FOSS K–8 EARTH SCIENCE STRAND MATRIX

	MODULE	SCIENCE CONCEPTS	THINKING PROCESSES	MODULE OVERVIEW
Grades 6–8	**Planetary Science Course**	Solar system Planet Satellite Crater Atmosphere Scale Orbit Revolution Rotation Day and night Interaction Change	**Inferring** Relating Organizing Comparing Communicating Observing	Students study the Earth as a celestial object before progressing to lunar science and lunar exploration, and then on to the solar system. They explore the Moon's origin, phases and geology, celestial motions, cratering, imaging, and space exploration.
	Earth History Course	Erosion Deposition Sedimentation Lithification Index fossil Rock formation Landform Prehistoric environment Evidence		Students investigate rocks and fossils to discover clues that reveal Earth's history. They explore Grand Canyon rocks and fossils, the processes that created them, and compare evidence discovered in rocks to present day processes and life.
	Weather and Water Course	Heat Radiation Conduction Convection Density Pressure Condensation Water cycle Drainage basin Climate		Students investigate the properties of Earth's atmosphere and the processes that produce weather, including energy transfer, atmospheric pressure, and water cycle. Students collect and analyze local and global weather data.
Grades 5–6	**Landforms Module**	Contour Erosion Deposition Elevation Landform Map Model Point of view Slope Topography	**Relating** Organizing Comparing Communicating Observing	Students investigate variables that influence erosion and deposition and the subsequent creation of landforms and create topographic maps as a means to represent landforms.
	Solar Energy Module	Absorb Change Energy transfer Heat sink Insulation Orientation Reflect Shadow Solar Energy Surface Area		Students study the relationship between the sun, an object, and the shadow it casts. They set up experiments to discover which variables influence the transfer of solar energy.
Grades 3–4	**Earth Materials Module**	Earth material Crystal Geology Mineral Rock Property	**Advanced Organizing** Comparing Communicating Observing	Students examine rocks in detail and discover that rocks are made of combinations of minerals. They identify rocks and minerals by observing their properties, e.g. color and hardness.
	Water Module	Change Cycle Condensation Earth material Evaporation Liquid Solid Property Surface tension		Students examine the properties of water as solid, liquid, and gas. They discover what happens to water as it is heated, cooled, frozen, evaporated, and allowed to interact with other materials.
Grades 1–2	**Pebbles, Sand, and Silt Module**	Earth material Rock Mixture Particles Soil	**Beginning Organizing** Comparing Communicating Observing	Students study the properties of rocks and soil. They group and seriate rocks, learning simple ways by which earth materials can be organized.
	Air and Weather Module	Air Gas Lift Pressure Propulsion Temperature Weather Wind		Students study the properties of air. They examine its effects on other materials and use basic tools to gather information about air and weather.
Kindergarten	**Paper, Wood, and Fabric Modules**	Materials Structures Change	**Comparing** Communicating Observing	Students observe, compare, and describe wood, paper, and fabric, and find out what happens when these materials interact with other materials.