

Science

Course Description



Table of contents

Series Description.....	3
General Objectives	4
Course Structure	5
Handouts and Worksheets	8
Unit Breakdown.....	9
Unit 1. Introduction to the five senses.....	9
Unit 2. Living things.....	12
Unit 3. The human body	16
Unit 4. The environment	19
Unit 5. Matter.....	22
Unit 6. The weather	25
Unit 7. Science, technology, and society	27

Series Description

This EduSystem's Science K-6 series was developed based on the curricular design Puerto Rico Core Standards and the Curriculum Framework created by the Department of Education of Puerto Rico. Additionally, the content has been enriched with curricular frameworks developed by other educational entities and private schools.

This series presents the content in a dynamic, stimulating, innovative and recreational manner. The series gives the students the opportunity to build their knowledge through the cognitive development of scientific keywords, principles, and laws. The series also encourages the study of this discipline by putting scientific research, science skills, and the scientific method within the student's reach.

Conceptual Framework

The design and conceptualization of the K-6 series is founded upon the following basic principles:

1. The need for emphasis on:
 - ▶ Encouraging students to think logically and analytically to develop reasoning and interpretive skills used for problem solving during the learning process.
 - ▶ Learning science by “doing science” through the completion of various activities, experiments, and scientific inquiry.
 - ▶ Promoting curricular integration and the application of scientific keywords to real life situations.
 - ▶ Systematically organizing the learning process (in sequence, going from the concrete to the abstract).
 - ▶ Encouraging the development of multiple talents and the opportunity to express them in different ways.
 - ▶ Promoting the development of keywords, principles, laws, scientific processes, and related skills.
 - ▶ Providing strategies to address the individuality of each student
2. The activities integrate a constructivist approach by encouraging more student participation in the building of knowledge and the development of skills.

General Objectives

The objectives of this Series are to:

- ▶ Promote learning through real life experiences.
- ▶ Encourage the use of information technology as a learning tool.
- ▶ Educate students on the protection and conservation of the environment.
- ▶ Promote reflection and self-evaluation during the learning process
- ▶ Promotes experiences for the development and appreciation of science and the world around us
- ▶ Integrate the different scientific disciplines, such as chemistry, physics, and biology, among others with disciplines from other fields.
- ▶ Encourage participation in scientific inquiry and the development of keywords, skills and scientific processes.
- ▶ Integrate standards and grade level expectations. Encourage students to work with both concrete and abstract keywords.
- ▶ Provide situations, activities, and exercises to actively build and apply knowledge to different situations.
- ▶ Encourage students to work with both concrete and abstract keywords.
- ▶ Contribute to the development of language as a means of individual and collective communication while incorporation of scientific vocabulary.
- ▶ Enrich the lessons with level appropriate documents, activities, and exercises.
- ▶ Highlight the scientific environment in accordance with grade level.

Course Structure

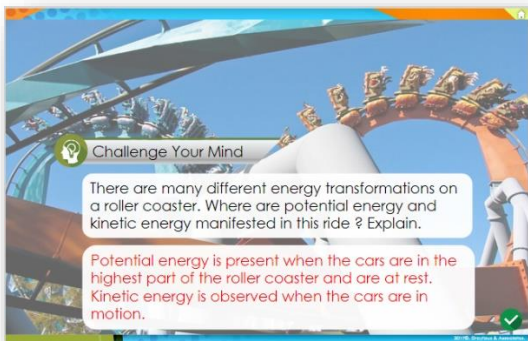
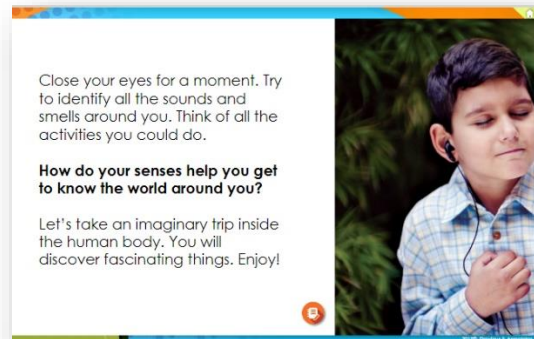
The course Science K is composed of seven units. Each unit is composed of lessons. Each lesson is divided into sections that develop their individual topics. Each lesson contains a descriptive log, activities, worksheets and handouts that are related to the content and, as in most cases, website links and resources. It also proposes assessment exercises in order to help the students in different tasks.

