IPC Curriculum Bundle #8

Title	Suggested Dates
Properties of Matter	2/1 – 2/19/2010 (13 days)

Big Idea/Enduring Understanding	Guiding Questions
Physical and chemical properties of matter can be used to classify matter.	How are physical changes different from chemical changes? What chemical & physical properties should students be able to measure?

The resources included here provide teaching examples and/or meaningful learning experiences to address the District Curriculum. In order to address the TEKS to the proper depth and complexity, teachers are encouraged to use resources to the degree that they are congruent with the TEKS and research-based best practices. Teaching using only the suggested resources does not guarantee student mastery of all standards. Teachers must use professional judgment to select among these and/or other resources to teach the district curriculum.

Knowledge & Skills with Student Expectations	District Specificity/Examples	Suggested Resources (See note above)
8 The student knows that changes in matter affect everyday life. **8A** Distinguish between physical and chemical changes in matter. Including • Oxidation • Digestion • Changes in states o Liquid o Solid o Gas o Plasma • Stages in the rock cycle	Including • Identify indications of a chemical change • Release of gas • Precipitate formation • Energy change • Classify chemical and physical changes • Analyze a phase change diagram • *investigate changes of state as it relates to the arrangement of particles of matter and energy transfer* • *recognize that chemical changes can occur when substances react to form different substances and that these interactions are largely determined by the valence electrons*	"States of Matter Lab" – Investigations in Physics and Chemistry Slimy Oozing Gakk Lab Pyro Lab
7 The student knows relationships exist between properties of matter and its components. **7A** Investigate and identify properties of fluids. Including • Density • Viscosity • Buoyancy	Including • Density (including solids) • Describe density qualitatively and quantitatively • Describe Bernoulli's Principle and its application • Describe Pascal's principal and its applications • Interpret phase change diagrams • *examine differences in physical properties of solids, liquids, and gases as explained by the arrangement and motion of atoms, ions, or molecules of the substances and the strength of*	"Density of Fluids" – Investigations in Chemistry and Physics "Viscosity of Fluids Lab" – Investigations in Chemistry and Physics "Buoyancy of Fluids" – Investigations in Chemistry and Physics Science Investigations: Physical Science: Investigating Motion, Forces and Energy - http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetID=00B0004F-F285-4A44-8CB7-

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	the forces of attraction between those particles	DCF72689B33E United Streaming Videos (several examples) Bernoulli's Demonstrations (blow papers apart, paper on book stacks, Ping Pong/ Hot Air Dryer) Floaters and Sinkers
7 The student knows relationships exist between properties of matter and its components. **7E** Classify samples of matter from everyday life as being elements, compounds, or mixtures. Including • Elements and compounds • Mixtures	Including • Pure substances – Elements and compounds • Mixtures • Heterogeneous mixture • Homogeneous mixture • Solutions (colloids and suspensions)	"Classifying Matter" – Investigations in Chemistry and Physics Buoyancy Lab Density Lab Density "Raiders o f Lost Ark" Video clip
6 The student knows the impact of energy transformations in everyday life. **6B** Investigate and demonstrate the movement of heat through solids, liquids, and gases by convection, conduction, and radiation.	Including • Particle motion according to the Kinetic Theory • *investigate and demonstrate the movement of thermal energy through solids, liquids, and gases by convection, conduction, and radiation such as in weather, living, and mechanical systems*	