

TOPICS BY GRADE

PHYSICAL SCIENCE	K	1	2	3	4	5	6	7	8
FORCES AND MOTION	Position and motion of objects	How forces affect motion	Relationship between sound and vibration	Motion and factors that affect motion	Motion due to magnetism and electricity	Force and motion in relation to simple machines	Waves and energy	Effects of forces on motion and graphical representations	Relationship between sound and energy
MATTER: PROPERTIES AND CHANGE	Physical properties of objects		Physical properties; changes in solids and liquids	Structure and properties of matter Water cycle	Composition and properties before and after a change	Interaction of matter and energy	Structure and physical properties of matter		Chemical and physical properties of matter
ENERGY: CONSERVATION TRANSFER				Energy transfer from object to object	Simple circuits Different forms of energy	Property changes due to heating and cooling	Energy transfer and interactions with matter	Forms, transfer and transformation and conservation of energy	Environmental issues of obtaining, managing and using energy
EARTH SCIENCE	K	1	2	3	4	5	6	7	8
EARTH SYSTEMS, STRUCTURES AND PROCESSES	Change and patterns of weather	Physical properties of earth materials	Patterns and factors that affect weather Need for clean air		Composition and properties of minerals and rocks Landforms	Weather patterns and phenomena	Structure and changes in the Earth's surface over time Properties of soil	Cycling of matter in Earth's atmosphere and effect on weather, climate and humans Air Quality	Earth's hydrosphere Humans impact and effects on the hydrosphere
EARTH IN THE UNIVERSE		Features and patterns of sun/earth/moon system		Components and patterns of the solar system Causes of day and night Phases of moon			Solar System Structure and motions of celestial bodies Space technology spin-off		
EARTH HISTORY					Fossils as evidence of earth's history				Evidence of change recorded in fossils and landforms

TOPICS BY GRADE

LIFE SCIENCE	K	1	2	3	4	5	6	7	8
ECOSYSTEMS		Characteristics of environments Characteristics of living organisms Needs of living organisms	Characteristics and resources of environments	Needs of plants for survival	Factors enabling organisms to survive in different environments North Carolina ecosystems	Interdependence of living organisms Organisms in an ecosystem	Flow of energy through ecosystems		Organisms interactions and response to components in the environment
STRUCTURES AND FUNCTIONS OF LIVING ORGANISMS	Living and non-living objects		Animal life cycles	Plant life cycles Essential components of human body systems		Structures and systems necessary to perform life functions	Structures, processes and behaviors of plants Plant parts	Processes, structures and functions of organisms for survival and reproduction	Hazards of agents of disease Biological particles that cause disease Biotechnology used for living organisms
EVOLUTION AND GENETICS			Differences and similarities between parents and their young			Why organisms have similarities and differences to their parents		Cellular reproduction, inheritance and external factors to variation in offspring Ethical and scientific issues of research and application of genetic alterations	Evidence, theories, and processes of the evolution of organisms and landforms
MOLECULAR BIOLOGY					Need for nutritional energy				