Alabama Fifth Grade Course of Study

Alignment to Science Modules

	Course of Study Objective	Science Module, Lesson
1.	Identify evidence of chemical changes through color, gas formation, solid formation, and temperature change. Example: combining vinegar and baking soda to produce a gas	
2.	Define mass, volume, and density.	Variables - Investigation 2 and Presenter's Guide
	● Identifying the atom as the basic building block of matter	
	● Relating temperature changes to particle motion Example: movement of colored dye in hot and cold water	
	● Relating density to the sinking or floating of an object in a liquid	Variables - Investigation 2 (extension activity and Science Stories Sink or Swim and Science in the Bath Tub
3.	Use everyday indicators to identify common acids and bases. Examples: using grape juice to determine that vinegar is an acid, using juice from boiled red cabbage to determine that baking soda is a base	Ecosystems - Lesson 8 and Presenter's Guide
4.	Describe forms of energy, including chemical, heat, light, and mechanical.	**Heat and Light** Solar Energy - Investigations 1-4
	● Identifying types of potential and kinetic energy Examples: potential-water behind a dam, battery;kinetic-water moving across turbine blades	Variables - Investigations 1,3,4 Presenter's Guide
	● Describing alternatives to the use of fossil fuels Examples: solar energy, geothermal energy, windmill, hydroelectric power, biomass	Solar Energy - Investigations 3,4
	● Identifying the transfer of energy by conduction, convection, and radiation Examples: conduction-hot plate heating a pan, convection-space heater heating air, radiation-sun heating Earth's surface	Solar Energy - Investigation 2 defines energy transfer; Presenter's Guide Investiagion 2 includes Vocabulary **conduction, convection, radiation**

5.	Contrast ways in which light rays are bent by concave and convex lenses.	Microworlds - Convex only - Lessons 3,4 Concave lenses and activity in extension lesson in Presenter's Guide
	● Describing how a prism forms a visible spectrum	Microworlds - Lessons 3-4 extension activity with prisms in Presenter's Guide
	● Explaining why different objects have different colors	Micoworlds-Lessons 3-4 extension activity including mirrors in Presenter's Guide
	● Describing how mirrors reflect light Example: discussing differences in the reflection of light by convex and concave mirrors	Microworlds - Lessons 3-4 - extension activity including mirrors in Presenter's Guide
	● Describing the relationship between the structure of the eye and sight	Microworlds - Lessons 3-4 drawing and discussion in Presenter's Guide
	● Identifying types of corrective lenses used to correct different sight problems Example: convex-farsightedness, concave-nearsightedness	Microworlds - Lessons 3-4 drawings and discussion in Presenter's Guide
	● Identifying the contribution of van Leeuwenhoek to the development of the microscope	Microworlds - Lesson 5
6.	Compare effects of gravitational force on Earth, on the moon and within space.	
	● Identifying contributions of Newton to the study of gravity	
	● Describing how a spring scale is used to measure weight	
	● Explaining how air resistance affects falling objects	
7.	Identify common parts of plant and animal cells, including the nucleus, cytoplasm, and cell membrane	Microworlds - Lessons 12-14
	● Comparing unicellular and multicellular organisms	Microworlds - Lessons 12-14
	● Comparing plant and animal cells	Microworlds - Lessons 11 Presenter's Guide
8.	Identify major body systems and their functions, including the circulatory system, respiratory system, excretory system, and reproductive system.	Ecosystems - Lessons 4,6 Presenter's Guide
9.	Describe the relationship of populations within a habitat to various communities and ecosystems.	Ecosystems - Lessons 1-6

	● Describing the relationship between food chains and food webs	Ecosystems - Lessons 1-16
	● Describing symbiotic relationships	Ecosystems - Lesson 7 Presenter's Guide
10.	Identify spheres of Earth, including the geosphere, atmosphere, and hydroshphere.	Solar Energy - Presenter's Guide Investigation 2
	● Describing technology used to investigate Earth Examples: sonar, radar, seismograph, weather balloons, satellites	
	● Describing the rock cycle	
11.	Compare distances from the sun to planets in our solar system.	Solar Energy Investigation 1 Science Stories The Sun
	● Relating distances from the sun to planets in our solar system.	
	● Identifying technology used to study planets Examples: Hubble telescope, space probes, Mars Exploration Rover	Solar Energy Investigation 1 Science Stories The Sun and Presenter's Guide