

TPSD 5th grade Science I Syllabus
3rd 9 Weeks

Unit 9: Physical Science 2a, 2b, and 2f

Unit Summary: Develop and demonstrate an understanding of scientific inquiry using process skills. Understand relationships of the properties of objects and materials, position and motion of objects, and transfer of energy to explain the physical world.

Performance Skills:

- hypothesize, predict outcomes, and conduct a fair investigation that includes manipulating variables and using experimental controls
- distinguish between observations and inferences
- use precise measurement in conjunction with simple tools and technology to perform tests and collect data
- use tools (English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers)
- collect types of data (height, mass, volume, temperature, length, time, distance, volume, perimeter, area)
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- use drawings, tables, graphs, and written and oral language to describe objects and explain ideas and actions
- make and compare different proposals when designing a solution or product
- evaluate results of different data (whether trivial or significant).
- infer and describe alternate explanations and predictions
- determine how the properties of an object affect how it acts and interacts
- differentiate between elements, compounds, and mixtures and between chemical and physical changes (e.g., gas evolves, color, and/or temperature changes)
- describe physical properties of matter (e.g., mass, density, boiling point, freezing point) including mixtures and solutions
- describe filtration, sifting, magnetism, evaporation, and flotation
- describe mass, density, boiling point, and freezing point of matter
- describe the effects of temperature changes on the solubility of substances

Note-This is NOT an all inclusive list of terms.

Unit 10: Physical Science Competency 2c

Unit Summary: Develop and demonstrate an understanding of scientific inquiry using process skills. Understand relationships of the properties of objects and materials, position and motion of objects, and transfer of energy to explain the physical world.

Performance Skills:

- hypothesize, predict outcomes, and conduct a fair investigation that includes manipulating variables and using experimental controls
- distinguish between observations and inferences
- use precise measurement in conjunction with simple tools and technology to perform tests and collect data
- use tools (English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers)
- collect types of data (height, mass, volume, temperature, length, time, distance, volume, perimeter, area)
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- use drawings, tables, graphs, and written and oral language to describe objects and explain ideas and actions
- make and compare different proposals when designing a solution or product
- evaluate results of different data (whether trivial or significant).
- infer and describe alternate explanations and predictions
- locate relative positions and movements of objects using points of reference (distance vs. time of moving objects)
- determine force required to move an object using appropriate devices (e.g., spring scale)
- determine variables that affect speed (e.g., ramp height/length/surface, mass of object)
- Describe effects of an unbalanced force on an object's motion in terms of speed and direction

Note-This is NOT an all inclusive list of terms.

Unit 11: Physical Science 2d

Unit Summary: Develop and demonstrate an understanding of scientific inquiry using process skills. Understand relationships of the properties of objects and materials, position and motion of objects, and transfer of energy to explain the physical world.

Performance Skills:

- hypothesize, predict outcomes, and conduct a fair investigation that includes manipulating variables and using experimental controls
- distinguish between observations and inferences
- use precise measurement in conjunction with simple tools and technology to perform tests and collect data
- use tools (English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers)
- collect types of data (height, mass, volume, temperature, length, time, distance, volume, perimeter, area)
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- use drawings, tables, graphs, and written and oral language to describe objects and explain ideas and actions
- make and compare different proposals when designing a solution or product
- evaluate results of different data (whether trivial or significant).
- infer and describe alternate explanations and predictions
- categorize examples of potential energy as gravitational (e.g., boulder on a hill, child on a slide), elastic (e.g., compressed spring, slingshot, rubber band), or chemical (e.g., unlit match, food).

Note-This is NOT an all inclusive list of terms.

Unit 12: Physical Science 2e and 2g

Unit Summary: Develop and demonstrate an understanding of scientific inquiry using process skills. Understand relationships of the properties of objects and materials, position and motion of objects, and transfer of energy to explain the physical world.

Performance Skills:

- hypothesize, predict outcomes, and conduct a fair investigation that includes manipulating variables and using experimental controls
- distinguish between observations and inferences
- use precise measurement in conjunction with simple tools and technology to perform tests and collect data
- use tools (English rulers [to the nearest one-sixteenth of an inch], metric rulers [to the nearest millimeter], thermometers, scales, hand lenses, microscopes, balances, clocks, calculators, anemometers, rain gauges, barometers, hygrometers)
- collect types of data (height, mass, volume, temperature, length, time, distance, volume, perimeter, area)
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- organize and interpret data in tables and graphs to construct explanations and draw conclusions
- use drawings, tables, graphs, and written and oral language to describe objects and explain ideas and actions
- make and compare different proposals when designing a solution or product
- evaluate results of different data (whether trivial or significant).
- infer and describe alternate explanations and predictions
- differentiate between the properties of light as reflection, refraction, and absorption.
- differentiate between an image reflected by a plane mirror and a curved-surfaced mirror.
- differentiate between light passing through air or water.
- differentiate between optical tools such as prisms, lenses, mirrors, and eyeglasses.
- categorize materials as conductors or insulators and discuss their real life applications (e.g., building construction, clothing, animal covering).

Note-This is NOT an all inclusive list of terms.