Here are some of the sections normally found in each lesson's presentation and documents.

Presentation

Let's Explore

In this section, the students will look at important details of a photograph. Additionally, they will discuss and answer questions geared toward increasing their curiosity towards different topics that will be discussed in the lessons.



Topics

Concept development, where the content will be discussed using specific situations for exploration while presenting other examples

Icons

Each of the sections in our lessons is identified with an icon. These help both the student and the teacher compliment their ideas and activities. Below, you will find the icon next to a description of its function.



Challenge Your Mind

A situation or an exercise Will be presented to the students so they can develop their critical thinking skills.



Connect What You Have Learned

that can be applied to daily life. This will also help them understand what was studied in class.



Scientists in Action

Diverse assessment activities in which the students can express themselves and apply what they have learned about any topic discussed in class.



Link with...

In this section, students will be able to relate the topics with other branches of Science.



Think

The students will answer questions that will encourage them to think and give their opinion about the topic presented in **Link with...** section.

Interactive Icons



Audio



Diagram



Images



Videos



Games



Answers



Lecture



Internet



Animation



Steps



Information



**Writing
Assignments**



Music



**Let's Solve
Together**

Handouts and Worksheets

Let's Investigate

This document presents an inquiry activity in which the students will learn science by “doing science” and participate in activities related to scientific investigation.

Did you know?

This document presents intriguing scientific topics and trivia to stimulate students' imaginations

Stimulate your mind

This document includes a number of stimulating activities that will help students better understand the topics discussed in class.

Ecological Awareness

This document will prompt the students to learn and actively contribute to the preservation of our environment.

Scientific Zone

This document presents a scientific concept related to a specific process in such a way that learning can be integrated along with a single scientific skill.

Complementary Documents

A variety of activities, exercises, and games related to the topics discussed in the lesson.

Vocabulary

Definitions of the most important keywords in the lesson.

Evaluation

Practical exercises to verify the student's learning process.

The lessons 00 contain unit documents that may be used at the beginning, during, or after discussing the corresponding unit.

Unit Breakdown

Unit I. Introduction to the five senses

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. Sense of touch

Code: C417G00U01L01

Objectives

- ▶ Use the sense of touch to describe if a material is soft or rough.

Topics

- ▶ Soft
- ▶ Rough

Keywords

- ▶ rough
- ▶ soft
- ▶ sense of touch

Lesson 2. Sense of sight

Code: C417G00U01L02

Objectives

- ▶ Use the sense of sight to identify the size of objects (big, medium, and small).
- ▶ Use the sense of sight to identify different colors.

Topics

- ▶ Learn sizes!
- ▶ Colors in sight!

Keywords

- ▶ big
- ▶ colors
- ▶ medium
- ▶ sense of sight
- ▶ small

Lesson 3. Sense of hearing

Code: C417G00U01L03

Objectives

- ▶ Identify objects that emit sounds and distinguish those that don't produce sounds.

Topics

- ▶ This one can be heard, but this one cannot

Keywords

- ▶ ear
- ▶ sense of hearing
- ▶ sound

Lesson 4. Sense of smell

Code: C417G00U01L04

Objectives

- ▶ The student will perceive the smell of perfume through the sense of smell.

Topics

- ▶ What is your favorite perfume?

Keywords

- ▶ nose
- ▶ sense of smell
- ▶ smell

Lesson 5. Sense of taste

Code: C417G00U01L05

Objectives

- ▶ Perceive sweet and salty tastes through the sense of taste.

Topics

- ▶ Which do you prefer: sweet or salty?

Keywords

- ▶ salty
- ▶ sense of taste
- ▶ sweet

Lesson 6. The five senses

Code: C417G00U01L06

Objectives

- ▶ The student will recognize the five senses.

Topics

- ▶ Do you know the five senses?

