Alabama Seventh Grade Course of Study

Alignment to Science Modules

	Course of Study Objective	Science Module, Lesson
1.	Describe characteristics common to living things, including growth and development, reproduction, cellular organization, use of energy, exchange of gases, and response to the environment	OMM Lessons 1, 2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 Hum. Bod. Lessons 10, 11, 12, 13
	● Identifying homeostasis as the process by which an organism responds to its internal or external environment	Hum. Bod. Lesson 22
	● Predicting how an organism's behavior impacts the environment	OMM Lessons 2, 4, 5, 6, 12, 13
	● Identifying unicellular organisms, including bacteria and protists, by their methods of locomotion, reproduction, ingestion, excretion, and effects on other organisms	OMM Lessons 1, 11, 12, 15 Hum. Bod. Lesson 9
	● Identifying the structure of a virus	Hum. Bod. Lesson 9
2.	Identify functions of organelles found in eukaryotic cells, including the nucleus, cell membrane, cell wall, mitochondria, chloroplasts, and vacuoles Example: mitochondria releasing energy for use in cellular respiration	OMM Lessons 7, 10, 11
	● Identifying components of the cell theory	OMM Lesson 7
	● Identifying cells as prokaryotic or eukaryotic	
	● Listing the sequence of the mitotic cell cycle	OMM Lesson 8
3.	Relate major tissues and organs of the skeletal, circulatory, reproductive, muscular, respiratory, nervous, and digestive systems to their functions.	Hum. Bod. Lessons 1, 2, 3, 4, 5, 6, 7, 10, 11, 14, 15, 16, 18, 19, 20, 21, 22
	● Arranging in order the organizational levels of the human body from the cell through organ systems	Hum. Bod. Lesson 1

4.	Describe organisms in the six-kingdom classification system by their characteristics	OMM Lessons 1, 2, 3, 6, 7, 11, 13, 14, 15, 16, 17, 18, 19
	● Recognizing genus and species as components of a scientific name	OMM Lesson 1, 3
	● Identifying contributions of Aristotle and Linnaeus to the early history of taxonomy	OMM Lesson 1
5.	Identify major differences between plants and animals, including internal structures, external structures, methods of locomotion, methods of reproduction, and stages of development	OMM Lessons 1, 7
	● Describing the processes of photosynthesis and cellular respiration	OMM Lesson 10 Hum. Bod. Lessons 12, 13
6.	Describe evidence of species variation due to climate, changing landforms, inerspecies interaction, and genetic mutation. Examples: fossil records over geologic time, rapid bacterial mutations due to environmental pressures	OMM Lessons 11, 13
7.	Describe biotic and abiotic factors in the environment Examples: biotic-plants and animals; abiotic-climate, water, soil	OMM Lessons 4, 5, 6, 9, 10, 11, 12, 13, 14, 15, 16, 18
	● Classifying organisms as autotrophs or heterotrophs	
	● Arranging the sequence of energy flow in an ecosystem through food webs, food chains, and energy pyramids	OMM Lesson 12
8.	Describe the function of chromosomes	OMM Lesson 8, 9, 19
	● Identifying genes as parts of chromosomes that carry genetic traits	OMM Lesson 8, 19
9.	Identify the process of chromosome reduction in the production of sperm and egg cells during meiosis.	OMM Lessons 9, 19
10.	Identify differences between deoxyribonucleic acid (DNA) and ribonucleic acid (RNA). Examples: DNA-double helix, contains thymine; RNA-single stranded, contains uracil	
	● Identifying Watson and Crick as scientists who discovered the shape of the DNA molecule	Hum. Bod. Lesson 1
11.	Identify Mendel's laws of genetics	OMM Lesson 19

	● Recognizing Down's syndrome and sickle cell anemia as inherited genetic disorders	
	● Using a monohybrid Punnett square to predict the probability of traits passed from parents to offspring	OMM Lesson 19