

CRM 1 Inquiry		Estimated Pacing: 2 Weeks	
Enduring Understandings: <ul style="list-style-type: none"> • Los científicos hacen preguntas acerca del mundo que los rodea y buscan respuestas por medio de observación e investigación. • Los científicos comparten sus afirmaciones y conclusiones y consideran las sugerencias de otros. • Los científicos registran en un cuaderno sus preguntas, diagramas, gráficas, conclusiones y sus interrogantes para anotar y compartir sus pensamientos. • Los científicos usan herramientas y medidas de seguridad para investigar el mundo natural.. 		Essential Questions: <ul style="list-style-type: none"> • ¿Cómo hacemos preguntas y buscamos respuestas acerca del mundo que nos rodea? • ¿Cómo registramos y compartimos nuestras observaciones, pensamiento y conclusiones en las ciencias? • ¿Qué herramientas y medidas de seguridad usan los científicos para investigar el mundo natural? 	
New Vocabulary for Course/ Essential to Know: <ul style="list-style-type: none"> • absorb / absorber • descriptive investigation / investigación descriptiva • experimental investigation / investigación experimental • strength / fuerza • variables / variables 		Vocabulary for Review/ Spiraled Vocabulary <ul style="list-style-type: none"> • balance / balanza • beaker / vaso de precipitados • compass / brújula • conclusion / conclusión • data / datos • estimating / estimación • experiment / experimento • gloves / guantes • goggles / lentes de seguridad • graduated cylinder / cilindro graduado • hand lens / lupa • hot plate / hornilla • measuring / medir • meter stick / regla métrica • microscope / microscopio • observations/observaciones • predicting / predecir • safety rules / procedimientos de seguridad • stopwatch / cronómetro • thermometer / termómetro • triple beam balance / balanzas de tres brazos 	
Resources: Karen Ostlund, <i>Putting It All Together Inquiry Unit, AISD Module Kit, Scott Foresman, Science.</i>			
ELPS: Mandated by Texas Administrative Code (19 TAC §74.4), the English Language Proficiency Standards (ELPS), present standards that outline the instruction school districts must provide to ELLs in order for them to have the full opportunity to learn English and to succeed academically. The rule also clarifies that the ELPS are to be implemented as an integral part of the instruction in each foundation and enrichment subject of the TEKS. Please review the standards at: http://ritter.tea.state.tx.us/rules/tac/chapter074/ch074a.html#74.4			
Established Goals TEKS Knowledge & Skill	Established Goals TEKS Student Expectations	Students will know...	Students will be able to...
<small>STAAR: RC = Reporting Category; DC = Dual Coded Skills; Readiness Standard; Supporting Standard</small>			
5.1: Scientific investigation and reasoning. The student conducts classroom and outdoor investigations following home and school safety procedures and environmentally appropriate and ethical practices.	5.1A: demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations. DC	<ul style="list-style-type: none"> • safety procedures, environmentally appropriate, and ethical practices . 	<ul style="list-style-type: none"> • practice safety. (ELPS 1A Learning Strategies)
	5.1B: make informed choices in the conservation, disposal, and recycling of materials. DC	<ul style="list-style-type: none"> • appropriate procedures for disposal, recycling, and conservation of materials. 	<ul style="list-style-type: none"> • make informed decisions in the use of materials. (ELPS 1H Learning Strategies)

	5.2A: describe, plan, and implement simple experimental investigations testing one variable. DC	<ul style="list-style-type: none"> only one variable can be tested at a time. There are different types of investigations (comparative, descriptive, and experimental). 	<ul style="list-style-type: none"> describe, plan, and implement investigations. (ELPS 5G Writing)
	5.2B: ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology. DC	<ul style="list-style-type: none"> there is more than one way to answer a question. a hypothesis contains an if/then statement. 	<ul style="list-style-type: none"> ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology. (ELPS 5F Writing)
	5.2C: collect information by detailed observations and accurate measuring. DC	<ul style="list-style-type: none"> different tools measure different properties of matter. 	<ul style="list-style-type: none"> use tools to collect accurate information. (ELPS 5B Writing)
	5.2D: analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence. DC	<ul style="list-style-type: none"> explanations are justified by evidence. the difference between direct and inferred evidence. 	<ul style="list-style-type: none"> analyze and interpret information. construct reasonable explanations from direct (observable) and indirect (inferred) evidence. (ELPS 4K Reading)
	5.2E: demonstrate that repeated investigations may increase the reliability of results. DC	<ul style="list-style-type: none"> reliability increases when investigations are repeated. 	<ul style="list-style-type: none"> repeat investigations to gain reliability. (ELPS 1A Learning Strategies)
	5.2F: communicate valid conclusions in both written and verbal forms. DC	<ul style="list-style-type: none"> evidence supports conclusions. scientific vocabulary is necessary to communicate findings and results. 	<ul style="list-style-type: none"> communicate valid conclusions using scientific vocabulary orally and in writing. (ELPS 5E Reading)
	5.2G: construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information. DC	<ul style="list-style-type: none"> graphs, charts, maps and tables are used to communicate differently. graphs have axes and show patterns in data. tables contain rows and columns and are used to organize data for easy analysis. 	<ul style="list-style-type: none"> represent scientific information using graphs, charts, maps and tables with and without technology. (ELPS 1C Learning Strategies) analyze graphic information to evaluate data and draw conclusions. (ELPS 4J Reading)
5.3: Scientific investigation and reasoning. The student uses critical thinking and scientific problem solving to make informed decisions.	5.3A: in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student. DC	<ul style="list-style-type: none"> empirical evidence, logical reasoning, and testing are used to critique scientific explanations. 	<ul style="list-style-type: none"> analyze, evaluate, and critique scientific explanations. (ELPS 3G Speaking) examine all sides of scientific evidence of scientific explanations. (ELPS 4K Reading)
	5.3B: evaluate the accuracy of the information related to promotional	<ul style="list-style-type: none"> the need to evaluate the accuracy of promotional materials because 	<ul style="list-style-type: none"> evaluate the validity of promotional claims.

