

CRM 1 Inquiry

Pacing

- 14 days
- Aug. 27-Sept. 14
- Week 1-3

DESIRED RESULTS

Making Meaning

The study of elementary science is multifaceted and requires a variety of student experiences to build understanding of the nature of science including the following:

- Understanding the nature and development of scientific knowledge.
- Participating safely and productively in scientific inquiry and discourse in lab and field experiences at varying degrees of independence.
- Knowing, using and interpreting scientific explanations of the natural world.
- Using scientific observations and tools to collect data to generate and evaluate evidence and explanations.

Transfer: Scientific literacy is established in learning to conduct an investigation and collect evidence from a variety of sources, develop an explanation from the data, and communicate and defend conclusions.

Enduring Understandings:

- Scientists raise questions about the world around them and seek answers by careful observation and investigation.
- Scientists give reasons (evidence) for their claims and conclusions and consider reasons suggested by others.
- Scientists keep a notebook as a thinking tool and use questions, diagrams, charts, graphs, conclusions, and wonderings to record and share their thinking.
- Scientists use tools and safety measures to investigate the natural world.

Essential Questions:

- How do we raise questions and seek answers about the world around us?
- How do we record and share our observations, thinking, and conclusions in science?
- What tools and safety measures do scientists use to investigate the natural world?

Essential Vocabulary

- balance / balanza
- beaker / vaso de precipitados
- communicate / comunicar
- conclude / concluir
- compare / comparar
- container / recipiente
- data / datos
- directions/instrucciones
- emergency/emergencia
- explain / explicar
- flow / fluir
- goggles/lentes de seguridad
- graph/gráfica
- hand lens / lupa
- hypothesis/hipótesis
- identify/ identificar
- investigate / investigar

- magnet / imán
- measure / medida
- notebook / cuaderno
- observe / observar
- pattern/patrón
- predict / predecir
- problem/ problema
- property/ propiedad
- question/ pregunta
- record/anotar
- results/resultado
- safety rules/ procedimientos de seguridad
- scientist/científico
- stopwatch / cronómetro
- thermometer/ termómetro

Supporting Vocabulary Link

- [Elementary School Supporting Vocabulary](#)

<p>Student Prerequisite Knowledge <i>Students should know:</i></p> <ul style="list-style-type: none"> • safe practices, apparel, and procedures in the classroom and outdoors. • questioning the world around us is natural. • there is more than one way to answer a question. • descriptive investigations involve data collection and analysis. • pictures, numbers, graphs, and words can be used to record data. • explanations are justified by evidence. • predictions are based on observable patterns. • many types of tools can be used to collect, record, and compare information. • properties of matter may be observed and identified. • patterns exist in the natural world. • organisms and objects can be measured and compared. 		
<p>Resources: AISD Module Kit, Model Lesson Portfolio, STEMscopes, eBooks: Envisions Science Leveled Readers, Scott Foresman Text, Science Notebook Resources, BrainPop Jr., Discovery Education, Differentiation Strategies & Resources</p>		
<p>ELPS: Mandated by Texas Administrative Code (19 TAC §74.4), click on the link for English Language Proficiency Standards (ELPS) to support English Language Learners.</p>		
<p>TEKS Knowledge & Skills Acquisition</p>		
<p>STAAR: RC = Reporting Category; DC = Dual Coded Skills; Readiness Standard; Supporting Standard Concepts are addressed in another unit.</p>	<p style="text-align: center;">Students Will Know Students Will Be Able To</p>	
<p>2.1: Scientific reasoning and reasoning The student, for at least 60% of instructional time, conducts classroom and outdoor investigations following home and school safety procedures.</p>		
<p>2.1A: identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;</p>	<ul style="list-style-type: none"> • Know safe practices in the classroom and outdoors. • Know appropriate safety apparel and procedures. 	<ul style="list-style-type: none"> • Follow classroom, lab, and outdoor safety procedures.
<p>2.1B: describe the importance of safe practices</p>	<ul style="list-style-type: none"> • Know the importance of safe practice. 	<ul style="list-style-type: none"> • Describe the importance of safety practices.
<p>2.1C identify and demonstrate how to use, conserve, and dispose of natural resources and materials such as conserving water and reuse or recycling of paper, plastic, and metal.</p>	<ul style="list-style-type: none"> • Know appropriate procedures for disposal, recycling, and conservation of materials. 	<ul style="list-style-type: none"> • Dispose of or recycle materials in their daily life. • Identify natural resources that are recyclable.
<p>2.2: Scientific reasoning and reasoning The student develops abilities necessary to do scientific inquiry in classroom and outdoor investigations. The student is expected to:</p>		
<p>2.2A: ask questions about organisms, objects, and events during observations and investigations;</p>	<ul style="list-style-type: none"> • There is more than one way to answer a question. 	<ul style="list-style-type: none"> • Ask questions about organisms, objects and events during observations and investigations.
<p>2.2B: plan and conduct descriptive investigations such as how organisms grow;</p>	<ul style="list-style-type: none"> • Descriptive investigations involve data collection and analysis. 	<ul style="list-style-type: none"> • Plan and conduct descriptive investigations.

