

GIPS Science 1-2 Design Map

Units (in sequence)	Estimated Time Frame (days)	K-12 Program Strands With Corresponding Course/Grade Level Standards	K-12 Program Enduring Understandings (for content only)	K-12 Program Essential Questions (for content only)	Unit Assessments (note if optional)	C/GL Key Vocabulary Concepts
Unit 1 Chemistry		<p><u>Chemistry</u> 2.1 Chemical and Physical Properties of Matter</p> <p>Observe, describe and measure physical and chemical properties and changes of matter</p> <p>Use trends in the periodic table to explain why chemicals bond</p> <p>Describe conditions that make reactions speed up or slow down</p> <p><u>Chemistry</u> 2.3 Matter and Energy</p> <p>Describe and analyze interactions of energy and matter</p>	<p>All matter is made up of relatively few kinds of basic materials combined in various ways.</p> <p>When two or more substances interact to form new substances, the properties of the new combinations may be very different from those of the old.</p> <p>The total amount of matter and energy remains constant, even though their form and location undergo continual change</p> <p>Although the various forms of energy seem very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted into another.</p> <p>See strand one for full text.</p>	<p>How do scientists distinguish between objects? What do they learn from the comparisons?</p> <p>What causes reaction? How do we predict reactions before they happen?</p> <p>How does the structure of the atom affect the physical and chemical properties of the atom?</p> <p>Where does energy come from? Where does it go?</p> <p>How does energy, matter, and/or momentum, remain constant in a closed system?</p>	to be completed	<p>pressure</p> <p>density</p> <p>impulse</p> <p>velocity</p> <p>acceleration</p> <p>inertia</p> <p>friction</p> <p>equilibrium</p> <p>problem-solving</p> <p>distance</p> <p>time</p> <p>universe</p> <p>galaxy</p> <p>planet</p> <p>plate tectonics</p> <p>climate</p> <p>origin-of-the-universe</p> <p>tides</p> <p>orbit</p> <p>rotation</p> <p>celestial-bodies</p> <p>EMS</p> <p>molecule</p> <p>element</p> <p>compound</p> <p>bonding</p> <p>physical-states</p> <p>physical & chemical changes & properties</p>
Unit 2 Earth Science		<p><u>Earth Science</u> 4.2 Energy</p> <p>Predict and experiment how heat transfer affects the earth's system</p>	<p>Although the various forms appear very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted into another.</p> <p>Almost all life on earth is ultimately maintained by transformation of energy from the sun.</p> <p>The wealth, power, and potential of people is greatly affected by their capacity to harness energy.</p> <p>Energy is responsible for changes to the Earth's/Universe's structures.</p> <p>Development of new technology to make energy more accessible, powerful, and safe is one of the most critical global issues today.</p> <p>See strand one for full text.</p>	<p>Where does energy come from? Where does it go?</p> <p>How does energy cause change?</p>		

