



Throughout the Year

COURSE: Science Grade 3
UNIT: The Scientific Method
CONTACT: athompson@bridgeportedu.net
TIME FRAME: Throughout the Year

CODE:
MAP LEVEL: 4
GRADE: 3

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- B.INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
- B.INQ.2 Students will seek relevant information in books, magazines and electronic sources of information.
- B.INQ.3 Students will design and conduct simple investigations.
- B.INQ.4 Students will employ simple equipment and measuring tools to gather data and extend the senses.
- B.INQ.5 Students will use data to construct reasonable explanations.
- B.INQ.6 Students will analyze, critique and communicate investigations using words, graphs and drawings.

SCIENCE - SCIENTIFIC INQUIRY (I)

- B.INQ.7 Students will read and write a variety of fiction and non-fiction science-related texts.
 - B.INQ.8 Students will search the web and locate relevant science information.
 - B.INQ.9 Students will use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
 - B.INQ.10 Students will use mathematics to analyze, interpret and present data.
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ESS/FOCUS QUESTIONS

How do scientists formulate their questions and develop hypotheses?

How do scientific investigations help scientists study the world and solve problems?

How do scientists design, plan and communicate results of their investigations?

Why do observations help scientists?

CONTENT

Scientific Inquiry

-Search out, describe, explain and predict natural phenomena.

Scientific Process Skills

-Questions, hypothesis, predictions, planning, observations, interpretations, communicate

Scientific Literacy

-Speaking, listening, presenting, interpreting, reading and writing about science.

SKILLS

Raise questions which can be investigated.

Hypothesize to provide an explanation based upon the evidence.

Predict using evidence from previous experiences.

Plan and conduct a scientific investigation.

Observe differences/similarities by making use of the senses.

Interpret and develop conclusions which summarize the evidence.

Communicate findings and present results in tables, graphs, or charts.

ASSURED EXPERIENCES

Activity #1:

Performance Task: Evergreen Exploration

Activity #2:

Lesson: Animal or Plant?

Activity #3:

Along with science journals, all third grade students should be introduced to the process of scientific inquiry and develop an understanding of all process skills.

Activity #4:

All third grade students should know how to use measurement tools, i.e., a balance, graduated cylinder, beaker, and ruler (metric and standard)

Activity #5:

Science Fair

Participation in the school science fair is required; individual or group projects are acceptable.

ASSESSMENTS

Teacher observations

Science journal/notebook

Tests

Quizzes

Performance based activities

OPTIONAL ACTIVITIES

Activity #1:

Throughout the Harcourt Science Text there are numerous activities to choose from to reinforce concepts being taught. Choose activities that you feel your students will benefit from most.

Activity #2:

Remind students that scientists don't just conduct investigations they also observe, classify and recognize patterns in nature. Use a day to go outside and collect items from nature such as rocks, leaves, twigs, acorns, pine cones, etc or provide students with items you have collected or with pictures of different living things. Ask the students to decide how they would sort or classify their objects. Students will pick many different ways to sort their objects so be sure to have a discussion about why students chose the way they did. Classification can be reinforced through all the units of study.

RESOURCES

Harcourt Text

United streaming:

'Be an Inventor'

'Everyday Science: Discovering the Scientific Method'

'The Five Senses'

'Seahouse: A Drop to Drink'

Web sites:

www.harcourtschool.com

www.homeschooling.com

www.discoveryschool.com

www.Lasciencefair.org

www.nsta.org/ostbc

ADDITIONAL NOTES

All students should maintain a science journal/notebook to record their data which may include observations, questions, summaries, charts, drawings.

Create a science word wall to house science vocabulary as the terms are introduced throughout the unit of study.

VOCABULARY

Analyze	Classify	Inference	Picture graph
Balance	Conclusion	Investigation	Prediction
Bar graph	Data	Length	Procedure
Beaker	Experiment	Line graph	Result
Celsius	Fahrenheit	Metric system	Thermometer
Centimeter	Graduated Cylinder	Natural event	Volume
Characteristics	Hypothesis	Observation	

Properties of Matter



2nd Marking Period

COURSE: Science Grade 3
UNIT: Properties of Matter
CONTACT: athompson@bridgeportedu.net
TIME FRAME: 2nd Marking Period

CODE:
MAP LEVEL: 4
GRADE: 3

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- B.INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
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SCIENCE - SCIENTIFIC INQUIRY (I)

- B.INQ.7 Students will read and write a variety of fiction and non-fiction science-related texts.
- B.INQ.8 Students will search the web and locate relevant science information.
- B.INQ.9 Students will use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- B.INQ.10 Students will use mathematics to analyze, interpret and present data.

SCIENCE - PHYSICAL SCIENCE (II, III, IV)

- B.1 Students will sort and classify materials based on properties such as dissolving in water, sinking and floating, conducting heat and attraction to magnets.
- B.2 Students will describe the effect of heating on the melting, evaporation, condensation and freezing of water.