Keywords

- ▶ nose
- ▶ salty
- ▶ smell
- ▶ sense of hearing
- ▶ sense of sight
- ▶ sense of smell
- ▶ sense of taste
- ▶ sense of touch
- ▶ sound
- ▶ sweet

Unit 2. Living things

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. Living and nonliving things

Code: C417G00U02L01

Objectives

- ▶ Identify some examples of living and nonliving things.

Topics

- ▶ Living or nonliving things?

Keywords

- ▶ grouping
- ▶ pairs

Lesson 2. Living things grow

Code: C417G00U02L02

Objectives

- ▶ Order the stages of development of a plant and mention that all living things develop and grow.

Topics

- ▶ Living things grow!

Keywords

- ▶ development
- ▶ growth

Lesson 3. Plants are living things

Code: C417G00U02L03

Objectives

- ▶ Identify the elements that plants need to grow.

Topics

- ▶ What does a plant need to live?

Keywords

- ▶ plant's needs: water, food, place to live, sun

Lesson 4. Parts of the plants

Code: C417G00U02L04

Objectives

- ▶ Identify the parts of a plant as: roots, stem and leaves.

Topics

- ▶ What part am I?
- ▶ Plants with flowers

Keywords

- ▶ leaves
- ▶ roots
- ▶ stem

Lesson 5. Fruits

Code: C417G00U02L05

Objectives

- ▶ Mention various names and characteristics of fruits.

Topics

- ▶ Yummy... what a delicious fruit!

Keywords

- ▶ fruits
- ▶ plants

Lesson 6. Animals that fly

Code: C417G00U02L06

Objectives

- ▶ The student will identify wings as structures or parts that allow insects to fly.

Topics

- ▶ I have wings!

Keywords

- ▶ bee
- ▶ butterfly
- ▶ insects
- ▶ panel
- ▶ wings

Lesson 7. Terrestrial animals

Code: C417G00U02L07

Objectives

- ▶ Mention some examples of terrestrial animals.

Topics

- ▶ Terrestrial animals

Keywords

- ▶ elephant
- ▶ giraffe
- ▶ terrestrial animals
- ▶ zebra

Lesson 8. Aquatic animals

Code: C417G00U02L08

Objectives

- ▶ Select various aquatic animals.

Topics

- ▶ Follow the fish in its environment!

Keywords

- ▶ aquatic animals
- ▶ fish
- ▶ seahorse

Lesson 9. Mammals

Code: C417G00U02L09

Objectives

- ▶ Identify animals that are mammals and describe their characteristics.

Topics

- ▶ Eating together!

Keywords

- ▶ mammals

Lesson 10. Reptiles

Code: C417G00U02L10

Objectives

- ▶ Describe that reptiles have dry and rough skin.

Topics

- ▶ What rough and dry skin!

Keywords

- ▶ reptiles
- ▶ rough

Lesson 11. Amphibians

Code: C417G00U02L11

Objectives

- ▶ Describe that amphibians have soft and humid skin

Topics

- ▶ Animals with soft and humid skins!

Keywords

- ▶ amphibian
- ▶ soft

Lesson 12. Insects

Code: C417G00U02L12

Objectives

- ▶ Identify the bee as an insect.

Topics

- ▶ An insect that produces honey!

Keywords

- ▶ bee
- ▶ beehive
- ▶ insect

Unit 3. The human body

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. Parts of the body

Code: C417G00U03L01

Objectives

- ▶ Name parts of the human body.
- ▶ Identify parts of the human body.

Topics

- ▶ My body!
- ▶ I know my body!

Keywords

- ▶ arms
- ▶ chest
- ▶ head
- ▶ legs

Lesson 2. Parts of the face

Code: C417G00U03L02

Objectives

- ▶ Identify parts of the face
- ▶ Identify hair, neck and ears as part of the face.

Topics

- ▶ My masterpiece!
- ▶ A fun face!

Keywords

- ▶ ears
- ▶ eyebrows
- ▶ eyes
- ▶ face
- ▶ hair
- ▶ head
- ▶ human body
- ▶ mouth
- ▶ neck
- ▶ nose

Lesson 3. Upper extremities, arms

Code: C417G00U03L03

Objectives

- ▶ Trace their hand and identify it as part of the extremities.
- ▶ Count the fingers on their hand.

