

FOSS K–6 SCIENTIFIC REASONING AND TECHNOLOGY STRAND MATRIX

	MODULE	SCIENCE CONCEPTS	THINKING PROCESSES	MODULE OVERVIEW
Grades 5–6	Models and Designs Module	Black box Model Design Engineer Wheel and axle Engineering Technology Variable	Relating Organizing Comparing Communicating Observing	Students create scientific models to help them think productively about complex problems. They create models to explain the relationships of parts in black boxes and a whimsical device called a humdinger. Later in the module students design and build model carts that respond to a series of engineering challenges.
	Variables Module	Controlled experiment Cycle Pendulum Variable Capacity System		Students identify and control variables and conduct controlled experiments using several multi-variable systems: pendulums, airplanes, boats, and catapults. They observe and compare the outcomes of experiments, identify relations between independent and dependent variables, and make predictions using the results of their experiments.
Grades 3–4	Ideas and Inventions Module	Leaf Veins Pattern Texture Printing Invent Chromatography Pigment Wick Applications Image Mirror Image Reflection Symmetry	Advanced Organizing Comparing Communicating Observing	Students use techniques that allow them to see details about the world that would otherwise be difficult to observe. They record and compare patterns and create inventions using carbon printing; textures and patterns using rubbings; color tracings made by pigments using chromatography; symmetry of objects using mirrors. Students then use these techniques inventively.
	Measurement Module	Length/Distance Meter/Centimeter Gram/Kilogram Liter/Milliliter Standard Standard weight Volume Degree Celsius Temperature		Students learn metric measurement. They observe, quantify, compare, and record length in centimeters, weight (mass) in grams, volume in milliliters and liters, and temperature in degrees Celsius.