



## **PRO-Core Grade 2 Science Standards**

### **Earth and Space Science [ESS]**

- 1 [2.ESS.1] The atmosphere is primarily made up of air.
- 2 [2.ESS.2] Water is present in the atmosphere.
- 3 [2.ESS.3] Long- and short-term weather changes occur due to changes in energy.

### **Physical Science [PHS]**

- 4 [2.PS.1] Forces change the motion of an object.

### **Life Science [LIS]**

- 5 [2.LS.1] Living things cause changes on Earth.
- 6 [2.LS.2] All organisms alive today result from their ancestors, some of which may be extinct. Not all kinds of organisms that lived in the past are represented by living organisms today.

## **PRO-Core Grade 3 Science Standards**

### **Earth and Space Science [ESS]**

- 1 [3.ESS.1] Earth's nonliving resources have specific properties.
- 2 [3.ESS.2] Earth's resources can be used for energy.
- 3 [3.ESS.3] Some of Earth's resources are limited.

### **Physical Science [PHS]**

- 4 [3.PS.1] All objects and substances in the natural world are composed of matter.
- 5 [3.PS.2] Matter exists in different states, each of which has different properties.
- 6 [3.PS.3] Heat, electrical energy, light, sound and magnetic energy are forms of energy.

### **Life Science [LIS]**

- 7 [3.LS.1] Offspring resemble their parents and each other.
- 8 [3.LS.2] Individuals of the same kind of organism differ in their inherited traits. These differences give some individuals an advantage in surviving and/or reproducing.
- 9 [3.LS.3] Plants and animals have life cycles that are part of their adaptations for survival in their natural environments.

## **PRO-Core Grade 4 Science Standards**

### **Earth and Space Science [ESS]**

- 1 [4.ESS.1] Earth's surface has specific characteristics and landforms that can be identified.
- 2 [4.ESS.2] The surface of Earth changes due to weathering.
- 3 [4.ESS.3] The surface of Earth changes due to erosion and deposition.

### **Physical Science [PHS]**

- 4 [4.PS.1] When objects break into smaller pieces, dissolve, or change state, the total amount of matter is conserved.
- 5 [4.PS.2] Energy can be transferred from one location to another or can be transformed from one form to another.

### **Life Science [LIS]**

- 6 [4.LS.1] Changes in an organism's environment are sometimes beneficial to its survival and sometimes harmful.
- 7 [4.LS.2] Fossils can be compared to one another and to present-day organisms according to their similarities and differences.

## **PRO-Core Grade 5 Science Standards**

### **Earth and Space Science [ESS]**

- 1 [5.ESS.1] The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.
- 2 [5.ESS.2] The sun is one of many stars that exist in the universe.
- 3 [5.ESS.3] Most of the cycles and patterns of motion between the Earth and sun are predictable.

### **Physical Science [PHS]**

- 4 [5.PS.1] The amount of change in movement of an object is based on the mass of the object and the amount of force exerted.
- 5 [5.PS.2] Light and sound are forms of energy that behave in predictable ways.

### **Life Science [LIS]**

- 6 [5.LS.1] Organisms perform a variety of roles in an ecosystem.
- 7 [5.LS.2] All of the processes that take place within organisms require energy.

## **PRO-Core Grade 6 Science Standards**

### **Earth and Space Science [ESS]**

- 1 [6.ESS.1] Minerals have specific, quantifiable properties.
- 2 [6.ESS.2] Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification.
- 3 [6.ESS.3] Igneous, metamorphic and sedimentary rocks form in different ways.
- 4 [6.ESS.4] Soil is unconsolidated material that contains nutrient matter and weathered rock.
- 5 [6.ESS.5] Rocks, minerals and soils have common and practical uses.

### **Physical Science [PHS]**

- 6 [6.PS.1] Matter is made up of small particles called atoms.
- 7 [6.PS.2] Changes of state are explained by a model of matter composed of particles that are in motion.
- 8 [6.PS.3] There are two categories of energy: kinetic and potential.
- 9 [6.PS.4] An object's motion can be described by its speed and the direction in which it is moving.

### **Life Science [LIS]**

- 10 [6.LS.1] Cells are the fundamental unit of life.
- 11 [6.LS.2] All cells come from pre-existing cells.
- 12 [6.LS.3] Cells carry on specific functions that sustain life.
- 13 [6.LS.4] Living systems at all levels of organization demonstrate the complementary nature of structure and function.

