

Physical Science FCAT Learning Goals

Properties of Matter

- Classify and/or compare substances on the basis of their physical properties and/or explain that these properties are independent of the amount of the sample.
- Describe density and/or calculate and compare the densities of various materials using the materials' masses and volumes.
- Conductivity, magnetic properties
- Solubility (*solvent, solute, and saturation*)
- Describe how elements combine in a multitude of ways to produce compounds that make up all living and nonliving things.
- Describe the motion of particles in solids, liquids, and/or gases.
- Explain that elements are grouped in the periodic table according to similarities of their properties.
- Explain that atoms are the smallest unit of an element and are composed of subatomic particles (protons, neutrons, and electrons).
- Identify common examples of acids, bases, and/or salts.
- Compare, contrast, and/or classify the properties of compounds, including acids and bases.
- Differentiate among pure substances, mixtures, and solutions.

Changes in Matter

- Differentiate between physical and chemical changes.
- Explain that mass is conserved when substances undergo physical and chemical changes, according to the Law of Conservation of Mass.
- Describe how temperature influences chemical changes.

Forms of Energy

- Identify, compare and/or contrast the variety of types of radiation present in radiation from the Sun.
- Identify and/or compare characteristics of the electromagnetic spectrum.
- Identify common uses and/or applications of electromagnetic waves.
- order of frequencies and wavelengths in the electromagnetic spectrum
- Describe and/or explain that waves move at different speeds through different materials.
- Explain that light waves can be reflected, refracted, and/or absorbed.

Energy Transfer and Transformations

- Identify and/or describe the transformation of energy from one form to another.
- Differentiate between potential and kinetic energy.
- Identify and/or explain situations where energy is transformed between kinetic energy and potential energy.
- Identify and/or describe examples of the Law of Conservation of Energy.
- Describe how heat flows in predictable ways.
- Explain that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.
- Heat transfer (conduction, convection, radiation)
- Specific heat

Forces and Changes in Motion

- Identify and/or describe types of forces.
- Describe the relationship among distance, mass, and gravitational force between any two objects.
- Differentiate between mass and weight.
- Law of Universal Gravitation (mass/distance)
- Describe and/or explain that an unbalanced force acting on an object changes its speed and/or direction.
- Interpret and/or analyze graphs of distance and time for an object moving at a constant speed.
 - Ex. relative speed of an object at various points or sections of the graph and the direction of motion
- Net force (direction)
- Changes in speed (*positive acceleration and negative acceleration*)
- Friction (sliding and stationary)

FCAT REVIEW MENU

Physical Science

Directions: Choose from the activities in the menu below. The activities must total 10 points. Place a checkmark next to each box to show which activities you completed. Staple your work to this page and complete by _____.



1 Point

- Listen to a song on the FCAT review website. Write the chorus.
- Play a game on the FCAT review website. Keep track of your score.



2 Points

- Watch a video on the FCAT review website. Write down 3 vocabulary words (with definitions) and 1 main idea.
- Watch a Bill Nye video on the FCAT review website. Summarize 3 sections of the video (ex. Nye labs, Consider the following, song.)



3 Points

- Watch a Brain Pop on the FCAT review website. Complete the quiz.
- Read an article on the FCAT review website. Write down 3 vocabulary words (with definitions) and 1 main idea.