

Department of Equity, Curriculum and Instruction

Science All Around Us

Science

Grade 1 & 2

Elective Overview: In this course students will be introduced to the different areas of science. They will look at how things work and experiment. They will look at how human systems work. Students will observe and experiment with Earth's systems and creatures.

Revised: July 2019

Approved by the Montclair Board of Education: August 2019



Montclair Public School Elective Overview

Instructional Plan

Course: Science All Around Us

Marking Period or Trimester: one Trimester

Pacing: 7 weeks

NJSLs

Anchor Standard

Strand 1: Earth’s Place in the Universe – 1-ESS1-2

Strand 2: Earth’s Systems-ESS2.D, ESS2.E

Strand 3: Engineering by Design – K2-ETS1-1

Strand 4: Heredity: Inheritance and Variation of Traits -1-LS3

Framing the Learning

Timeframe	Big Ideas	Essential Questions	Enduring Understandings
Week one	The elements and principles of how magnets work.	How do magnets work and what are their impact on my world?	Magnets and magnetic force can impact my everyday life and the world.

Week 2	Comparing machines and how they work.	How does a helicopter flight differ from that engine of an airplane?	All machines may give the same end product but function very differently.
Week 3	How does the heart work in humans and other creatures.	Does a heart work the same in a human as it does in an animal?	Hearts all have the same job but may vary in beats and make up depending on the creature.
Week 4	Rocks can be categorized by type and where they are found.	How can rocks be categorized and typed?	Rocks make up the Earth’s crust and can be identified in different locations and layers in the Earth.
Week 5	Name and identify different types of Insects.	How can you identify a creature as an insect and name its different elements?	Insects have 3 body parts, six legs antenna, and specific body parts for their specific function.
Weeks 6 & 7	Identifying the parts of a microscope and how it works.	How does knowing and using a microscope help me learn more about science?	Microscopes help identify items in science that we may not ever see.

Evidence of Learning

Instructor will make observations and keep notes. Instructor will give small quizzes on material learned each week.

Activities

Students will use and experiment with magnets. They will create a paper model of a helicopter. They will monitor different heart rates and pulses. They will observe, categorized and name different rocks. They will identify different insects their body parts and their function. They will use microscopes to make more scientific findings.

DIFFERENTIATION

Special Education	ELL	Intervention	Acceleration
<ul style="list-style-type: none"> ● Modify and accommodate as listed in student’s IEP or 504 plan ● Prioritize instruction ● Utilize wait-time ● Ensure directions are clear and concise ● Utilize probing and clarifying questions ● Support instruction with scaffolding ● Model (provide step by step instructions) use of learning strategies ● Provide extended time for practice and review of learning strategies ● Identify, categorize, and teach words critical to understanding instructional texts ● Utilize multiple approaches to monitor student understanding ● Create rubrics to develop assessments ● Vary assessments ● Assign peer assisted reading and tutoring ● Provide individual help to all students ● Create opportunities for/Monitor peer collaboration ● Monitor student progress frequently ● Utilize flexible/cooperative grouping based on instructional goals ● Prioritize and chunk lengthy assignments ● Utilize assistive technology, when appropriate ● Provide ongoing, effective, specific feedback ● Model/Utilize graphic organizers ● Provide leveled reading materials ● Utilize visual aids and props (flashcards, pictures, symbols) when possible ● Utilize a multi-sensory approach to new topics 	<ul style="list-style-type: none"> ● Get to know student ● Set high expectations ● Learn/Utilize/Display some words in student’s heritage language ● Allow electronic translator ● Reword, repeat, and clarify directions ● Determine student knowledge and level of understanding ● Research instruction that best matches student need ● Utilize ongoing informal assessments ● Refer to NJDOE Resources: https://www.state.nj.us/education/bilingual/resources/ ● NJDOE ELL Support Descriptions: https://www.state.nj.us/education/modelcurriculum/ela/ELLSupport.pdf <p>*Review Special Education list for additional recommendations.*</p>	<ul style="list-style-type: none"> ● Tiered Interventions following RtI framework ● RtI Intervention Bank ● Foundations Double-Dose (Tier II) ● LLI (Tier III) ● FFI Skill Report: DRA On-Line ● enVision intervention supports NJDOE resources 	<ul style="list-style-type: none"> ● Process should be modified: higher order thinking skills, open-ended thinking, discovery ● Utilize project-based learning for greater depth of knowledge ● Utilize exploratory connections to higher grade concepts ● Contents should be modified: abstraction, complexity, variety, organization ● Products should be modified: real world problems, audiences, deadlines, evaluation, transformations ● Learning environment should be modified: student-centered learning, independence, openness, complexity, groups varied