2.2C: collect data from observations using simple equipment such as hand lenses, primary balances, thermometers, and non-standard measurement tools;	<ul style="list-style-type: none"> • Scientific equipment is used to collect data from observations. • Thermometers measure temperature and have a readable scale. 	<ul style="list-style-type: none"> • Collect data from observations. • Measure accurately using a primary balance, thermometer and non-standard measurement tools. • Use a hand lens to make observations.
2.2D: record and organize data using pictures, numbers, and words;	<ul style="list-style-type: none"> • Pictures, numbers, graphs, and words can be used to record data. 	<ul style="list-style-type: none"> • Record and organize data using pictures numbers, graphs and words.
2.2E: communicate observations and justify explanations using student-generated data from simple descriptive investigations;	<ul style="list-style-type: none"> • Explanations are justified by evidence. 	<ul style="list-style-type: none"> • Communicate observations about investigations. • Justify explanations with evidence from the data.
2.2F: compare results of investigations with what students and scientists know about the world.	<ul style="list-style-type: none"> • Investigations explain what we know about the world. 	<ul style="list-style-type: none"> • Compare their results with other students and with what scientists know about the world.
2.3: Scientific reasoning and reasoning The student knows that information and critical thinking, scientific problem solving, and the contributions of scientists are used in making decisions. The student is expected to:		
2.3A: identify and explain a problem in his/her own words and propose a task and solution for the problem such as lack of water in a habitat;	<ul style="list-style-type: none"> • When problem solving, a task and solution are based on an identified problem. 	<ul style="list-style-type: none"> • Identify and explain a problem. • Propose a task and solution for a problem.
2.3B: make predictions based on observable patterns;	<ul style="list-style-type: none"> • Predictions are based on observable patterns. 	<ul style="list-style-type: none"> • Describe patterns and relationships, and predict what will happen next.
2.3C: identify what a scientist is and explore what different scientists do.	<ul style="list-style-type: none"> • Scientists investigate the world around them. • Scientists have many different areas of focus. 	<ul style="list-style-type: none"> • Identify what a scientist is. • Explore what different scientists do.
2.4 Scientific reasoning and reasoning The student uses age-appropriate tools and models to investigate the natural world. The student is expected to:		
2.4A: collect, record, and compare information using tools, including computers, hand lenses, rulers, primary balances, plastic beakers, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and stopwatches; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums;	<ul style="list-style-type: none"> • Many types of tools can be used to collect, record, and compare information. • Science Notebooks are used to communicate in science. 	<ul style="list-style-type: none"> • Use tools and materials to investigate, record and compare the natural world.
2.4B: measure and compare organisms and objects using non-standard units that approximate metric units.	<ul style="list-style-type: none"> • Organisms and objects can be measured and compared. 	<ul style="list-style-type: none"> • Measure organisms and objects. • Compare organisms and objects.

ASSESSMENT EVIDENCE	
Student Work Products/Assessment Evidence	
Performance Tasks	Other Evidence (i.e. unit tests, open ended exams, quiz, essay, student work samples, observations, etc.)
<ul style="list-style-type: none"> • Suggested Dual Language Activity 1 What Scientists Do: Drawings and Descriptions • Suggested Dual Language Activity 2 Leaf Measurements Lab • Directed, Guided, Coupled, and Full Inquiry Leaf Investigations/Labs 	<ul style="list-style-type: none"> • Science Notebook: students’ reflections, vocabulary words, observations, drawings, etc. • Using Science Tools Safely: students record what each tool is used for and how to use it safely in their notebook. • Inquiry Board Questions • Foldable: Questions in Science • Scientists are Heroes Writing • Foldable: Observing with the Five Senses in Science • Foldable: Senses • Students demonstrate safe practices with each tool • Teacher Observations: of Science Notebooks and use of probing/hinge questions.
LESSON PLANNING TOOLS	
<p>In the course of lesson planning, it is the expectation that teachers will include whole child considerations when planning such as differentiation, special education, English language learning, dual language, gifted and talented, social emotional learning, physical activity, and wellness.</p>	
<p>Model Lesson- Inquiry</p> <ul style="list-style-type: none"> • Using Science Tools Safely • How Do We Do the Work of Scientists? • Investigating Leaves <p>Suggested Pacing: (14 days) TEKS: 2.1, 2.2, 2.3, 2.4</p>	