

Weather and Seasons



Throughout the year

COURSE: Science Pre K-Kindergarten
UNIT: Weather and Seasons
CONTACT: athompson@bridgeportedu.net
TIME FRAME: Throughout the year

CODE:
MAP LEVEL: 4
GRADE: K

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- A.INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
- A.INQ.2 Students will use senses and simple measuring tools to collect data.
- A.INQ.3 Students will make predictions based on observed patterns.
- A.INQ.4 Students will read, write, listen and speak about observations of the natural world.
- A.INQ.5 Students will seek information in books, magazines and pictures.
- A.INQ.6 Students will present information in words and drawings.

SCIENCE - EARTH SCIENCE (VIII, IX, X)

- A.7 Students will describe and record daily weather conditions.
 - A.8 Students will relate seasonal weather patterns to appropriate choices for clothing and activities.
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ESS/FOCUS QUESTIONS

What are the four seasons?

How are the seasons alike and different?

How do the changes in seasons affect what we do, what we wear, and how we feel?

What is a pattern?

CONTENT

Content Standard: K.3

Weather conditions vary daily and seasonally. Daily and seasonal weather conditions affect what we do, what we wear and how we feel.

SKILLS

Name and describe the four seasons.

Describe and record daily weather conditions.

Predict daily weather bases on daily observable conditions.

Relate seasonal weather patterns to appropriate choices of clothing and activities.

Measure, record, graph, and report changes in local weather.

Draw pictures that represent weather features (e.g., clouds, storms, snowfall).

Identify some events around us that have repeating patterns, include seasons, day and night.

ASSURED EXPERIENCES

Activity #1:

Observe how people dress, behave, and change activities based upon seasonal changes. Utilize four small boxes labeled - winter, spring, summer, fall. Students should cut out appropriate clothing from newspapers, magazines, or catalogs for each seasonal vacation and put them in the correct box.

Activity #2:

Sequence multiple photographs of seasonal events in nature.

ASSESSMENTS

Formative assessment:

Teacher observation

Summative Assessment:

Test

Performance-based tasks

OPTIONAL ACTIVITIES

Activity #1:

Observe and identify daily weather conditions (e.g. sunny, rainy, etc.).

Activity #2:

Create a daily weather graph to predict, observe and chart weather conditions through the weeks, months and year.

Activity #3:

Experiment with a weather thermometer outside in different locations and at different times of the day. Record differences in levels on a graph.

RESOURCES

United Video Streaming:

'Magical Mother Nature: The Four Seasons'

'Weather: Changes and Measurement'

Websites:

www.discoveryschool.com

www.nsta.org/ostbc

Science Literature:

Rabbits and Raindrops, by Jim Arnoslry

Storm Coming, by Audrey Baird
Crash, Rumble, and Roll, by Franklyn M. Branley
Snow is Falling, by FranklynM. Branley
Feel the Wind, by Arthur Dorms
Snowballs, by Lois Eblert

ADDITIONAL NOTES

All students should maintain a science journal/notebook to record their data.

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

Properties of Science



1st and 2nd Marking Period

COURSE: Science Pre K-Kindergarten
UNIT: Properties of Objects
CONTACT: athompson@bridgeportedu.net
TIME FRAME: 1st and 2nd Marking Period

CODE:
MAP LEVEL: 4
GRADE: K

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- A.INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
- A.INQ.2 Students will use senses and simple measuring tools to collect data.
- A.INQ.3 Students will make predictions based on observed patterns.
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- A.INQ.6 Students will present information in words and drawings.

SCIENCE - PHYSICAL SCIENCE (II, III, IV)

- A.1 Students will use the senses and simple measuring tools, such as rulers and equal-arm balances, to observe common objects and sort them into groups based on size, weight, shape or color.
- A.2 Students will sort objects made of materials such as wood, paper and metal into groups based on properties such as flexibility, attraction to magnets and whether they float or sink in water.
- A.3 Students will count objects in a group and use mathematical terms to describe quantitative relationships such as: same as, more than, less than, equal, etc.

SCIENCE - SCI & TECH IN SOCIETY (XI)

- A.9 Students will describe the types of materials used by people to build houses, and the properties that make the materials useful.

ESS/FOCUS QUESTIONS

What are physical properties of matter?

How are objects sorted into groups?

Which materials will float/sink in water?

Which objects repel/attract magnets?

CONTENT

Content Standard: K.1

Objects have properties that can be observed and used to describe similarities and differences. Some properties can be observed with the senses, and others can be discovered by using simple tools or tests.

Content Standard: K.4

Some objects are natural and man-made materials to build shelters based on local climate conditions, properties of the materials and their availability in the environment.

SKILLS

Observe, classify, and describe objects made of different materials.