Topics

- ▶ Look at my hand!

Keywords

- ▶ arms
- ▶ extremities
- ▶ fingers
- ▶ hands
- ▶ human body

Lesson 4. Nutrition and my body

Code: C417G00U03L04

Objectives

- ▶ Name diverse nutritious foods.
- ▶ Evaluate and identify nutritious foods.

Topics

- ▶ There are many nutritious foods!
- ▶ I eat healthy!

Keywords

- ▶ fast
- ▶ food groups
- ▶ foods
- ▶ fruits
- ▶ grains
- ▶ nutritious foods
- ▶ proteins
- ▶ sugars
- ▶ vegetables

Lesson 5. The skeleton

Code: C417G00U03L05

Objectives

- ▶ Identify the human skeleton

Topics

- ▶ So many bones!

Keywords

- ▶ bones
- ▶ human body
- ▶ skeleton

Lesson 6. Parts of the head

Code: C417G00U03L06

Objectives

- ▶ Identify the head, neck and ears as parts of the head.

Topics

- ▶ Make a face for this head!

Keywords

- ▶ ear
- ▶ hair
- ▶ head
- ▶ human body
- ▶ neck

Unit 4. The environment

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. The ecosystem

Code: C417G00U04L01

Objectives

- ▶ The students describe what they see in an environment.

Topics

- ▶ Observing the ecosystem!

Keywords

- ▶ anemone
- ▶ living things
- ▶ organism
- ▶ places where living things live: water
- ▶ earth.

Lesson 2. The ecosystem: fish in the water!

Code: C417G00U04L02

Objectives

- ▶ Distinguish between living

Topics

- ▶ Fish in the water!

Keywords

- ▶ aquatic ecosystem
- ▶ environment
- ▶ fish tank
- ▶ living things
- ▶ nonliving things

Lesson 3. The ecosystem: I belong here!

Code: C417G00U04L03

Objectives

- ▶ Identify the habitat of different living things.

Topics

- ▶ I belong here!

Keywords

- ▶ ecosystem
- ▶ nonliving things
- ▶ living things
- ▶ habitat

Lesson 4. What does an ecosystem have?

Code: C417G00U04L04

Objectives

- ▶ Name the principle components of an ecosystem.

Topics

- ▶ What does an ecosystem have?

Keywords

- ▶ coquí
- ▶ ecosystem
- ▶ flower
- ▶ leaves
- ▶ mosquito

Lesson 5. The ecosystem: in a population, we are alike!

Code: C417G00U04L05

Objectives

- ▶ Create an aquatic ecosystem with diverse organisms and some populations.

Topics

- ▶ The ecosystem: in a population, we are alike!

Keywords

- ▶ ecosystem
- ▶ species
- ▶ population

Lesson 6. The ecosystem: my habitat!

Code: C417G00U04L06

Objectives

- ▶ Identify habitats of different organisms.

Topics

- ▶ My habitat!

Keywords

- ▶ bird
- ▶ dog
- ▶ habitat
- ▶ penguin
- ▶ octopus

Lesson 7. Terrestrial ecosystem: El Yunque!

Code: C417G00U04L07

Objectives

- ▶ Build a puzzle of the National Forest El Yunque.
- ▶ Identify national symbols: coat of arms, anthem and flag.

Topics

- ▶ El Yunque!

Keywords

- ▶ environment
- ▶ National Forest El Yunque
- ▶ ecosystem
- ▶ puzzles

Lesson 8. Food in the ecosystem: what do they eat?

Code: C417G00U04L08

Objectives

- ▶ Trace lines to identify some organisms food.

Topics

- ▶ What do they eat?

Keywords

- ▶ food
- ▶ butterfly
- ▶ frog
- ▶ snake
- ▶ energy
- ▶ organisms

Unit 5. Matter

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. The characteristics of matter: shape

Code: C417G00U05L01

Objectives

- ▶ Identify circular and square objects.
- ▶ Trace and cut circular, square and triangular objects.

Topics

- ▶ They have a defined shape!
- ▶ What shape is it?

