

SCIENCE

NORTH CAROLINA STANDARD COURSE OF STUDY

FORCES AND MOTION

3.P1 Understand motion and factors that affect motion.

- 3.P1.1 Infer changes in speed or direction resulting from forces acting on an object.
- 3.P1.2 Compare the relative speeds (faster or slower) of objects that travel the same distance in different amounts of time.
- 3.P1.3 Explain the effects of earth's gravity on the motion of any object on or near the earth.

MATTER: PROPERTIES AND CHANGE

3.P2 Understand the structure and properties of matter before and after they undergo a change.

- 3.P2.1 Recognize that air is a substance that surrounds us, takes up space and has mass.
- 3.P2.2 Compare solids, liquids, and gases based on their basic properties.
- 3.P2.3 Summarize changes that occur to the observable properties of materials when different degrees of heat are applied to them, such as melting ice or ice cream, boiling water or an egg, or freezing water.

ENERGY: CONSERVATION AND TRANSFER

3.P3 Recognize how energy can be transferred from one object to another.

- 3.P3.1 Recognize that energy can be transferred from one object to another by rubbing them against each other.
- 3.P3.2 Recognize that energy can be transferred from a warmer object to a cooler one by contact or at a distance and the cooler object gets warmer.

EARTH IN THE UNIVERSE

3.E.1 Recognize the major components and patterns observed in the earth/moon/sun system.

- 3.E.1.1 Recognize that the earth is part of a system called the solar system that includes the sun (a star), planets, and many moons and the earth is the third planet from the sun in our solar system.
- 3.E.1.2 Recognize that changes in the length and direction of an object's shadow indicate the apparent changing position of the Sun during the day although the patterns of the stars in the sky, to include the Sun, stay the same.

EARTH SYSTEMS, STRUCTURES AND PROCESSES

3.E.2 Compare the structures of the Earth's surface using models or three-dimensional diagrams.

- 3.E.2.1 Compare Earth's saltwater and freshwater features (including oceans, seas, rivers, lakes, ponds, streams, and glaciers).
- 3.E.2.2 Compare Earth's land features (including volcanoes, mountains, valleys, canyons, caverns, and islands) by using models, pictures, diagrams, and maps.

STRUCTURES AND FUNCTIONS OF LIVING ORGANISMS

3.L.1 Understand human body systems and how they are essential for life: protection, movement and support.

- 3.L.1.1 Compare the different functions of the skeletal and muscular system.
- 3.L.1.2 Explain why skin is necessary for protection and for the body to remain healthy.

ECOSYSTEMS

3.L.2 Understand how plants survive in their environments.

- 3.L.2.1 Remember the function of the following structures as it relates to the survival of plants in their environments:
- Roots – absorb nutrients
 - Stems – provide support
 - Leaves – synthesize food
 - Flowers – attract pollinators and produce seeds for reproduction.
- 3.L.2.2 Explain how environmental conditions determine how well plants survive and grow.
- 3.L.2.3 Summarize the distinct stages of the life cycle of seed plants.
- 3.L.2.4 Explain how the basic properties (texture and capacity to hold water) and components (sand, clay and humus) of soil determine the ability of soil to support the growth and survival of many plants.

SCIENCE

EXTENDED CONTENT STANDARDS

FORCES AND MOTION

EX.3.P1 Understand the factors that affect motion.

- EX.3.P1.1 Identify different ways objects move (to include falling to the ground when dropped):
- Straight
 - Up and down
 - Fast and slow
- EX.3.P1.2 Describe the effect of a push or a pull on the motion of an object (e.g. how far, direction, magnitude).
- EX.3.P1.3 Compare objects (e.g., ramps and barriers) that may change the direction or speed of things that are already in motion.

MATTER, PROPERTY AND CHANGE

EX.3.P2 Understand the properties of matter before and after they undergo change.

- EX.3.P2.1 Identify liquids and how they take the shape of their container.
- EX.3.P2.2 Compare properties of water to other objects (e.g. objects that can sink, float or stay suspended in water).
- EX.3.P2.3 Identify processes (e.g. heating, cooling, cutting, smashing) that result in a physical change.
- EX.3.P2.4 Compare the effect of temperature change on matter (e.g. melting ice or ice cream, boiling water, or freezing water).

EARTH SYSTEMS, STRUCTURES AND PROCESSES

EX.3.E.1 Understand how changes in the seasons effect the Earth.

- EX.3.E.1.1 Identify common characteristics of the 4 seasons (winter, spring, summer, and fall).
- EX.3.E.1.2 Compare the changes which occur during each season (e.g. temperature changes, leaves falling, snow, wind blowing, flowers blooming).

STRUCTURES AND FUNCTIONS OF LIVING ORGANISMS

EX.3.L.1 Understand basic functions of the human body.

- EX.3.L.1.1 Identify basic functions of the human body (e.g. eating, breathing, moving, sleeping).
- EX.3.L.1.2 Identify basic needs of the human body (e.g. food, water, rest, protection).
- EX.3.L.1.3 Understand how the functions and basic needs of the human body are essential for life.

ECOSYSTEM

EX.3.L.2 Understand how plants survive in their environment.

- EX.3.L.2.1 Identify the structures (leaf, flower, roots and stem) of a plant and their functions.
- EX.3.L.2.2 Compare basic needs of plants (e.g. air, water, light, soil, food, space) to humans.
- EX.3.L.2.3 Compare soil components (sand/clay) and their capacity to retain water.

