

Science (1)

Science

Grade(s) 1st, Duration 1 Year, 1 Credit
Required Course

Course Overview

PHYSICAL SCIENCE - The students will explore the world by observing and manipulating common objects and materials in their environment.

LIFE SCIENCE – The student will begin to develop an understanding of biological concepts.

EARTH AND SPACE SCIENCE – The student will observe closely the objects and materials in their environment.

HISTORY AND NATURE OF SCIENCE – The student will experience scientific inquiry and learn about people from history.

SCIENCE AND TECHNOLOGY – The student will have a variety of educational experiences that involve science and technology.

SCIENCE IN PERSONAL AND ENVIRONMENTAL PERSPECTIVES – The student will have a variety of experiences that provide understandings for various science-related personal and environmental challenges.

Timeframe	Unit	Scope And Sequence Instructional Topics
13 Day(s)	Physical Science	1. Properties of Objects 2. Classify Objects 3. Properties of solids and liquids 4. Spatial Relation
Ongoing	Science Inquiry	1. Collect information 2. Questioning 3. Describes an observation
Ongoing	Life Science	1. Observes Living Things 2. Life Cycles 3. Plants 4. Annual Cycle of a Tree
Ongoing	Earth and Space Science	1. Weather 2. Weather safety
Ongoing	Science and Technology	1. Technology
Ongoing	Science in personal and environmental perspectives	1. Personal Care 2. Nutrition 3. Safety

Materials and Resources

Science Companion Weather/Life Science/Motion Books and kits (Everyone has the kits, located on the stage.)
Stories from Scott Foresman Reading Series.
Scholastic News
Brain Pop
Ranger Rick
Discovery Magazine
Health and Wellness series by Macmillain/McGraw-Hill
Leveled Readers
Magic School Bus Books and Videos
Fire Safety Video
Nurse-Dental Health Talk
KDOT Train Safety Talk
High School Students came to plant seeds with the first grade class. (Haggard)
Field Trip to the Discovery Center.

Prerequisites

None.

Course Details

Unit: Physical Science

Duration: 13 Day(s)

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Unit Overview

1. observes properties of objects and measures or describes those properties using age-appropriate tools and materials.
2. separates or sorts a group of objects or materials by properties.
3. compares the properties of solids and liquids.
4. describes the position of an object in relation to other objects.

Materials and Resources

Science Companion Book
Weather Book

Summative Assessment

Participation

Topic: Properties of Objects

Duration: 3 Day(s)

Topic Overview

Observes properties of objects and measures or describes those properties using age-appropriate tools and materials.

Learning Targets

Measure and Compare

The student will measure and compare size, mass, shape, color, texture, and temperature of objects.

Topic: Classify Objects

Duration: 3 Day(s)

Topic Overview

Separates or sorts a group of objects or materials by properties.

Learning Targets

Compare and Sort

The student will compare and sort objects by size, shape, mass, and color.

Topic: Properties of solids and liquids

Duration: 6 Day(s)

Topic Overview

The student will compare the properties of solids and liquids.

Learning Targets

Comparing Properties

The student will compare the properties of liquid water and frozen water, or liquid (melted) chocolate chips and solid chocolate chips.

Topic: Spatial Relation

Duration: 1 Day(s)

Topic Overview

Describes the position of an object in relation to other objects.

Learning Targets

Spatial Reasoning

The student will describe the object's position as being up, down, beside, in front of, or behind the other object.

Unit: Science Inquiry

Duration: Ongoing

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Unit Overview

1. identifies properties of objects.
2. classifies and arranges groups of objects by a variety of properties, one property at a time.
3. uses appropriate materials, tools, and safety procedures to collect information.
4. asks and answers questions about objects, organisms, and events in his/her environment.
5. describes an observation orally or pictorially.

Materials and Resources

My Companion-Life Science Book

Academic Vocabulary

Properties
Plant Parts
Alike and Different
Color, Texture and Size

Summative Assessment

Participation

Topic: Collect information

Duration: Ongoing

Topic Overview

uses appropriate materials, tools, and safety procedures to collect information.

Learning Targets

Use Tools

The student will use tools such as magnifiers, balances, scales, thermometers, measuring cups, and spoons when engaged in investigations.

Topic: Questioning

Duration: Ongoing

Topic Overview

Asks and answers questions about objects, organisms, and events in his/her environment.

Learning Targets

Ask/Answer Scientific Questions

The student will observe and ask questions about a variety of objects and discuss how they are alike and different.

Topic: Describes an observation

Duration: Ongoing

Topic Overview

Describes an observation orally or pictorially.

