Challenger Center's Exploration Lab Alignment to Standards

Next Generation Science Standards Framework Practices

Asking Questions and Defining Problems

Even for individuals who do not become scientists or engineers, the ability to ask well defined questions is an important component of science literacy, helping to make them critical consumers of scientific knowledge.

- Analyze data from tests of an object or tool to determine if it works as intended. (K2ETS13)

Planning and Carrying Out Investigations

Scientists and engineers investigate and observe the world with essentially two goals: (1) to systematically describe the world and (2) to develop and test theories and explanations of how the world works.

- Make observations and measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon. (5PS13)

Analyzing and Interpreting Data

Because raw data as such have little meaning, a major practice of scientists is to organize and interpret data through tabulating, graphing, or statistical analysis. Such analysis can bring out the meaning of data—and their relevance—so that they may be used as evidence.

- Analyze data from tests of an object or tool to determine if it works as intended. (2PS12)

Constructing Explanations and Designing Solutions

Because science seeks to enhance human understanding of the world, scientific theories are developed to provide explanations aimed at illuminating the nature of particular phenomena, predicting future events, or making inferences about past events.

- Use evidence (e.g., observations, patterns) to support an explanation. (3LS32)

21st Century Skills

- Critical Thinking
- Initiative and Self-Direction
- Information, Communications, and Technology Literacy

Common Core

ELA: Reading: Informational Text: Key Ideas and Details.

- Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (CCSS.ELA-Literacy.RI.3.3)

Mathematics: Number and Operations in Base Ten: Use place value understanding and properties of operations to perform multi-digit arithmetic.

- Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction (CCSS.Math.Content.3.NBT.A.2)

Mathematics: Measurement and Data: Represent and interpret data.

Mathematics: Measurement and Data: Solve problems involving measurement and estimation.

- Estimate lengths using units of inches, feet, centimeters, and meters. (CCSS.Math.Content.2.MD.A.3)
- Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). (CCSS.Math.Content.3.MD.A.2)
- Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units. (CCSS.Math.Content.3.MD.A.2)
- Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes. (CCSS.Math.Content.2.MD.A.1)