

## **Kindergarten Pages and Topics**

### **Scientific and Engineering Practices - K.1**

Scientists and their work  
Conducting experiments  
Creating graphs and using data  
Basic measurement ideas

### **Force, Motion, and Energy - K.2**

Motion of objects

### **Matter - K.3 and k.4**

Physical properties to include:

- colors;
- shapes and forms;
- textures and feel; and
- relative sizes and weights of objects.

Introductory ideas about water

### **Living Systems and Processes - K.5, K.6, and K.7**

Five senses  
Living organisms and nonliving objects  
Needs of plants and animals  
Introduction to plant and animal life cycles

### **Earth and Space Systems - K.8, K.9, and K.10**

Sun and shadows  
Light and temperature  
Patterns in nature (daily weather, seasons, day and night)  
Change occurs over time

### **Earth Resources - K.11**

Use of resources  
Recycling and reusing resources  
Choices we make impact the air, water, land and living things

## **Grade One Pages and Topics**

### **Scientific and Engineering Practices - 1.1**

Scientists and their work

Conducting experiments

Using tools to measure relative length, weight, volume, and temperature of common objects

Describing patterns and relationships

Classifying objects based physical characteristics

Creating graphs and using data

### **Force, Motion, and Energy - 1.2**

Objects move in different ways

Objects may vibrate and produce sound

### **Matter - 1.3**

Objects are made from materials that can be described by their physical properties

### **Living Systems and Processes - 1.4 and 1.5**

Plant needs, parts, and classification

Animal needs, physical characteristics, and classification

### **Earth and Space Systems - 1.6 and 1.7**

Relationship between sun and Earth

Sun as a source of energy and light

Sun's position in the sky

Weather and seasonal changes

How weather changes affect plants and animals

### **Earth Resources - 1.8**

Natural resources - use and conservation

## **Grade Two Pages and Topics**

### **Scientific and Engineering Practices - 2.1**

Scientists and their work

Conducting experiments

Using tools to measure relative length, weight, volume, and temperature of common objects in US Customary units

Measuring time

Describing patterns and relationships

Creating and interpreting graphs and using data

### **Force, Motion, and Energy - 2.2**

Forces cause an object's motion to change

Gravity and magnetism can cause objects to move from a distance

### **Matter - 2.3**

Definition of matter

Phases of matter

How heating and cooling change matter

### **Living Systems and Processes - 2.4, and 2.5**

Life cycles of plants and animals

How plants and animals interact with their surroundings

Habitats change over time

### **Earth and Space Systems - 2.6 and 2.7**

Weather - types, weather tools and tracking, storms

Seasonal changes

### **Earth Resources - 2.8**

Plants as natural resources

Importance of plants and how they are used

## **Grade Three Pages and Topics**

### **Scientific and Engineering Practices - 3.1**

Scientists and their work

Conducting experiments

Measure length, mass, volume, and temperature in metric and U.S. Customary units using proper tools

Elapsed time

Describing patterns and relationships

Creating and interpreting graphs and using data

### **Force, Motion, and Energy - 3.2**

Forces act on objects

Simple and compound machines

### **Matter - 3.3**

How materials interact with water

Dissolving

### **Living Systems and Processes - 3.4 and 3.5**

Physical and behavioral adaptations

Fossils

Aquatic and terrestrial ecosystems

### **Earth and Space Systems - 3.6 and 3.7**

Soil

Water cycle

### **Earth Resources - 3.8**

Human impact on the environment

Water and soil as natural resources

Impact of fire, flood, disease, and erosion on ecosystems

## **Grade Four Pages and Topics**

### **Scientific and Engineering Practices - 4.1**

Scientists and their work  
Conducting experiments  
Take metric measurements using appropriate tools  
Measure elapsed time  
Describing patterns and relationships  
Creating and interpreting graphs and using data

### **Living Systems and Processes - 4.2 and 4.3**

Structures of plants and animals for growth and reproduction  
Photosynthesis  
Food webs  
Classification of organisms

### **Earth and Space Systems - 4.4, 4.5, 4.6, and 4.7**

Weather  
Planets  
Relationship among Earth, moon, and sun (motions, seasons, moon phases)  
Oceans, including geology of ocean floor, properties and movement of ocean water, ocean food webs

### **Earth Resources - 4.8**

Virginia natural resources

- watersheds and water
- plants and animals
- minerals, rocks, and ores
- forests, soil, and land

## **Grade Five Pages and Topics**

### **Scientific and Engineering Practices - 5.1**

Scientists and their work  
Conducting experiments  
Take metric measurements using appropriate tools  
Measure elapsed time  
Describing patterns and relationships  
Creating and interpreting graphs and using data

### **Force, Motion, and Energy - 5.2, 5.3, 5.4, 5.5, and 5.6**

Energy - definition, forms, transformation, conservation  
Energy of moving objects and friction  
Current and static electricity  
Electromagnetism  
Sound  
Light

### **Matter - 5.7**

Matter has properties and interactions  
Atomic structure  
Mixtures and solutions  
Effect of energy on phases of matter

### **Earth and Space Systems - 5.8**

Changing Earth

- plate tectonics
- rock cycle
- weathering, erosion, and deposition
- fossils and geologic patterns

### **Earth Resources - 5.9**

Conservation of energy resources  
Renewable and nonrenewable energy