

Anadarko Public Schools
SCIENCE Power Standards

Kindergarten

P.S. 1 Science Process and Inquiry

1. Develop critical thinking skills
2. Formulate and test hypothesis (I wonder questions)

P.S. 2 Physical Science

2. Classify objects according to whether they are or are not magnetic

P.S. 3 Earth Science

1. Describe characteristics of the four seasons
2. Explore ways to care for the earth

P.S. 4 Life Science

1. Name the five senses
2. Name and describe the common characteristics and needs of animals
3. Explain what plants need to grow

1st Grade

P.S.1 Science Process and Inquiry

1. Investigate and experiment with objects to discover information
2. Employ simple equipment and tools such as magnifying glasses, thermometers, and rulers to gather data
3. Formulate and test hypothesis (I wonder...)

P.S. 2 Physical Science

1. Introduce that everything is made of matter (solid, liquid, gas) and all matter is made up of parts too small to see

P.S. 3 Earth Science

1. Understand the environment is constantly changing and pose dangers to specific habitats (pollution and conservation)
2. Develop an understanding that the earth, sun, and moon are a part of the solar system

P.S. 4 Life Science

1. Understand living things live in an environment where they naturally live, eat, grow, and reproduce
2. Observe and classify living things through studying common attributes
3. Develop and understand the importance of cleanliness, disease and preventing illness by taking care of their body, exercising, and eating healthy foods

2nd Grade

P.S.1 Science Process and Inquiry

1. Observe, measure, compare, and contrast objects, organisms, and/or events utilizing non-standard units (e.g., hand, paper clip, and book) and Systems International (SI) units (i.e., meters, centimeters, and degrees Celsius)

P.S. 2 Physical Science

1. Describe objects in terms of materials; physical properties can be changed
2. Observe motion and interaction of objects

P.S. 3 Earth Science

1. Recognize earth materials consist of rocks, soil, water, and air
2. Understand the sun moves across the sky the same way everyday

P.S. 4 Life Science

1. Plants and animals have life cycles
2. Recognize offspring generally resemble their parents

3rd Grade

P.S. 1 Science Process and Inquiry

1. Observe and measure objects and/or events using SI units
2. Compare and contrast characteristics of objects and/or events
3. Classify objects and/or events by properties
4. Arrange object and/or events in serial order
5. Ask questions about objects and/or events in the environment; formulate a test hypothesis
6. Plan and conduct a simple investigation on objects and/or events
7. Employ simple equipment and tools to gather data on objects and/or events
8. Interpret tables, pictorials, and bar graphs that show information on objects and/or events
9. Recognize, describe and make predictions based on patterns in objects and/or events
10. Communicate results of investigations on objects and events through written or oral methods

P.S. 2 Physical Science

P.S. 3 Earth Science

P.S. 4 Life Science

1. Environmental features that help plants and animals survive
2. Structural characteristics of plants and animals survive
3. Structural characteristics of plants and animals that help them grow and survive

4th Grade

P.S. 1 Science Process and Inquiry

1. Observe and measure objects in International Units (mass, length, time, volume, and temperature)
2. Classify objects and events based on similarities, differences, and interrelationship differences (two or more observable properties or serial order)
3. Experiment safely using procedures to make a plan, ask questions, formulate, and design a scientific inquiry
4. Interpret and communicate data by making inferences, predictions, or conclusions through the use of graphs and tables, line, bar, trend, and circle), and communicate results to others effectively
5. Inquire by asking questions, formulating procedures, and observing phenomenon while evaluating the fairness of tests and using a variety of measurement tools and technology (formulate general statements and share the results)

P.S. 2 Physical Science

1. Engage in investigation to identify how position and motion of objects can be changed by pushing and pulling (magnets and simple machines)
2. Engage in investigations to identify conductors and insulators of electricity, and how the flow is controlled by opened or closed circuits

P.S.3 Earth Science

1. Identify the properties of earth materials (rock, soil, water, and air), including erosion, weathering, and sedimentation of these material, and how fossils show evidence about plants and animals that lived long ago

P.S.4 Life Science

1. Engage in investigations to identify how organisms can be classified by various characteristics (habitats, anatomy, and behaviors)
2. Engage in investigation to identify characteristics that are inherited from their parents

5th Grade

P.S. 1 Science Process and Inquiry

1. Observe and measure objects, organisms, and events using Systems International (SI) Units
2. Classify, compare, and/or contrast similar and/or different characteristics and properties in a given set of objects, organisms, or events
3. Recognize potential hazards and practice/apply procedures in all science investigations
4. Interpret and communicate data by making inferences, predictions, or conclusion through the use of graphs and tables, and communicate results to others effectively