Learning Targets

Draw plant diagram

The student will draw/label pictures of plant growth on a daily basis; noting color and, number of leaves.

Unit: Life Science

Duration: Ongoing

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Unit Overview

1. Children will discuss that organisms live only in environments in which their needs can be met.
2. Observes life cycles of different living things.
3. Observes living things in various environments.
4. Examines the structures/parts of living things.

Materials and Resources

My Companion-Life Science book and Kit.
Scott Foresman Reading Series-Frog and Toad in the Garden, Tadpole to Frog, Fish Mix, A Big Job, Sweet Potato Pie, The Foal, Baby Dinosaur, Bluebird Garden
Flip Charts- On Elementary Share Drive
Tree Observation Packet: Summer, Fall, Winter, and Spring

Academic Vocabulary

living, non-living, environment

Plants: fruit, seed, root, stem, flower, leaf, stalk, vein, seed dispersal, germination, sprout, petal, pistil, stamen, pollen, soil, root hair, deciduous, evergreen, trees, cones

Animals: tail, limb, lung

Summative Assessment

Teacher created materials, worksheets from The Science Companion Book, journals and teacher observation.

Topic: Observes Living Things

Duration: Ongoing

Topic Overview

Observes living things in various environments.

Learning Targets

Comparing living and nonliving things.

The children will collaborate to think and talk about what is alive.

Identifying living things.

The children begin developing criteria to identify and classify animals.

Going on a Nature Walk.

The children visit the nature site. They look for signs of living things, collect leaves and seeds for follow-up lessons.

Comparing Animals and Plants

Like animals, plants are living things.

Topic: Life Cycles

Duration: 2 Day(s)

Topic Overview

Observes life cycles of different living things.

Learning Targets

Life cycle of a frog

Students will learn that frogs begin as eggs and end up as frogs.

Read Tadpole to Frog.

Students will complete a cut and paste life cycle page.

Topic: Plants

Duration: 10 Day(s)

Topic Overview

Examines the structures/parts, and life cycle of plants.

Learning Targets

Plant a seed

The students will learn about the basic needs of a seed to become a plant. Students will each plant a seed in a clear plastic cup.

Observe the life cycle of a plant

Students will observe/measure a plant that they grew from a seed. The students will measure their plants using standard and non-standard measurement as well as draw a picture and record observations in a plant journal.

Sort seeds

Students will bring seeds from home and will sort them as to how the seed might travel from one place to another. Generate a chart to record their findings. Do some seeds together and then they complete this on their own.

Seed Dispersal

Read "The Tiny Seed" Then discuss how seeds move from one place to another.

Examine the parts of a plant

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Students will dig up weeds in the nature study site and label the root, leaves, flower and stem of each plant. Students will compare their plant with a peer(s).

Topic: Annual Cycle of a Tree

Duration: 20 Day(s)

Topic Overview

The students will choose a tree in the learning garden and observe its leaves, bark, artifacts around the tree, and how it changes throughout each season. Students will observe and collect artifacts 4 times each year.

Students will record their tree observations in a seasonal journal, and also develop a cumulative video.

Learning Targets

Summer Leaf Observation

The students will choose a tree in the learning garden. Students will document leaf shape, color, size, and structure in journals. Students will also do a leaf rubbing.

Summer Bark Observation

The student use magnifying glasses to observe tree bark. Students will draw a picture and write descriptive words about the bark.

Summer Tree Observation

Teacher read the story, "A Tree is Nice"

Then students will choose a tree to observe in the learning garden. Students will describe the basic structure of the tree. (shape, size, color, variety) Students will get their picture taken by their tree. The tree observation journal will be used to draw a picture of the tree and write some words to describe what the tree looked like in the summer.

Summer Tree Artifacts

The student will gather artifacts found around their tree. Students will describe the artifacts and record their findings in their journals. Students can compare with other student how their findings are the same and different.

Autumn Leaf Observation

Students will document leaf shape, color, size, and structure in journals.

Autumn Tree Observation

Students will describe the basic structure of the tree. (shape, size, color, variety) Students will get their picture taken by their tree. The tree observation journal will be used to draw a picture of the tree and write some words to describe what the tree looked like in the summer.

Autumn Tree Artifacts

The student will gather artifacts found around their tree. Students will describe the artifacts and record their findings in their journals. Students can compare with other student how their findings are the same and different.

Winter Tree Observation

Students will describe the basic structure of the tree. (shape, size, color, variety) Students will get their picture taken by their tree. The tree observation journal will be used to draw a picture of the tree and write some words to describe what the tree looked like in the summer.

Spring Leaf Observation

Students will document leaf shape, color, size, and structure in journals.