SCIENCE - SCI & TECH IN SOCIETY (XI)

- B.7 Students will describe how earth materials can be conserved by reducing the quantities used, and by reusing and recycling materials rather than discarding them.
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ESS/FOCUS QUESTIONS

What are solid, liquid, and gases?

How does matter change as it is heated and cooled?

What are the characteristics of materials that attract/repel magnets?

How can earth materials be conserved?

CONTENT

Content Standard: 3.1

Materials have properties that can be identified and described through the use of simple tests. Heating and cooling cause changes in some of the properties of materials.

Content Standard: 3.4

Earth materials provide resources for all living things, but these resources are limited and should be conserved.

SKILLS

Recognize and explore how matter can be changed in form (solid, liquid, gas) through processes such as condensation, evaporation, melting, and freezing.

Measure, record, and graph temperature of matter as it is heated and cooled

Investigate the unique properties of water (expansion and contraction) as it heated and cooled.

Investigate the properties of materials that will allow them to dissolve, sink, or float in water.

Differentiate between insulators and conductors.

Sort objects based upon their attraction to magnets.

Investigate the properties of materials which allow them to be reused and conserved.

Identify the resources that will never run out and those that could be depleted.

Explain the recycling process, and identify the ways recycling saves resources.

Describe why water is our most important natural resource.

ASSURED EXPERIENCES

Activity #1:

Connecticut Embedded Task: Soggy Paper

ASSESSMENTS

Teacher Observation

Science journal

Tests

Quizzes

OPTIONAL ACTIVITIES

Activity #1:

Lesson: Popcorn Science

RESOURCES

Harcourt Text

United Streaming:

'Magnets: A First Look'

Websites:

www.harcourtschool.com

www.discoveryschool.com

www.nsta.org/ostbc

ADDITIONAL NOTES

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VOCABULARY

Attract	Expansion	Mass	Scale
Balance	Float	Melting	Scientist
Chemical change	Freezing	Metal	Shape
Condensation	Gas	Natural Resources	Sink
Conduction	Heating	Opaque	Solid
Conserve	Insulator	Physical change	Temperature
Contraction	Investigation	Properties	Transparent
Cooling	Length	Recycle	Volume
Discard	Liquid	Reuse	
Evaporation	Magnet	Repel	

Rocks and Minerals



3rd Marking Period

COURSE: Science Grade 3
UNIT: Rocks and Minerals
CONTACT: athompson@bridgeportedu.net
TIME FRAME: 3rd Marking Period

CODE:
MAP LEVEL: 4
GRADE: 3

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- B. INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
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SCIENCE - SCIENTIFIC INQUIRY (I)

- B.INQ.7 Students will read and write a variety of fiction and non-fiction science-related texts.
- B.INQ.8 Students will search the web and locate relevant science information.
- B.INQ.9 Students will use measurement tools and standard units (e.g., centimeters, meters, grams, kilograms) to describe objects and materials.
- B.INQ.10 Students will use mathematics to analyze, interpret and present data.

SCIENCE - EARTH SCIENCE (VIII, IX, X)

- B.5 Students will describe the physical properties of rocks and relate them to their potential uses.
 - B.6 Students will relate the properties of rocks to the possible environmental conditions during their formation.
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ESS/FOCUS QUESTIONS

How can rocks and minerals be observed, classified, and identified?

How does weathering and erosion effect the Earth's materials?

CONTENT

Content Standard: 3.3

Earth materials have properties that may be identified through observation and testing; these properties determine how earth materials are used.

SKILLS

Identify basic properties of rocks and minerals

Describe the uses of rocks and minerals and list some examples

Identify the three types of rocks (igneous, metamorphic, and sedimentary), and how they are formed

Describe the sequence of the rock cycle that changes one type of rock into another.

Identify some of the forces that change the Earth's surface

Identify and distinguish between the solid and liquid portions of the Earth's structure

Differentiate between different landforms and recognize why they constantly change

Identify the processes of physical weathering that break down rocks at Earth's surface (i.e., water movement, freezing, plant growth, wind)

Distinguish between weathering (i.e., wearing down and breaking of rock surfaces) and erosion (i.e., the movement of materials).

Describe how earthquakes, volcanoes, and floods change the surface of the earth

ASSURED EXPERIENCES

Activity #1:

Use senses to observe and classify rocks and minerals based on their characteristics

Activity #2:

Sort rocks by appearance according to the three basic types: sedimentary, igneous and metamorphic (e.g., sedimentary—rounded-appearing mineral and rock particles that are cemented together, often in layers; igneous—with or without observable crystals that are not in layers or with or without air holes or glasslike; metamorphic—crystals/minerals, often in layers)

Activity #3:

Classify common rocks found in Connecticut as sedimentary (i.e., sandstone, conglomerate, shale), igneous (i.e., basalt, granite, obsidian, pumice) and metamorphic (i.e., marble, gneiss, schist)

Activity #4:

Observe rocks using a magnifying glass and draw shapes and colors of the minerals

Activity #5:

Record and discuss observations of rocks and minerals

Activity #6:

Perform and interpret results of the following tests on minerals: transparency, luster, hardness, and magnetism

Activity #7:

Record and discuss results of tests on minerals

ASSESSMENTS

Tests

Quizzes

Observation

OPTIONAL ACTIVITIES

Read and research more information on minerals and rocks

RESOURCES

Harcourt Brace

United Streaming:

'Geologist's Notebook: How to Make Mud Pie'

'Geologist's Notebook: Three Rocks'

'Geologist's Notebook: What Exactly Are Minerals'

'Geologist's Notebook: Rocks and Minerals'

'Rocks: The Solid Earth Materials #2'

Websites:

www.harcourtschool.com

www.discoveryschool.com

www.nsta.org/ostbc

ADDITIONAL NOTES

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VOCABULARY

Bedrock	Landforms	Organism	Valley
Earthquakes	Luster	Rocks	Volcanoes
Erosion	Magnetism	Sedimentary	Weathering
Freeze	Metamorphic	Subsoil	
Glacier	Mineral	Thaw	
Hardness	Mountain	Topsoil	
Igneous	Non-living	Transparency	

Plants and Animals Habitats



4th Marking Period

COURSE: Science Grade 3
UNIT: Plant and Animal Habitats
CONTACT: athompson@bridgeportedu.net
TIME FRAME: 4th Marking Period

CODE:
MAP LEVEL: 4
GRADE: 3

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- B.INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
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SCIENCE - LIFE SCIENCE (V, VI, VII)

- B.3 Students will describe how different plants and animals are adapted to obtain air, water, food and protection in land habitats.
 - B.4 Students will describe how different plants and animals are adapted to obtain air, water, food and protection in water habitats.
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ESS/FOCUS QUESTIONS

What do plant and animals need to survive in their environments?

How do the structures and behaviors of plants and animals help them live in different land and water environments?

How do living things interact with one another and their environments?

What are the characteristics and adaptations of living things that help them survive in different forest, desert, grassland, and ecosystem environments?

CONTENT

Content Standard: 3.2

Organisms can survive and reproduce only in environments that meet their basic needs. Plants and animals have structures and behaviors that help them survive in different environments.

SKILLS

Identify the basic needs of plants and animals.

Analyze how roots, stems, seeds, and leaves help plants to survive.

Identify plants and animals that make their homes in forests, deserts, grasslands, and ecosystems.

Observe and explain how plants and animals (including humans) survive in different environments.

Recognize that some animal behavior is instinctive (migration and hibernation) and some behaviors are learned.

Observe how camouflage and mimicry can help animals survive and avoid danger.

Recognize that some organisms in an ecosystem must compete with each other for survival.

Give examples of how inherited characteristics may change over time as adaptations to changes in the environment occur. (For example, shape of beak, length of neck, etc.)

ASSURED EXPERIENCES

Activity #1:
Visit Beardsley Zoo

ASSESSMENTS

Completion of Embedded Task

Teacher Observation

Science journal/notebook

Tests

Quizzes

OPTIONAL ACTIVITIES

Activity #1:

School Yard Habitat:

Ask students: What is a habitat? What do living things need to survive? What is your habitat? (Ex. house, neighborhood, city). Is your school a part of your habitat? (It must be since they spend time at school). How does a school meet your needs?

In their science journals, have students map out the school and label locations within their school, where their basic needs are met. Trace the origin of the food, water, and shelter. Because food doesn't originate in school, the student's habitat is larger than just their school

or house. As your class explores their habitat, they will realize that their habitat extends far beyond the city of Bridgeport.

RESOURCES

Harcourt Text

United Streaming

Websites:

www.harcourtschool.com

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Science Literature:

Habitats, by Peter D. Riley

Crinkleroots Guide To Knowing Animal Habitats, by Jim Arnosky

The Magic School Bus Gets All Dried Up: A Book About Deserts, by Bruce Degen, Joanna Cole, Susanne Weyn

Brrr!: A Book about Polar Animals by, Melvin Berger, Gilda Berger

Animals of the Grasslands by, Stephen Savage

Animals of the Rain Forest, by Stephen Savage

One Day in the Tropical Rainforest by, Jean Craighead George, Gary Allen

Exploring Tree Habitats (Exploring Habitats) by Patti Seifert, Peg Doherty

Wetland Animals (Animals in Their Habitats) by Francine Galko

Pond Animals (Animals in Their Habitats) by Francine Galko

In the Small, Small Pond by, Denise Fleming

Who Lives in the Oceans, Lakes, and Rivers? by, Ann D. Hardy, David Thelwell

In One Tidepool by, Anthony D. Fredericks, Jennifer DiRubbio

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VOCABULARY

Animal	Forest	Mimicry
Behavior	Gas	Oxygen
Camouflage	Grassland	Photosynthesis
Carbon dioxide	Habitat	Prey
Chlorophyll	Hibernation	Root
Desert	Leaf	Seed
Ecosystem	Light	Species
Environment	Instinct	Survival
Food web	Migration	Stem