

IPC Curriculum Bundle #8



Title	Suggested Dates
Properties of matter	1/31-2/18 (14 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)
Vocabulary: solid, liquid, gas, plasma, density, viscosity, buoyancy, boiling point, freezing point, mixture, homogeneous, heterogeneous, precipitate, kinetic theory, condensation, evaporation, sublimation, deposition, chemical change, physical change, chemical property, physical property		
IPC.1 Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to: 1A demonstrate safe practices during laboratory and field investigations;	Including <ul style="list-style-type: none"> • Interpret MSDS • implement district safety program in every science class 	Lab Safety Power Point MSDS
IPC.6 Science concepts. The student knows that relationships exist between the structure and properties of matter. The student is expected to: 6A 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 the forces of attraction between those particles;	Including <ul style="list-style-type: none"> • Analyze a phase change diagram Including <ul style="list-style-type: none"> • Pure substances – Elements and compounds • Mixtures • Heterogeneous mixture • Homogeneous mixture • Solutions (colloids and suspensions) 	“States of Matter Lab” – <u>Investigations in Physics and Chemistry</u> Slimy Oozing Gakk Lab Pyro Lab
IPC.6 Science concepts. The student knows that relationships exist between the structure and properties of matter. The student is expected to: 6B relate chemical properties of substances to the arrangement of their atoms or molecules;	Including <ul style="list-style-type: none"> • Density (including solids) • Archimedes principle • Describe density qualitatively and quantitatively • Describe Bernoulli’s Principle and its application • Describe Pascal’s principal and its applications 	“Density of Fluids” – <u>Investigations in Chemistry and Physics</u> “Viscosity of Fluids Lab” – <u>Investigations in Chemistry and Physics</u> “Buoyancy of Fluids” – <u>Investigations in Chemistry and Physics</u>

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	<ul style="list-style-type: none"> • Buoyancy 	<p>Science Investigations: Physical Science: Investigating Motion, Forces and Energy - http://streaming.discoveryeducation.com/search/assetDetail.cfm?guidAssetID=00B0004F-F285-4A44-8CB7-DCF72689B33E</p> <p>United Streaming Videos (several examples)</p> <p>Bernoulli's Demonstrations (blow papers apart, paper on book stacks, Ping Pong/ Hot Air Dryer)</p> <p>Floaters and Sinkers</p>
<p>IPC.6 Science concepts. The student knows that relationships exist between the structure and properties of matter. The student is expected to:</p> <p>6C analyze physical and chemical properties of elements and compounds such as color, density, viscosity, buoyancy, boiling point, freezing point, conductivity, and reactivity;</p>		<p>“Classifying Matter” – <u>Investigations in Chemistry and Physics</u></p> <p>Buoyancy Lab</p> <p>Density Lab</p> <p>Density “Raiders of Lost Ark” Video clip</p> <p>Archimedes Video</p>
<p>IPC.7 Science concepts. The student knows that changes in matter affect everyday life. The student is expected to:</p> <p>7A investigate changes of state as it relates to the arrangement of particles of matter and energy transfer;</p>	<p>Including</p> <ul style="list-style-type: none"> • Particle motion according to the Kinetic Theory 	