



**Academia Santa Rosa de Lima
Bayamón, Puerto Rico
Science Syllabus 2023-2024
5th Grade Bilingual**

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Required Textbook: Edusystem

**5th Grade Science
Overview
2023 – 2024**

This document is designed to provide parents/guardians/community an overview of the curriculum taught in the fifth grade science classroom. This document supports families in understanding the learning goals for the course, and how students will demonstrate what they know and are able to do. The units objectives describe ways in which students are expected to engage in the content. The unit objective weave the other knowledge and skills together so that students may be successful problem solvers and use knowledge learned efficiently and effectively in daily life.

The course enhances and expands the student’s abilities and skills in the following areas:

- integrated for Science, Technology, Engineering and Mathematics (STEM)
- analysis
- critical thinking
- problem solving
- collaborative team building

II. Content Outline:

Unit	Lesson	Objectives	Dates
<p><u>Unit:00</u></p> <p><i>Let's Investigate Science</i></p>	<p>Lesson:01</p> <p>Scientific Knowledge</p> <p>Lesson:02</p> <p>Scientific Method</p> <p>Lesson:03</p> <p>Scientific Research</p> <p>Lesson 04:</p> <p>Scientific method everywhere</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Identify information as scientific or non-scientific data. ▪ Distinguish what science is from what pseudoscience <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Describe the history and origin of the scientific method. ▪ Identify Galileo's role in the development of modern science. ▪ Describe the characteristics of the scientific method. ▪ Explain the stages of the scientific method. ▪ Develop a simple investigation following the scientific method. <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Describe the role of technology in scientific research. ▪ Identify and explain examples of scientific fraud. ▪ Distinguish reliable sources of information from ones that are not. ▪ Identify the different classifications into which scientific research can be grouped. ▪ Identify the main characteristics that scientific research must have <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Identify possible scenarios and situations in which the scientific method can be used to 	<p>August</p>

		<p>conduct research.</p> <ul style="list-style-type: none"> ▪ Identify the scientific method as a way of researching that can be used by anyone. ▪ Explain how the scientific method can be used in different investigative scenarios 	
<p>Unit 04:</p> <p><i>Everything that exist is matter</i></p>	<p>Lesson01:</p> <p>Properties of matter</p> <p>Lesson 02:</p> <p>States of matter</p> <p>Lesson 03:</p> <p>Interactions between matter</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Name and define the properties of matter ▪ Classify observations as quantitative and qualitative ▪ Define and explain physical properties of matter ▪ Describe physical properties in some objects in substances ▪ Define density ▪ Define and explain chemical properties in matter <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Identify the states of matter and their characteristics ▪ Distinguishes the molecular arrangement of each one of the state of matter ▪ Knows the effects of heat on the state of matter ▪ Observe different situations when the state of matter changes when heat is either added or removed ▪ Analyze how heat is absorbed or released in each of the states of matter ▪ Define solidification, evaporation and condensation <p>At the end of the lesson, student will:</p> <ul style="list-style-type: none"> ▪ Describe pure substances and name their characteristics ▪ Describe the elements and their characteristics ▪ Name examples of elements, compounds and mixtures ▪ Describe the characteristics of homogeneous and heterogeneous mixtures ▪ Compare and contrasts the difference between homogeneous and heterogeneous 	<p>September</p>
<p>Unit 06:</p>	<p>Lesson 01:</p>	<p>At the end of the lesson, student will:</p> <ul style="list-style-type: none"> ▪ Explain how energy can be converted from 	<p>October</p>

<p style="text-align: center;"><i>Let's talk energy</i></p>	<p>Forms of energy</p> <p>Lesson 02:</p> <p style="text-align: center;">Energy transformation</p> <p>Lesson 03:</p> <p style="text-align: center;">Alternative energy sources</p>	<p>one form to another</p> <ul style="list-style-type: none"> ▪ Define kinetic and potential energy ▪ Identify and describe different forms of kinetic and potential energy ▪ Explain what electricity is and how it can be seen ▪ Identify and describe mechanical, thermal and chemical energy ▪ Discuss and describe characteristics of radiant energy <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Define energy sources and energy receivers ▪ Describe electrical energy transformation to other forms of energy ▪ Define energy transformation ▪ Identify the energy transformation that happen in a flashlight ▪ Explain the transformations from electric energy into other forms of energy ▪ Identify and describe a closed and open circuit ▪ Identify and distinguish a series circuit form a parallel circuit <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Define the term fossil fuel ▪ Describe the origin, characteristics and uses of coal, petroleum and natural gas ▪ Describe the use of fossil fuel as an energy source ▪ Recognize the necessity to find alternative sources of energy ▪ Mention and identify alternative sources of energy ▪ Describe alternative sources such as wind, water, solar, nuclear and geothermal ▪ List the advantages and disadvantages of using different energy sources 	
<p>Unit 05:</p> <p style="text-align: center;"><i>Force, Work, and Movement</i></p>	<p>Lesson 01:</p> <p style="text-align: center;">Force</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Define force and discuss the effect it has over objects. ▪ Know the different uses of the term “work” and its scientific meaning. ▪ Establish the relation between the terms force, work, and energy. ▪ Define and discuss the difference between the forces of pulling and pushing. 	<p style="text-align: center;">November/December</p>