Sort objects by observable properties such as size, shape, color, weight, and texture.

Identify materials that will float and materials that will sink in water.

Measure objects using standard units

ASSURED EXPERIENCES

Activity #1:

Provide students with a variety of objects such as pattern blocks, colored macaroni, buttons, colored tiles, plastic insects, etc. Have them sort and classify the objects according to color, size, shape, and width and according to whether they are straight or curved.

Activity #2:

Conduct a teacher-designed investigation to explore whether certain materials (e.g., salt, coffee grounds, pencil shavings, macaroni) dissolve in water. Students should record data in their science journal and glue a picture of each of the substances onto the appropriate column of a "Dissolve/Not Dissolve" chart. Results can be shared in a group setting.

ASSESSMENTS

Formative Assessment:

Provide students with a variety of materials to measure, describe, and classify upon common properties. Monitor understanding.

OPTIONAL ACTIVITIES

Activity #1:

Measure children and sequence from short to tall. Measure arms, legs and compare longer/shorter. Measure other objects in the room.

RESOURCES

United streaming:

'Science Facts and Fun: Making Sense of It'

'The Magic of Magnetism'

'Properties of Matter'

'Stage One Science: Magnets and Electricity'

'Stage One Science: Sounds O.K.'

Websites:

www.discoveryschool.com

www.nsta.org.ostbc.org

Science Literature:

ADDITIONAL NOTES

All students should maintain a science journal/notebook to record their data.

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

Characteristics of Living Things



3rd and 4th Marking Period

COURSE: Science Pre K-Kindergarten
UNIT: Characteristics of Living Things
CONTACT: athompson@bridgeportedu.net
TIME FRAME: 3rd and 4th Marking Period

CODE:
MAP LEVEL: 4
GRADE: K

PERFORMANCE STANDARDS

SCIENCE - SCIENTIFIC INQUIRY (I)

- A.INQ.1 Students will make observations and ask questions about objects, organisms and the environment.
- A.INQ.2 Students will use senses and simple measuring tools to collect data.
- A.INQ.3 Students will make predictions based on observed patterns.
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- A.INQ.6 Students will present information in words and drawings.

SCIENCE - LIFE SCIENCE (V, VI, VII)

- A.4 Students will describe the similarities and differences in the appearance and behaviors of plants, birds, fish, insects and mammals (including humans).
- A.5 Students will describe the similarities and differences in the appearance and behaviors of adults and their offspring.
- A.6 Students will describe characteristics that distinguish living from non-living things.

ESS/FOCUS QUESTIONS

Why do offspring look different from their parents?

What are the characteristics of living and nonliving things?

CONTENT

Content Standard: K.2

Many different kinds of living things inhabit the Earth.

Living things have certain characteristics that distinguish them from nonliving things, including growth, movement, reproduction and response to stimuli.

SKILLS

Recognize that animals (including humans) and plants are living things that grow, reproduce, and need food, air, and water.

Recognize that plants and animals have life cycles, and that life cycles vary for different living things. (For animals this may include changes in color, body covering, and size. For plants this may include size, presence of leaves and branches and ability to produce flowers and fruits).

Use a graph to compare and contrast the similarities between parents and their offspring.

Differentiate between living and nonliving things.

Sort living and nonliving things according to the characteristics that they share.

Describe ways in which many plants and animals closely resemble their parents in observed appearance.

Use pictures to compare and contrast young animals and plants with their parents.

Recognize changes in appearance that animals and plants go through as the seasons change.

ASSURED EXPERIENCES

All students should maintain a science notebook/journal to record their data.

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

Lesson: 'Needs of Plants & Animals'

ASSESSMENTS

Formative Assessment:

Teacher observation

Provide students with a picture of an organism and have them list its basic needs.

Performance based task

OPTIONAL ACTIVITIES

Activity #1:

Illustrate the life cycle of a butterfly with a cotton ball (egg), dyed, stuffed sock (caterpillar), small brown bag (chrysalis), and a clothespin with clip-on wings (butterfly). Have students tell others the stages of change and the physical changes that happen along the cycle of life.

RESOURCES

United streaming:

'Magic School Bus: The Butterfly and the Bog Beast'

'Animal Lifecycles'

'Insect Lifecycles: Metamorphosis'

'Amphibians, Fish & Reptiles'

'Animal Groups: Beginning Classification'

Websites:

www.discoveryschool.com

www.nsta.org/ostbc

Science Literature:

Are You a Snail, by Judy Allen and Tudor Humphries

Gemma and the Baby Chick, by Antonia Barber

Animals Should Definitely Not Wear Clothing, Judi Barret

It Could Still Be a Worm, by Allan Fowler
Under One Rock, by Anthony Fredericks

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.