

Science (K)

Science

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

Course Overview

In the kindergarten science curriculum the learner will:

- develop skills necessary to do full inquiry.
- develop skills to describe objects.
- describe the motion of objects.
- develop knowledge of organisms in their environment .
- observe and illustrate life cycles of various organisms.
- understand the properties of earth materials.
- observe and describe the objects in the sky.
- develop the skills necessary to describe changes in the earth and weather.

Science (kindergarten) courses encourage students to observe and describe properties of organisms, systems, and the environment. Students may raise questions, identify patterns, and record observations.

Timeframe	Unit	Scope And Sequence	
		Instructional Topics	
Ongoing	Earth and Weather	1. How weather changes affect animals and their habitats 2. Types of Weather	
Ongoing	Life Cycles	1. Pumpkins 2. Chickens 3. Human Growth 4. Plants	
8 Day(s)	Space Science	1. Stars 2. Planets	
Ongoing	Organisms	1. Animals	
7 Day(s)	Earth Materials	1. Recycling 2. Dirt, Sand, Water	
Ongoing	Inquiry and describing objects	1. Inquiry 2. Describing objects	
7 Day(s)	Motion	1. Construction	

Materials and Resources

Science Companion manuals / Science Kits (in each classroom)
 incubator
 Calendar on Promethean
 Big Books
 Power Points (teacher made)
 On line resourses- Magic School Bus, Kids National Geographic, Promethean Planet, Brain Pop
 Scholastic Let's Find Out
 Integrated Center Activities

Prerequisites

None

Course Details

Unit: Earth and Weather

Duration: Ongoing

Unit Overview

The learner will develop the skills necessary to describe changes in the earth and weather.

Materials and Resources

Promethean Board (at calendar time daily)

Academic Vocabulary

weather, cloudy, sunny, partly cloudy, foggy, windy, rainy, snowy, stormy, hot, cold, temperature, seasons, summer, fall, winter, spring

Summative Assessment

Each child will have the opportunity to graph the weather when it is their time to lead calendar. Teacher observation and assessment is ongoing.

Topic: How weather changes affect animals and their habitats

Duration: Ongoing

Topic Overview

Using a variety of media, the class discusses how animals change and live in different environments with the changing seasons.

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Learning Targets

Seasons (Summer, Fall, Winter, Spring)

The students will learn how weather changes in the seasons effect animals and their habitats. They will learn about hibernation and migration.

Topic: Types of Weather

Duration: Ongoing

Topic Overview

They will explore different types of weather (ex: snow, rain, wind, temperatures).

Learning Targets

Observe and identify daily weather

The students will observe and identify different types of weather daily at calendar time. The types of weather they will choose from are : cloudy, partly cloudy, sunny, windy, rainy, snowy.

Unit: Life Cycles

Duration: Ongoing

Unit Overview

The learner will observe and illustrate life cycles of various organisms.

Materials and Resources

plants/pumpkin life cycle activities, animals/chicken life cycle activities (hatch baby chicks)

Academic Vocabulary

seed, flower, sprout, pumpkin, chicken, egg, membrane, shell, air sack, yolk,

Summative Assessment

Hands on activities, sequencing activities,

Topic: Pumpkins

Duration: 7 Day(s)

Topic Overview

The students will learn the life cycle of a pumpkin.

Learning Targets

Pumpkin Life Cycle

The students will sequence the life cycle of a pumpkin.

Topic: Chickens

Duration: 7 Day(s)

Topic Overview

The students will learn the life cycle of a chicken.

Learning Targets

The life cycle of a chicken

The students will sequence the life cycle of a chicken.

The students will observe the life cycle of a chicken by incubating them in the classroom.

The students discuss observations from the chicken life cycle.

Topic: Human Growth

Duration: 7 Day(s)

Topic Overview

The students will reflect on how they have grown.

Learning Targets

Growth from newborn to kindergarten student.

The students will review their growth and development from birth to age six.

The students will trace their bodies and fill out a all about me page to show how much they have grown and changed.

Topic: Plants

Duration: 7 Day(s)

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Topic Overview

The students will get to plant seeds and watch the life cycle of grass.

Learning Targets

The life cycle from seed to plant

The students will plant grass seeds or flower seeds and observe and document the growth and daily changes.

Unit: Space Science

Duration: 8 Day(s)

Unit Overview

The learner will observe and describe the objects in the sky

Materials and Resources

Star lesson in animated alphabet, art supplies, non fiction books from library, Magic School Bus (Out of This World), Space centers

Academic Vocabulary

star, moon, planets, sun

Summative Assessment

teacher observation

Topic: Stars

Duration: 1 Week(s)

Topic Overview

The students will learn that stars are real objects in space.

Learning Targets

Stars

The students will draw a star and learn star facts.

Topic: Planets

Duration: 7 Day(s)

Topic Overview

The students will learn facts about different planets including Earth.

Learning Targets

Planets

The students will be able to name the planets and be able to identify they live on Earth.