## PRO-Core Grade 7 Science Standards

### Earth and Space Science [ESS]

- 1 [7.ESS.1] The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.
- 2 [7.ESS.2] Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns.
- 3 [7.ESS.3] The atmosphere has different properties at different elevations and contains a mixture of gases that cycle through the lithosphere, biosphere, hydrosphere and atmosphere.
- 4 [7.ESS.4] The relative patterns of motion and positions of the Earth, moon and sun cause solar and lunar eclipses, tides, and phases of the moon.
- 5 [7.ESS.5] The relative positions of Earth and the sun cause patterns we call seasons.

### Physical Science [PHS]

- 6 [7.PS.1] Elements can be organized by properties.
- 7 [7.PS.2] Matter can be separated or changed, but in a closed system, the number and types of atoms remains constant.
- 8 [7.PS.3] Energy can be transformed or transferred but is never lost.
- 9 [7.PS.4] Energy can be transferred through a variety of ways.

### Life Science [LIS]

- 10 [7.LS.1] Energy flows and matter is transferred continuously from one organism to another and between organisms and their physical environments.
- 11 [7.LS.2] In any particular biome, the number, growth and survival of organisms and populations depend on biotic and abiotic factors.

## PRO-Core Grade 8 Science Standards

### Earth and Space Science [ESS]

- 1 [8.ESS.1] The composition and properties of Earth's interior are identified by the behavior of seismic waves.
- 2 [8.ESS.2] Earth's lithosphere consists of major and minor tectonic plates that move relative to each other.
- 3 [8.ESS.3] A combination of constructive and destructive geologic processes formed Earth's surface.
- 4 [8.ESS.4] Evidence of the dynamic changes of Earth's surface through time is found in the geologic record.

### Physical Science [PHS]

- 5 [8.PS.1] Objects can experience a force due to an external field such as magnetic, electrostatic, or gravitational fields.
- 6 [8.PS.2] Forces can act to change the motion of objects.

### Life Science [LIS]

- 7 [8.LS.1] Diversity of species, a result of variation of traits, occurs through the process of evolution and extinction over many generations. The fossil records provide evidence that changes have occurred in number and types of species.
- 8 [8.LS.2] Every organism alive today comes from a long line of ancestors who reproduced successfully every generation.
- 9 [8.LS.3] The characteristics of an organism are a result of inherited traits received from parent(s).

## **PRO-Core High School Physical Science Standards**

### **Study of Matter [MAT]**

- 1 [PS.M.1] Classification of matter
- 2 [PS.M.2] Atoms
- 3 [PS.M.3] Periodic trends of the elements
- 4 [PS.M.4] Bonding and compounds
- 5 [PS.M.5] Reactions of matter

### **Energy and Waves [ENE]**

- 6 [PS.EW.1] Conservation of Energy
- 7 [PS.EW.2] Transfer and transformation of energy (including work)
- 8 [PS.EW.3] Waves
- 9 [PS.EW.4] Thermal energy
- 10 [PS.EW.5] Electricity

### **Forces and Motion [FOR]**

- 11 [PS.FM.1] Motion
- 12 [PS.FM.2] Forces
- 13 [PS.FM.3] Dynamics (how forces affect motion)

### **The Universe [UNI]**

- 14 [PS.U.1] History of the universe
- 15 [PS.U.2] Galaxies
- 16 [PS.U.3] Stars





## **PRO-Core High School Biology Standards**

### **Heredity [HER]**

- 1 [B.H.1] Cellular genetics
- 2 [B.H.2] Structure and function of DNA in cells
- 3 [B.H.3] Genetic mechanisms and inheritance
- 4 [B.H.4] Mutations
- 5 [B.H.5] Modern genetics

### **Evolution [EVO]**

- 6 [B.E.1] Mechanisms
- 7 [B.E.2] Speciation

### **Diversity and Interdependence of Life [DIV]**

- 8 [B.DI.1] Biodiversity
- 9 [B.DI.2] Ecosystems
- 10 [B.DI.3] Loss of diversity

### **Cells [CEL]**

- 10 [B.C.1] Cell structure and function
- 11 [B.C.2] Cellular processes

## **PRO-Core High School Chemistry Standards**

### **Structure and Properties of Matter [STR]**

- 1 [C.PM.1] Atomic structure
- 2 [C.PM.2] Periodic table
- 3 [C.PM.3] Chemical bonding
- 4 [C.PM.4] Representing compounds
- 5 [C.PM.5] Quantifying matter
- 6 [C.PM.6] Intermolecular forces of attraction

### **Interactions of Matter [INT]**

- 7 [C.IM.1] Chemical reactions
- 8 [C.IM.2] Gas laws
- 9 [C.IM.3] Stoichiometry