Keywords

- ▶ circular
- ▶ matter
- ▶ square
- ▶ shape
- ▶ triangle

Lesson 2. The characteristics of matter: color

Code: C417G00U05L02

Objectives

- ▶ Color different objects and organisms.
- ▶ Color a rainbow with its respective colors.

Topics

- ▶ There are colors for everyone!
- ▶ What a beautiful rianbow!

Keywords

- ▶ rainbow
- ▶ color
- ▶ matter

Lesson 3. The characteristics of matter: volume

Code: C417G00U05L03

Objectives

- ▶ Mention in an exercise where there is greater space (volume).

Topics

- ▶ Where is there more space?

Keywords

- ▶ space
- ▶ volume

Lesson 4. The characteristics of matter: the states

Code: C417G00U05L04

Objectives

- ▶ Identify different states of matter; solid, liquid, and gas.
- ▶ Describe different states of matter; solid, liquid, and gas.

Topics

- ▶ What am I like?
- ▶ How do you see me?

Keywords

- ▶ states of matter
- ▶ gas
- ▶ liquid
- ▶ solid

Lesson 5. The characteristics of matter: weight

Code: C417G00U05L05

Objectives

- ▶ Identify objects of greater weight.

Topics

- ▶ Which weight more?

Keywords

- ▶ weight

Lesson 6. The characteristics of matter: size

Code: C417G00U05L06

Objectives

- ▶ Identify objects by its size: big, medium or small.

Topics

- ▶ Big, medium, and small!

Keywords

- ▶ big
- ▶ medium
- ▶ small
- ▶ size

Lesson 7. Matter in motion

Code: C417G00U05L07

Objectives

- ▶ Identify how force affects the movement of an object.

Topics

- ▶ How can I move it?

Keywords

- ▶ force
- ▶ pull
- ▶ push

Unit 6. The weather

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. Day and night

Code: C417G00U06L01

Objectives

- ▶ Distinguish day and night.
- ▶ Select some activities carried out during the day and others at night.
- ▶ Identify the place where the Sun illuminates Earth and where it does not.

Topics

- ▶ Is it light or dark outside?
- ▶ What to do during the day and night?
- ▶ There is light here, not there!

Keywords

- ▶ day
- ▶ Earth
- ▶ night
- ▶ Sun
- ▶ Planet
- ▶ rotation

Lesson 2. Sunny day

Code: C417G00U06L02

Objectives

- ▶ Identify an important factor from a sunny day.

Topics

- ▶ What a wonderful blonde!

Keywords

- ▶ cirrus clouds
- ▶ sunny day
- ▶ sun

Lesson 3. Cloudy day

Code: C417G00U06L03

Objectives

- ▶ Mention an important factor of a cloudy day.
- ▶ Identify types of clouds (cumulus).

Topics

- ▶ What a big cloud!

Keywords

- ▶ cloudy day
- ▶ cumulus clouds
- ▶ sun

Lesson 4. Rainy day

Code: C417G00U06L04

Objectives

- ▶ Mention an important factor of a rainy day.
- ▶ Identify nimbus clouds.

Topics

- ▶ Do not get wet!

Keywords

- ▶ cloudy day
- ▶ nimbus clouds
- ▶ rain
- ▶ sun

Lesson 5. Windy day

Code: C417G00U06L05

Objectives

- ▶ Mention an important factor of a windy day.
- ▶ Identify a windy day.

Topics

- ▶ It is very windy!

Keywords

- ▶ windy day
- ▶ wind

Unit 7. Science, technology, and society

At the end of this unit the student will have completed the objectives found in the following lessons.

Lesson 1. Science and technology

Code: C417G00U07L01

Objectives

- ▶ Mention examples and benefits that some artifacts have.
- ▶ Identify examples of technology.

Topics

- ▶ That's technology!
- ▶ Let's see examples of technology

Keywords

- ▶ artifacts
- ▶ technological instruments
- ▶ technology

Lesson 2. Technology

Code: C417G00U07L02

Objectives

- ▶ Listen to the narration of a story.
- ▶ Create an invention product of their imagination.

Topics

- ▶ The great invention!
- ▶ Create your own invention!

Keywords

- ▶ scientist
- ▶ invention
- ▶ technology
- ▶ trampoline

