Alabama Science

Grade 5

Matter and Its Interactions

Structure and Properties

Scale, Proportion, and Quantity

1 Plan and carry out investigations to provide evidence that matter is made of particles too small to be seen. 5.1

Structure and Properties

Structure and Function

2 Analyze data collected through observations and measurements to identify materials based on their properties, including color, hardness, and reflectivity. 5.2

Physical and Chemical Changes

Energy and Matter

3 Conduct investigations to provide evidence that the total weight of matter is conserved during phase changes when substances are heated, cooled, or mixed. 5.3

Physical and Chemical Changes

Cause and Effect

4 Analyze data from tests to determine whether a new substance is formed after two or more substances are combined. 5.4

Motion and Stability: Forces and Interactions

Non-Contact Forces

Systems and System Models

5 Make a claim, supported by evidence, that the gravitational force exerted by Earth pulls objects towards the center of Earth. 5.5

Non-Contact Forces

Cause and Effect

6 Design and conduct a test to modify the speed of an object falling due to gravity. 5.6

Ecosystems: Interactions, Energy, and Dynamics

Matter and Energy Flow

	Structure and Function	
		7 Support an argument from evidence that plants primarily use air and water to process matter needed for growth. 5.7
	Matter and Energy Flow	
	Energy and Matter	
		8 Use evidence to explain that energy from the sun is present in animals' food and is used for body repair, growth, motion, and maintenance of body warmth. 5.8
		9 Create and use a model to explain the transfer of matter and energy between the environment and organisms within it. 5.9
Earth's Place in the Universe	**Sun, Moon, and Stars**	
	Scale, Proportion, and Quantity	
		10 Obtain and communicate information to explain why the sun appears to be larger and brighter than other stars. 5.10
	Sun, Moon, and Stars	
	Patterns	
		11 Analyze data that reveal patterns of daily changes in length and direction of shadows, day and night, phases of the moon, and seasonal appearance of some stars in the night sky. 5.11
Earth's Systems	**System Interactions**	
	Systems and System Models	
		12 Use a model to represent how any two of Earth's systems (atmosphere, biosphere, geosphere, and hydrosphere) interact and support life. 5.12
	Water	
	Scale, Proportion, and Quantity	
		13 Construct a model to represent the distribution of freshwater and saltwater on Earth. 5.13
Earth and Human Activity	**Human Impact**	
	Stability and Change	
		14 Obtain and evaluate information to communicate how science-based solutions are being used to protect Earth's natural resources and its environment. 5.14
		15 Design, test, and revise solutions to clean a polluted environment. 5.15