conduct scientific inquiry? What scientific information explains how matter and energy flow through the biosphere? What are the principal mechanisms by which living things reproduce and transmit information between parents and offspring? How does natural selection explain how organisms have changed over time?

Grade Level Expectations

GLE 0207.Inq.2 Ask questions, make logical predictions, plan investigations, and represent data.

GLE 0207.Inq.3 Explain the data from an investigation.

GLE 0207.3.1 Recognize that animals eat plants or other animals for food.

GLE 0207.4.1 Compare the life cycles of various organisms.

GLE 0207.5.1 Investigate the relationship between an animal's characteristics and the features of the environment where it lives.

GLE 0207.5.2 Draw conclusions from fossils about organisms that lived in the past.

Checks for Understanding

✓ **0207.Inq.2** Communicate interest in simple phenomena and plan for simple investigations.

✓ **0207. Inq.3** Communicate understanding of simple data using age- appropriate vocabulary.



[The Mystery Of The Sky](#) An inquiry challenge about why the sky is blue.



✓ **0207. Inq.4** Collect, discuss, and communicate findings from a variety of investigations.



[Water, Water Everywhere?](#)



[Volcanoes!](#)

- ✓ **0207.3.1** Describe the habitat of a particular organism based on its food, water, and air requirements.
http://www.abpschools.org.uk/page/modules/human_animal_habitats.cfm
http://www.uen.org/utahlink/activities/view_activity.cgi?activity_id=3792 scroll down and select an animal
<http://www.abpschools.org.uk/page/modules/humansandanimals.cfm>
- ✓ **0207.3.2** Design a model of a habitat for an organism in which all of its needs would be met.
<http://www.arkive.org/education/games/design-a-habitat> interactive game - Use the **No Sound** game
- ✓ **0207.4.1** Compare and contrast the life cycles of different organisms such as a chicken, butterfly, mealworm, frog, or human.
<http://www.tooter4kids.com/LifeCycle/Stages.htm>
http://www.tooter4kids.com/Frogs/life_cycle_of_frogs.htm
<http://www.hhmi.org/coolscience/forkids/butterfly/index.html>
- ✓ **0207.4.2** Sequence a collection of pictures or illustrations into the correct stages of an organism's life cycle.
<http://www.arkive.org/education/games/one-two-three-grow>
http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks1/science/hamshall/life_cycles/index.htm
<http://www.arkive.org/education/games/design-a-habitat>
[Life Stages Cards](#) These are great. Just register for Free Teachers' Domain and get them.
[butterfly lifecycle game](#), Sequence the life stages picture in the correct order
- ✓ **0207.5.1** Compare and contrast the characteristics of organisms from two different environments.
<http://www.barwonbluff.com.au/bluff%20life/environments/intertidal%20rocky%20reefs/intertidal%20rocky%20reefs.htm>
<http://www.beaconlearningcenter.com/WebLessons/CritterCraze/animals001.htm>
<http://ethemes.missouri.edu/themes/1388>
- ✓ **0207.5.2** Infer the characteristics needed by an organism to survive in a particular environment.
<http://www.kidport.com/RefLib/Science/BeaksBills/BeaksBills.htm>
<http://www.units.muohio.edu/dragonfly/com/> interactive site to learn about wolves characteristics
<http://video.kids.nationalgeographic.com/video/player/kids/animals-pets-kids/mammals-kids/porcupine-lions-kids.html>

([don't let the lions make you think you arrived at the wrong place] How does this animal protect itself?

[Lesson Animal Survival](#)

- ✓ **0207.5.3** Observe fossils or pictures of fossils and make inferences about the organisms from which they originated.

<http://www.fossilmuseum.net/FossilGalleries.htm>

<http://www.geo-tools.com/plants.htm>

<http://www.footprints-science.co.uk/flash/fossils.swf>

- ✓ **0207.5.4** Compare pictures of fossils with animals or plants that are living today.

<http://www.fossilsonline.com/>

<http://www.flmnh.ufl.edu/natsci/paleobotany/gallery/pg-1sm.htm>

<http://www.opencourtresources.com/ocr/grade2/index.html>

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Second Grade Science – Fifth Six Weeks

Essential Questions: What are the principal mechanisms by which living things reproduce and transmit information between parents and offspring? How do the physical characteristics and the chemical makeup of the atmosphere influence surface processes and life on Earth?

Grade Level Expectations

GLE 0207.4.2 Realize that parents pass along physical characteristics to their offspring.

GLE 0207.8.1 Associate temperature patterns with seasonal changes.

Checks for Understanding

- ✓ **0207.4.3** Look for similarities in pictures of members from the same human family.

<http://www.madsci.org/posts/archives/may97/861667602.Ge.r.html>

<http://school.discoveryeducation.com/lessonplans/programs/lifecycles/>

- ✓ **0207.4.4** Create a graphic organizer that compares observable traits that offspring share with their parents.