	<p>Lesson 02:</p> <p>Motion</p>	<ul style="list-style-type: none"> ▪ List different sources of energy that help us with everyday tasks. ▪ Define and discuss other forces in nature such as gravity, pressure, and friction. <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Define position and motion. ▪ Describe the position and motion of objects. ▪ Learns Newton’s first Law of Motion and applies it to different situations. ▪ Define velocity and discusses its relationship with distance and time. ▪ Calculates the velocity of an object in motion. Learns Newton’s second Law of Motion and applies it to different situations. ▪ Learns Newton’s third Law of Motion and applies it to different situations. 	
<p>Unit 07:</p> <p><i>The Weather and Climate</i></p>	<p>Lesson 01:</p> <p>The Weather and Climate</p> <p>Lesson 02:</p> <p>Types of Climates</p> <p>Lesson 05:</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Define climate and explain how it influences the lives of human beings another organism. ▪ Identify and discuss the factors that determine the climate. ▪ Identify the factors that determine the climate in a specific region. ▪ Recognize the importance of climatology and meteorology. ▪ Mention and recognizes the effects of wind and water in the Earth’s characteristics. <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Describe how sun rays impact Earth. ▪ Name and classify climate zones ▪ Identify and discuss climate zones ▪ Name different types of climates such as cold and humid, warm, and humid, warm, and rainy, dry and polar. ▪ Discuss how the types of climates subdivide by regions ▪ Describe the most important characteristics of each type of climate. <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Identify and describe the factors that influence 	<p>January</p>

	Puerto Rico's climate	<p>Puerto Rico's climate.</p> <ul style="list-style-type: none"> ▪ Identify and describe the elements that make up Puerto Rico's climate. ▪ Learn about the functions and importance of the National Weather Service. ▪ Identify the factors that determine the climate of specific region. ▪ Identify and describe the climatic regions of Puerto Rico. ▪ Compare Puerto Rico's climatic regions taking into consideration each region's temperature and precipitation. 	
<p>Unit 01:</p> <p><i>Let's Get to know Plants</i></p>	<p>Lesson 01:</p> <p>Plants and their parts</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Classify leaves according to shape and edges. ▪ Define the terms root, stem, and leaf. ▪ Describe the function of the roots, stems and leaves. ▪ Explain the transportation of substance in vascular plants. ▪ Identify and discover different types of roots and their parts. ▪ Identify and discover different types of stems. ▪ Identify the structures that make a leaf. 	<p>February/March</p>
	<p>Lesson 02:</p> <p>Classification of Plants</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Explain what a plant is. ▪ Distinguish between a bryophyte and a pteridophyte. ▪ Identify and describe non-vascular plants like moss and liverworts. ▪ Identify and describe non-seeded plants. ▪ Classify plants as gymnosperm and angiosperm. ▪ Identify plants as monocotyledonous and dicotyledonous. ▪ Explain what herbaceous and woody stems are. ▪ Mention a variation of plants that are classified as annual, biennial and perennial. 	
	<p>Lesson 03:</p> <p>Plant diversity</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Describe the importance of plants. ▪ Explain the importance of plant diversity. 	
Unit 10:	Lesson 01:	At the end of the lesson, the student will:	