	materials for products and services such as nutritional labels. DC	some claims are made that are not based on scientific data.	(ELPS 4K Reading)
	5.3C: draw or develop a model that represents how something works or looks that cannot be seen such as how a soda dispensing machine works. DC	<ul style="list-style-type: none"> the limitations of a model. how to draw to scale. 	<ul style="list-style-type: none"> draw or develop a model that represents how something works or looks. (ELPS 1C Learning Strategies)
	5.3D: connect grade-level appropriate science concepts with the history of science, science careers, and contributions of scientists. DC	<ul style="list-style-type: none"> scientific thought is refined as technology increases our ability to observe and record more precise data. 	<ul style="list-style-type: none"> connect science concepts to real world discoveries, innovations and careers. (ELPS 4J Reading)
5.4: Scientific investigation and reasoning. The student knows how to use a variety of tools and methods to conduct science inquiry.	5.4A: collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, pan balances, triple beam balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observations of habitats or organisms such as terrariums and aquariums. DC	<ul style="list-style-type: none"> different tools help gather data about properties in order to compare, evaluate and classify matter. 	<ul style="list-style-type: none"> collect, record, and analyze information using tools. (ELPS 5B Writing)
	5.4B: use safety equipment, including safety goggles and gloves. DC	<ul style="list-style-type: none"> how, why, and when to use safety equipment appropriately. 	<ul style="list-style-type: none"> use safety equipment appropriately. (ELPS 1A Learning Strategies)

Student Work Products/Assessment Evidence

Performance Tasks	Other Evidence (i.e. unit tests, open ended exams, quiz, essay, student work samples, observations, etc.)
Putting It All Together Labs: <ul style="list-style-type: none"> Directed Inquiry: Absorbency Lab Day 3 (ELPS 5G Writing) Guided Inquiry: Strength Lab Day 4 (ELPS 5G Writing) Directed Inquiry: Absorbency Lab2 Day 5 (ELPS 5G Writing) Guided Inquiry: Strength Lab2 Day 6 (ELPS 4K Reading) Coupled Inquiry: Investigable Questions Day 7 (ELPS 5F Writing) Full Inquiry: Planning, Conducting, Sharing the Results of an Investigation Day 8-10 (ELPS 3E Speaking) 	<ul style="list-style-type: none"> Teacher observations: Use of safety rules and equipment Teacher observations: management and use of tools Tools foldable/web for Interactive Notebook Students' use of evidence to support explanations and claims Putting It All Together Lab Sheets and conclusions Peer evaluation Experiment rubrics Short Cycle Assessment

Learning Plan (2 Weeks: Week 1, 2)				
Lesson Portfolios	Teacher Resources	Student Resources	Technology (Media, website, etc.)	Differentiation
5.1-5.4 Inquiry <i>Estimated pacing: 2 weeks</i>	Lessons <ul style="list-style-type: none"> 1. Working as a Scientist- Descriptive Investigations (3 days) 2. Experimental Investigations (4 days) 3. Questions/ Planning an Investigation and Sharing Results (3 days) 	<ul style="list-style-type: none"> Interactive Notebook Pages Absorbency Investigation Absorbency Science Notes Strength Investigation Strength Science Notes/Frayer Model Absorbency Experiment /Rubric Strength Experiment Strength Experiment / Science Notes Scientific Inquiry Questions, Questions/Rubric Investigation Foldable/ Peer Review Rubric Sharing Your Experiment/ Rubric 	<ul style="list-style-type: none"> Safety PowerPoint in portfolio Interactive Notebook PowerPoint on Science Curriculum Page Science Tools PowerPoint in portfolio BrainPop Scientific Method 	ELL Strategy: <ul style="list-style-type: none"> Have students work in pairs or small groups to help with vocabulary. Uses lists with pictures of common words that students might not know. (absorb, strength, washer, etc.) SPED Strategy: <ul style="list-style-type: none"> List the steps of an experiment and make sure students are sequentially following the guides. Enrichment: <ul style="list-style-type: none"> If students are at the point of being able to plan and implement their own investigation, give them the question and inquiry planner, and have them design the investigations. Remember that some are descriptive investigations, and some are experiments.