<http://school.discoveryeducation.com/lessonplans/programs/lifecycles/>

[Family Genetics Chart](#)

- ✓ **0207.8.1** Use records and graphs of seasonal temperature changes to draw conclusions about the weather during different times of the year.

<http://teacher.scholastic.com/activities/wwatch/sim/game.htm>

<http://chalk.richmond.edu/education/projects/webunits/cycles/seasons.html>

What Causes the Seasons

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Second Grade Science – Sixth Six Weeks

Essential Questions: How is the earth affected by long-term and short-term geological cycles and the influence of man? How does the structure of matter influence its physical and chemical behavior? What basic energy related ideas are essential for understanding the dependency of the natural and man-made worlds on energy?

Grade Level Expectations

GLE 0207.7.1 Compare and record the components of a variety of soil types.

GLE 0207.7.2 Describe rocks according to their origin, size, shape, texture, and color.

GLE 0207.7.3 Differentiate between renewable and non-renewable resources.

GLE 0207.9.1 Use tools to observe the physical properties of objects.

GLE 0207.9.2 Investigate how temperature changes affect the state of matter.

GLE 0207.9.3 Recognize that air takes up space.

GLE 0207.11.1 Investigate how vibrating objects produce sound.

GLE 0207.11.2 Classify sounds according to their loudness and pitch.

Checks for Understanding

✓ **0207.7.1** Sort, analyze, and compare a variety of soil types.

http://soil.gsfc.nasa.gov/app_soil/hmsoil.htm

<http://school.discoveryeducation.com/schooladventures/soil/>

<http://www.soil-net.com/>

✓ **0207.7.2** Observe rocks of different sizes with a hand lens and describe these materials according to their basic features.

<http://www.fossweb.com/modulesK-2/PebblesSandandSilt/index.html>

http://www.bbc.co.uk/schools/scienceclips/ages/7_8/index_noflash.shtml

<http://sln.fi.edu/qa97/spotlight1/spotlight1.html>

✓ **0207.7.3** Identify and categorize items in the classroom made from renewable or non-renewable resources.

<http://www.fossweb.com/modules3-6/MatterandEnergy/index.html>

http://www.quiz-tree.com/Energy_Renewable-Energy-Sources-and-the-Environment_1_MC-4.html

<http://www.eia.doe.gov/kids/index.cfm>

- ✓ **0207.7.4** Identify simple methods for reusing the earth's resources.

<http://illuminations.nctm.org/LessonDetail.aspx?id=L206>

<http://www.epa.gov/recyclecity/>

<http://www.sciencemuseum.org.uk/exhibitions/energy/site/EIZCaseStudy27Item4.asp>

- ✓ **0207.9.1** Use tools such as hand lenses, measurement devices, and simple arm balances to gather data about the physical properties of different objects.

http://www.crickweb.co.uk/ks2numeracy-shape-and-weight.html#boxing_weigh_inCW

http://www.harcourtschool.com/activity/which_tool/

- ✓ **0207.9.2** Describe what happens when ice changes from a solid to a liquid.

<http://www.fossweb.com/modulesK-2/SolidsandLiquids/activities/changeit.html>

http://www.bbc.co.uk/schools/ks2bitesize/science/materials/changing_state/play.shtml

<http://www.fossweb.com/modulesK-2/SolidsandLiquids/index.html> click on the link on the side to start the activity.

http://teacher.scholastic.com/activities/studyjams/matter_states/

- ✓ **0207.9.3** Describe what happens when water is heated to the point of evaporation.

<http://www.fossweb.com/modulesK-2/SolidsandLiquids/activities/changeit.html>

<http://e2bn.skool.co.uk/content/keystage3/chemistry/pc/learningsteps/MBPLC/launch.html>

<http://www.nyu.edu/pages/mathmol/textbook/3gradecover.html>

- ✓ **0207.9.4** Explain what happens when a balloon is blown up and pops.

- ✓ **0207.11.1** Use a variety of objects that vibrate to demonstrate how sounds are produced.

<http://www.fossweb.com/modulesK-2/SolidsandLiquids/activities/changeit.html>

http://www.exploratorium.edu/science_explorer/ear_guitar.html

<http://www.spartechsoftware.com/reeko/Experiments/ExpGoodVibrations.htm>

http://www.tryscience.org/experiments/experiments_honker_athome.html

✓ **0207.11.2** Describe the sounds produced by different types of vibrating objects.

http://www.bbc.co.uk/schools/scienceclips/ages/9_10/index_noflash.shtml

http://www.tryscience.org/experiments/experiments_coathangers_athome.html

<http://www.hunkinsexperiments.com/pages/papernoise.htm>

HYPERLINK http://www.bbc.co.uk/schools/scienceclips/ages/5_6/sound_hearing_fs.shtml

HYPERLINK http://www.bbc.co.uk/schools/scienceclips/ages/5_6/sound_hearing_fs.shtml

<http://www.galaxy.net/~k12/sound/> Experiments

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