<p><i>Protecting our environment</i></p>	<p>Air, Water, and Soil: Components of Our Environment</p> <p>Lesson 02:</p> <p>Our Environment's Natural Balance</p> <p>Lesson 03:</p> <p>Ecological Initiatives: Everyone's Commitment</p>	<ul style="list-style-type: none"> ▪ Discuss what natural resources are. ▪ Define renewable and non-renewable natural resources and list their differences. ▪ Analyze the importance of the main components of our environment: air water and soil. ▪ Describe the characteristics and composition of water and discuss its uses as a natural resource. ▪ Explain the characteristics and composition of air. ▪ Describe the composition of soil and its uses as a natural resource. <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Analyze what makes up the natural balance of nature. ▪ Explain how plants help to maintain balance in ecosystems. ▪ Analyze the role of animals to maintain the balance of the ecosystems. ▪ Describe what happens when drastic changes occur in nature. ▪ Name and explain the ways in which humans can alter the equilibrium of the ecosystems. ▪ Explain how deforestation is a threat to the natural flora. ▪ Explain why it is important to promote reforestation. <p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Name the government agencies created in Puerto Rico to protect the environment and natural resources ▪ Discuss Act #9 about Environmental Public Policy ▪ Describe the role of the Industrial Mission of Puerto Rico organization. ▪ Name towns where you have seen examples of environmental movements ▪ Define recycling and explain its advantages. ▪ Name recyclable materials ▪ Differentiate between a recycling center and a recycling collection center 	<p>March/April</p>
<p>Unit 08:</p> <p><i>Our planet earth</i></p>	<p>Lesson 05:</p> <p>Puerto Rico's landscape</p>	<p>At the end of the lesson, the student will:</p> <ul style="list-style-type: none"> ▪ Identify characteristics of the landscape ▪ Explain what natural agents intervene with landscape changes ▪ Name the characteristics of Puerto Rico's 	<p>April/May</p>

		mountainous landscape <ul style="list-style-type: none">▪ The describe the landscape of rivers and beaches▪ Name the characteristics and type of forest you can find in Puerto Rico	
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III. Evaluations Methods:

- Exams
- Homework
- Binder
- Worksheets
- Oral Reports
- Field Trips Reports
- Special Assignments
- STEAM Activities

Late Work Policy

Students will lose 5 points daily for missing assignments. Students may lose up to 15 points for missing assignments. If the assignment is never received, up to three days without an excuse, the student will receive a zero score (0 point).

IV. Grade Distribution:

- 100-90 A
- 89-80 B
- 79-70 C
- 69-65 D
- 64 or less F

V. Reasonable Accommodation:

All accommodations must be worked through the office and will be in accordance with the 'Americans with Disability Act' (ADA); said accommodation will be enforced in the classroom during the school year.

VI. Learning Strategies

- ECA
- Learning Groups

- Class Participation
- Videos
- Oral Discussions
- Reflexive Diary
- Map of Ideas
- Debates
- Research
- ASR Blended Learning Plan (EDM)- (distance and in school learning)
- Google Classroom (virtual classroom)
- Video Conferences (Zoom or Google Meet)

VII. Course requirements:

- The student must keep a record of his grades and the final percentage of each quarter in his notebook.
- The student must keep his uniform clean, complete and in accordance with the rules of the Student Handbook.
- The student must return any document, warning or deficiency notice duly signed by the parents or guardians.
- The student must use an adequate vocabulary and be respectful with their peers, faculty, non-teaching faculty and administrative staff.
- The student must bring a valid written excuse when absent by the parents or guardians.
- The student must get up to date with the material and the work owed during his absence.
- The student must bring an excuse to be able to replace an exam, otherwise it will have a 0% F.
- If the student is absent during an exam, he must be prepared to take it upon his return.
- The student must bring all assigned materials every day.
- The student is responsible for completing all course assignments and delivering them on time

VIII. Consequences hierarchy

1. Verbal Warning by Teacher
2. Student/Teacher Conference
3. Friendly Discipline Referral
4. Parent Phone Call
5. Parent/Teacher Conference
6. Official Discipline Referral

Exception: *There are circumstances in which the teacher may write a direct referral without parent contact. These include fighting, cursing, and/or disrespect to teacher.*

IX. Special Notice

Institutional Norms (*Should not be altered*)

- Evaluations are reported to students five days in advanced.

Revised by: June 2023

- No evaluations given on Mondays.
- The teacher will have a period of ten working days to report the grades obtained to the students.
- No assignments given for weekends, or after a long rest period.
- The number of exams per day can't exceed two per day.

This Syllabus is subject to changes according to the students' need learning experiences or any factor that interrupts the teaching process.



Academia Santa Rosa de Lima
Bayamón, Puerto Rico
Science 5th Syllabus 2023-2024

Syllabus Confirmation Sheet

Student Name: _____

Date: _____ Grade: _____ Group: _____

Here by I certify that I have received and read the Science Class Syllabus for the
2023-2024 school year.

Parent Name

Parent Signature

Parent or guardian email

Please return this document signed first week of class.