5. Inquire by asking questions, formulating procedures, and observing phenomenon while evaluation the fairness of test and using a variety of measurement tools and technology

P.S. 2 Physical Science

1. Describe through observation that energy can be transferred in many ways (energy from the sun to air, water, and metal)
2. Observe that matter has physical properties that can be used for identification
3. Observe that physical properties of objects can be observed, described, and measured using tools

P.S. 3 Earth Science

1. Recall the earth is the third planet from the sun in a system that includes the moon, sun, and eight other planets

P.S. 4 Life Science

1. Recognize organisms in a community of interacting populations in a common location depending on each other for food, shelter, reproduction, and how human interaction affects survival
2. Describe how weather exhibits daily and seasonal patterns

6th Grade

P.S. 1 Science Process and Inquiry

1. Observe and measure
2. Classify
3. Experiment
4. Interpret and communicate

P.S. 2 Physical Science

1. Identify physical and chemical properties of matter
2. Identify forms of energy and common energy transformations
3. Describe how energy transfers from one object to another
4. Explain how electric charges and current flow in an electrical circuit

P.S. 3 Earth Science

1. Identify the sun as the ultimate source of energy driving Earth's carbon, oxygen, nitrogen, and water cycles
2. Describe the water cycle and the roles evaporation, condensation, and precipitation plays in it
3. Explain how interactions among earth's spheres support life

P.S. 4 Life Science

1. Identify basic cell structures and their functions
2. Identify basic characteristics and needs of living things
3. Describe levels of organization within ecosystems
4. Explain how organisms interact with and depend on both the biotic and abiotic components of ecosystems
5. Explain how the sun's energy moves through ecosystems via producers, consumers, food webs, food chains, and energy pyramids

7th Grade

P.S. 1 Science Process and Inquiry

1. Observe and measure
2. Classify
3. Experiment
4. Interpret and communicate

P.S. 2 Physical Science

1. Identify physical and chemical properties of matter
2. Identify properties of mixtures
3. Calculate density

P.S. 3 Earth Science

1. Explain how global patterns effect local weather
2. Explain how clouds are formed

3. Explain how the earth-sun-moon system results in seasons, day, night, years, eclipses, and moon phases

P.S. 4 **Life Science**

1. Order the levels of complexity in organisms
2. Identify the major organ systems of the human body
3. Create and interpret Punnett squares
4. Classify mutations as helpful or harmful
5. Explain how living organisms maintain a constant internal environment as a response to a stimulus

8th Grade

P.S. 1 **Science Process and Inquiry**

1. Observe and measure
2. Classify
3. Experiment
4. Interpret and communicate

P.S. 2 **Physical Science**

1. Identify and describe physical and chemical reactions
2. Describe motion
3. Calculate speed, velocity, and acceleration
4. Identify and describe balanced and unbalanced forces

P.S. 3 **Earth Science**

1. Compare, contrast, and identify earth's crust, mantle, and core
2. Compare, contrast, and identify plate boundaries, plate tectonics, earthquakes, and volcanoes
3. Describe the rock cycle and the role igneous, metamorphic, and sedimentary rock plays in it
4. Explain how fossils form and how geologists determine relative age of rocks
5. Use the geologic time scale to determine the age of fossils
6. Describe major events in the Paleozoic, Mesozoic, and Cenozoic Eras that impacted earth's history

P.S. 4 **Life Science**

1. Use taxonomic and dichotomous keys to classify organisms
2. Identify the characteristics that all living things have in common and need to survive
3. Identify levels of classification –domain, kingdom, phylum, class, order, family, genus, and species
4. Identify the characteristics of plants and what they need to survive
5. List the levels of organization in animals

9th – 12th Grades

P.S. 1 **Science Process and Inquiry**

1. Observe and measure
2. Classify
3. Experiment
4. Interpret and communicate
5. Model
6. Inquiry

P.S. 2 **Physical Science**

1. Structure and properties of matter
2. Motion and forces
3. Interactions of energy and matter
4. The earth system
5. The universe

P.S. 3 **Earth Science**

1. Structure and properties of matter
2. Motion and forces
3. Interactions of energy and matter

4. The earth system
5. The universe

P.S. 4 **Life Science**

1. The cell
2. Molecular basis of heredity
3. Biological diversity
4. Interdependence of organisms
5. Matter, energy, and organization in living systems
6. Behavior of organisms