Unit: Organisms

Duration: Ongoing

Unit Overview

The learner will develop knowledge of organisms in their environment.

Materials and Resources

Animated Alphabet Lessons, power points (teacher created), Kids National Geographic, Let's Find Out Scholastic magazine, field trip to the Discovery Center (getting to look at organisms)

Summative Assessment

Teacher Observation and Class Participation

Topic: Animals

Duration: Ongoing

Topic Overview

Students will become familiar with charactersitics of selected animals.

Learning Targets

Animals: Aardvark

The students will learn facts about an aardvark.

Animals: Ant

The students will learn facts about an ant.

Animals: Camel

The students will learn facts about an camel.

Animals: Elephant

The students will learn facts about an elephant.

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Animal: Fox

The students will learn facts about a fox.

Animals: Hippo

The students will learn facts about a hippo.

Animal: Jaguar

The students will learn facts about a jaguar.

Animal: Kangaroo

The students will learn facts about a kangaroo.

Animal : Lion and Lamb

The students will learn facts about a lion and a lamb.

Animals: Newt

The students will learn facts about a newt.

Animal: Ostrich

The students will learn facts about an ostrich.

Animal: Panda

The students will learn facts about a panda.

Animals: Quail

The students will learn facts about a quail.

Animals: Raccoon and Rhino

The students will learn facts about a raccoon and rhino.

Animals: Seal

The students will learn facts about seals.

Animals: Tiger

The students will learn facts about tigers.

Animals: Walrus

The students will learn facts about walrus'.

Animals: Ox

The students will learn facts about ox.

Animals: Yak

The students will learn facts about a yak.

Animals: Zebra

The students will learn facts about zebras.

Animals: Owl

The students will learn facts about owls.

Animals: Frog

The students will learn facts about frogs.

Animals: Duck

The students will learn facts about ducks.

Animal: Crab

The students will learn facts about crabs.

Animals: toad

The students will learn facts about toads.

Animals: Shark

The students will learn facts about sharks.

Animals: Whale

The students will learn facts about whales.

Animals: bat

The students learn facts about bats.

Animals: snake

The students will learn facts about snakes.

Unit: Earth Materials

Duration: 7 Day(s)

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Unit Overview

The learner will understand the properties of earth materials.

Materials and Resources

Earth Week Centers, video (I Need the Earth and the Earth Needs me), recycling projects

Academic Vocabulary

living, non-living, dirt, rocks, recycling, plants, air, water, land, pollution

Summative Assessment

Class participation

Topic: Recycling

Duration: 7 Day(s)

Topic Overview

The students will learn the purpose of recycling and ways to recycle .

Learning Targets

Ways of recycling

The students will learn different ways to recycle (paper, plastic)

Reasons to recycle.

The student will identify reasons to recycle.

Topic: Dirt, Sand, Water

Duration: 7 Day(s)

Topic Overview

The students will do hands on activities involving sand, dirt and water. They will experiment with mixing and sinking and floating. (As noted in the Science Companion Book)

Learning Targets

Sink and float

The students will investigate sinking and floating objects.

Mixing

The students will explore with mixing different materials.

Unit: Inquiry and describing objects

Duration: Ongoing

Unit Overview

The learner will develop skills necessary to do full inquiry.

The learner will develop skills to describe objects.

Materials and Resources

Magnifying glasses, balances, scales, measuring cups, on line resources such as Kids National Geographic, rocks, leaves, and other items to group or sort.

Academic Vocabulary

description words based on: color, texture, size, observations, living and non-living

Summative Assessment

Student can describe an observation using our five senses (touch, sight, hearing, taste, smell) orally or pictorially.

Topic: Inquiry

Duration: Ongoing

Topic Overview

Students will learn to ask questions that are suitable for science inquiry.

Learning Targets

Measure weight

Students will learn to use balances by hands on manipulation.

Close observations

The students will use a magnifying glass to observe details in objects.

Topic: Describing objects

Duration: Ongoing

Topic Overview

The students will identify and describe characteristics using five senses. They will sort by attribute.

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Learning Targets

Sensory Observation-1

The student will orally describe an observation using the five senses.

Sensory Observation-2

The student will pictorially illustrate an observation using their five senses.

Sort

The learner will sort and group objects by similar attributes.

Unit: Motion

Duration: 7 Day(s)

Unit Overview

The learner will describe the motion of objects.

Materials and Resources

Leprechaun Trap sharing, The Science Companion lesson on Constructions, Occupation Center Activities or presentation, marshmallow toothpick constructions,

Academic Vocabulary

pulleys, levers, position words

Summative Assessment

Classroom participation

Topic: Construction

Duration: 7 Day(s)

Topic Overview

The students will learn about simple machines.

Learning Targets

Leprechaun trap

They will construct a leprechaun trap at home and have to share how it works. Each trap has to have at least one moving part to it.

Construction

Each student will create a marshmallow construction in class.
