



# Alamo Heights Science Core Experiences

Purpose: Define common experiences that all students will have in specific grades. This will enable teachers to link current instruction to previous core experiences in order to spiral instruction and help students make connections.

<b>Kinder</b>	<p><b>Tree Journal-</b> students adopt a tree and observe it all year long <b>K.8 (B) identify events that have repeating patterns, including seasons of the year and day and night.</b></p> <p><b>Pumpkin Life Cycle-</b> Carve a pumpkin and explore seeds and internal and external features of a pumpkin. Note changes as the pumpkin begins to rot. <b>K.10(D) observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit.</b></p> <p><b>Water-</b> freeze glove with water and blue food coloring and observe the evaporation and processes. Boil water: observe liquid to gas transition states. <b>K.5(B) observe, record, and discuss how materials can be changed by heating or cooling.</b></p> <p><b>Insects and plants-</b> students observe life cycle of ladybugs and butterflies. <b>K.9 (B) examine evidence that living organisms have basic needs such as food, water, and shelter for animals and air, water, nutrients, sunlight, and space for plants.</b></p> <p><b>Students plant seeds</b> in fingers of a glove and note changes. <b>K.10(D) observe changes that are part of a simple life cycle of a plant: seed, seedling, plant, flower, and fruit.</b></p> <p><b>Animal classification-</b> Visit farm or zoo and students create flip book or PPT about animal classification. <b>K.10(A) sort plants and animals into groups based on physical characteristics such as color, size, body covering, or leaf shape.</b></p>
<b>First</b>	<p><b>Sky Journal-</b> The student is expected to observe and record changes in the appearances of objects in the sky such as clouds, the moon, and stars, including the sun. <b>1.8 (B) observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;</b> <b>1.8 (C) identify characteristics of the seasons of the year and day and night; and</b></p> <p><b>Life Cycle</b> experience TBD with new TEKS</p>
<b>Second</b>	<p><b>Water Cycle in a Jar-</b> Using ice and hot water, students observe all parts of the water cycle in a glass jar. Follow up in journals and by singing the water cycle song. <b>2.8 (C) explore the processes in the water cycle, including evaporation, condensation, and precipitation, as connected to weather conditions</b></p> <p><b>Life Cycle</b> experience TBD with new TEKS</p>

<p><b>Third</b></p>	<p><b>Eagle Ate my Babies-</b> Outdoor game where students hide cubes of different colors (red, yellow, green and blue). Some students play role of eagles and try to find the cubes. Graph the cubes that are found. What made some cubes easier to find than other? How is this used in nature?  3.10 (A) explore how structures and functions of plants and animals allow them to survive in a particular environment.</p> <p><b>Bubble Experiment-</b> Which dishwashing liquid makes the biggest bubble? Kids go through the scientific process to determine which soap is best.  3.5 (B) describe and classify samples of matter as solids, liquids, and gases and demonstrate that solids have a definite shape and that liquids and gases take the shape of their container.  3.2 (A) plan and implement descriptive investigations, including asking and answering questions, making inferences, and selecting and using equipment or technology needed, to solve a specific problem in the natural world;</p> <p><b>Cibolo Nature Center field trip-</b> Observe different habitats and environments  3.9 (A) observe and describe the physical characteristics of environments and how they support populations and communities within an ecosystem</p> <p><b>Scobee Planetarium field trip-</b> Field trip to support order of the planets.  3.8 (D) identify the planets in Earth's solar system and their position in relation to the Sun.</p>
<p><b>Fourth</b></p>	<p><b>Soil Classification-</b> Students will examine properties of soil; classify soil based on color and texture, and draw conclusions based on the soil's capacity to retain water, and the soil's ability to support the growth of plants.  4.7 (A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants</p> <p><b>Electric circuits-</b> Students will differentiate between conductors and insulators, demonstrate that electricity travels in a closed path by creating an electrical circuit, and explore an electromagnetic field.  4.6 (B) differentiate between conductors and insulators;  4.6 (C) demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field.</p>

**Fifth**

**Capstone project** will be independent student science project on a self-selected topic.

It will include all steps of the scientific process, explicit data collection, analysis of variables, and verbal and written communications of results.

Intro (3) The study of elementary science includes planning and safely implementing classroom and outdoor investigations using scientific processes, including inquiry methods, analyzing information, making informed decisions, and using tools to collect and record information, while addressing the major concepts and vocabulary, in the context of physical, earth, and life sciences.

5.2 (2) Scientific investigation and reasoning. The student uses scientific methods during laboratory and outdoor investigations. The student is expected to:

- (A) describe, plan, and implement simple experimental investigations testing one variable;
- (B) ask well-defined questions, formulate testable hypotheses, and select and use appropriate equipment and technology;
- (C) collect information by detailed observations and accurate measuring;
- (D) analyze and interpret information to construct reasonable explanations from direct (observable) and indirect (inferred) evidence;
- (E) demonstrate that repeated investigations may increase the reliability of results;
- (F) communicate valid conclusions in both written and verbal forms; and
- (G) construct appropriate simple graphs, tables, maps, and charts using technology, including computers, to organize, examine, and evaluate information.