GIPS Science 1-2 Design Map

Units (in sequence)	Estimated Time Frame (days)	K-12 Program Strands With Corresponding Course/Grade Level Standards	K-12 Program Enduring Understandings (for content only)	K-12 Program Essential Questions (for content only)	Unit Assessments (note if optional)	C/GL Key Vocabulary Concepts
Unit 2 Earth Science		<p><u>Earth Science</u> 4.3 Origin and Evolution</p> <p>Explain the origin of the universe and the earth and how they are changing</p> <p>Explain the mechanisms of plate tectonics and how it affects the Earth systems</p> <p><u>Earth Science</u> 4.1 Structure, History & Cycles</p> <p>Investigate and analyze fossil evidence to determine paleoclimate</p> <p>Explain the mechanisms of plate tectonics and how it affects the Earth systems</p> <p>Identify and examine how extraterrestrial phenomena affect the earth's system</p>	<p>Although the various forms appear very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted into another.</p> <p>Almost all life on earth is ultimately maintained by transformation of energy from the sun.</p> <p>The capacity of available tools affects the quality and specificity of information that scientists can collect.</p> <p>Evidence gathered from the past is used to explain origination of an event, phenomenon, species, system, and help predict the future.</p> <p>Each part of a system is only fully understandable in relation to the rest of the system.</p> <p>Any part of a system may itself be considered as a subsystem with its own internal parts and interactions.</p> <p>The Earth system is composed of interacting subsystems of the geosphere, hydrosphere, atmosphere, and biosphere.</p> <p>Systems are not mutually exclusive: they may be so closely related that there is no way to separate all parts of one from all parts of the other.</p> <p>The elements that make up the molecules of living things are continually recycled.</p> <p>The capacity of available tools affects the quality and specificity of information that scientists can collect.</p> <p>Evidence gathered from the past is used to explain origination of an event, phenomenon, species, system, and help predict the future.</p> <p>See strand one for full text.</p>	<p>Where does energy come from? Where does it go?</p> <p>How do scientists work to figure out how the world began?</p> <p>What are the parts of this system? How do they work together?</p> <p>How do scientists work to figure out how the world began?</p>	to be completed	<p>pressure</p> <p>density</p> <p>impulse</p> <p>velocity</p> <p>acceleration</p> <p>inertia</p> <p>friction</p> <p>equilibrium</p> <p>problem-solving</p> <p>distance</p> <p>time</p> <p>universe</p> <p>galaxy</p> <p>planet</p> <p>plate tectonics</p> <p>climate</p> <p>origin-of-the-universe</p> <p>tides</p> <p>orbit</p> <p>rotation</p> <p>celestial-bodies</p> <p>EMS</p> <p>molecule</p> <p>element</p> <p>compound</p> <p>bonding</p> <p>physical-states</p> <p>physical & chemical changes & properties</p>

GIPS Science 1-2 Design Map

Units (in sequence)	Estimated Time Frame (days)	K-12 Program Strands With Corresponding Course/Grade Level Standards	K-12 Program Enduring Understandings (for content only)	K-12 Program Essential Questions (for content only)	Unit Assessments (note if optional)	C/GL Key Vocabulary Concepts
Unit 3 Physical Science		<p><u>Physical Science</u> 2.2 Motions and Forces</p> <p>Investigate and demonstrate the relationships among forces and motion</p> <p>Describe and identify examples of momentum and impulse</p> <p><u>Physical Science</u> 2.3 Matter and Energy</p> <p>Describe and analyze interactions of energy and matter</p>	<p>An object's motion can be predicted and is the result of the combined effect of all forces acting on the object.</p> <p>The interaction between energy and matter creates forces (pushes and pulls) that produce predictable patterns of change.</p> <p>The total amount of matter and energy remains constant, even though their form and location undergo continual change.</p> <p>The total amount of momentum remains constant in a closed system even though it is transferred between objects.</p> <p>Although the various forms appear very different, each can be measured in a way that makes it possible to keep track of how much of one form is converted into another.</p> <p>See strand one for full text.</p>	<p>How are forces produced? What role do forces play here?</p> <p>Where does energy come from? Where does it go?</p> <p>How does energy/matter remain constant even as it changes form?</p>		<p>pressure</p> <p>density</p> <p>impulse</p> <p>velocity</p> <p>acceleration</p> <p>inertia</p> <p>friction</p> <p>equilibrium</p> <p>problem-solving</p> <p>distance</p> <p>time</p> <p>universe</p> <p>galaxy</p> <p>planet</p> <p>plate tectonics</p> <p>climate</p> <p>origin-of-the-universe</p> <p>tides</p> <p>orbit</p> <p>rotation</p> <p>celestial-bodies</p> <p>EMS</p> <p>molecule</p> <p>element</p> <p>compound</p> <p>bonding</p> <p>physical-states</p> <p>physical & chemical changes & properties</p>