

## Scientific Reasoning and Technology Kits

**Measurement - 3rd or 4th** - Students will measure length and distance in meters and centimeters, and they will measure mass in grams with a balance and mass pieces. They will measure liquid volume and capacity of containers in liters and milliliters. They will also measure temperature of liquids and air in degrees Celsius with a thermometer. The students will exercise language and math skills in the context of metric measurement and will develop and refine the manipulative skills required for making and using measuring tools.

**Ideas and Inventions - 4th** - Students will use techniques to see details about the world that would otherwise be difficult to observe. They will explore the techniques of chromatography, rubbing, carbon printing, and mirror imagery. They will record and compare patterns observed in leaf veins, fingerprints, and ink pigments. They will express individual and group creativity through open-ended discoveries and inventions, and they will invent applications to extend the use of specific techniques.

**Variables - 5th** - Students will gain experience with the concepts of variable and system. They will design and conduct controlled experiments, construct materials that will be used in the investigations, and acquire some understanding of the behavior of pendulums. They will use data to make predictions and will apply mathematics in the context of science. They will record and graph data concretely, pictorially, and symbolically to discover relationships.

**Models and Designs - 6th** - Students will design and construct conceptual and physical models. They will look for relationships between structure and function of materials and systems. They will organize and analyze data from investigations with physical objects and systems and will apply mathematics in the context of science.