Spring Bark Observation

The student use magnifying glasses to observe tree bark. Students will draw a picture and write descriptive words about the bark.

Spring Tree Observation

Students will describe the basic structure of the tree. (shape, size, color, variety) Students will get their picture taken by their tree. The tree observation journal will be used to draw a picture of the tree and write some words to describe what the tree looked like in the summer.

Spring Tree Artifacts

The student will gather artifacts found around their tree. Students will describe the artifacts and record their findings in their journals. Students can compare with other student how their findings are the same and different.

Unit: Earth and Space Science

Duration: Ongoing

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Required Course

Unit Overview

The student will observe and compare objects in the sky.
The student will describe changes in weather.

Materials and Resources

My Companion- Weather Book
Scott Foresman Reading series- Look at That
Brain Pop
Cloud Video at Lecompton Library
Scholastic News
Flip charts

Academic Vocabulary

Cirrus Cloud, Stratus Cloud, Cumulus Cloud.
Lightning, thunder, rain, sleet, wind, air, fog, dew, frost, hail, sleet, sun, weather, temperature, thermometer, precipitation, climate, Meteorologist, Fahrenheit, evaporation, condensation

Summative Assessment

Teacher observation, student participation and lab book

Topic: Weather

Duration: Ongoing

Topic Overview

Children observe, measure, describe, and record aspects of weather such as temperature, air, wind, and clouds: practice using tools to measure weather; and look for weather patterns.

Learning Targets

What is weather?

The children define, describe and observe different types of weather.

What is a Meteorologist?

The students will learn that a meteorologist observes, measure, describes, predicts and records the weather.
The students will also watch a local weather report.

The Sun Warms

The children will learn about the role of the sun in making weather. They will use thermometers compare the temperature in sunny and shady locations.

Weather Patterns

The children will notice weather patterns by observing, measuring and graphing weather throughout the year.

Clouds in the Sky

Children will become familiar with different cloud types. Students will identify different types of clouds on the flip chart.
Students will create models of 3 types of clouds.

Water Freezes: Ice

The children will learn that water changes form when the temperature changes. Water changes to snow.
Students will participate in an experiment to create a snowflake.

Water Melts

The children will learn that ice will melt at temperatures above 32 degrees F.

Water Goes into the Air

The children will explore how water disappears when wet things dry.

Water Comes Out of the Air

The children will explore how liquid water appears on cold surfaces.

Topic: Weather safety

Duration: Ongoing

Topic Overview

Discusses weather safety procedures.

Learning Targets

Weather Safety Procedures

Student will practice tornado drills and talk about the dangers of lightning and flooding.

Unit: Science and Technology

Duration: Ongoing

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Unit Overview

1. Explores the way things work.
2. Experiences science through technology.

Materials and Resources

Brain Pop
My Companion-Motion Book
Videos
Promethean Flip Chart
Magnifying Glass

Summative Assessment

Participation

Topic: Technology

Duration: Ongoing

Topic Overview

Experiences science through technology.

Learning Targets

Endangered Animals Research

Students select an endangered animal and view online documentaries. Read Scholastic News articles and non-fiction books.

Endangered Animals Note Taking

Students complete a graphic organizer with details about their animal.

Endangered Animals Report

Students write and illustrate report using the computer.

Endangered Animal Report Presentation

Students present their report to class.

Unit: Science in personal and environmental perspectives

Duration: Ongoing

Unit Overview

1. Engages in personal care.
2. Discusses healthy foods.
3. Discusses that humans need to practice being safe.

Materials and Resources

Health and Wellness Book By Macmillan/McGraw-Hill
School Nurse
Dental Health Videos at Lecompton Library
P.E. Teacher

Academic Vocabulary

Safety, Personal Hygiene, Exercise, and Nutrition

Summative Assessment

Participation

Topic: Personal Care

Duration: Ongoing

Topic Overview

Engages in personal care.

Learning Targets

Personal Care

The student will practice washing hands, brushing teeth and engaging in exercise; discuss appropriate types of clothing to wear; discuss personal hygiene.

Topic: Nutrition

Duration: 5 Day(s)

Topic Overview

Discusses healthy foods.

Learning Targets

Exploration of Foods

The student will explore real fruits and vegetables for textures, tastes.

Sorting Foods into Categories

Students will identify nutritional value, and cut out pictures of foods and sort into healthy and not healthy groups.

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Topic: Safety

Duration: Ongoing

Topic Overview

Discusses that humans need to practice being safe.

Learning Targets

Safety practices

The student will discuss the need to obey traffic signals, use crosswalks, and the danger of talking to strangers.
