

GIPS Kindergarten Science 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 Wood & Paper	16-18 sessions total	<p><u>Physical Science:</u> 2.1 Chemical & Physical Properties of Matter</p> <p><u>Physical Science:</u> 2.2 Motions & Forces</p> <p><u>Physical Science:</u> 2.3 Matter & Energy</p> <p><u>Life Science-</u> 3.1 Diversity of Life</p> <p><u>Life Science:</u> 3.2 Classification</p> <p><u>Life Science:</u> 3.3 Ecosystems</p> <p><u>Earth & Space Science:</u> 4.1 Structures, History, & Cycles</p> <p><u>Earth & Space Science:</u> 4.2 Energy</p>	<p>All matter is made up of relatively few kinds of basic materials combined in various ways.</p> <p>The way matter can be separated determines what type of matter it is,</p> <p>An object's motion is the result of the combined effect of all forces acting on the object.</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>All living things are made of similar chemicals, compounds, and elements.</p> <p>Living things have certain structures that serve necessary functions for growth, response to stimulus, reproduction and use of energy.</p> <p>The level of classification systems is an ongoing effort within the science community so that there are meaningful ways to study groups.</p> <p>Organisms can survive only in environment in which their needs can be met.</p> <p>The change one organism makes in order to adapt/survive has significant ripple effects.</p> <p>The elements that make up the molecules of living things are continually recycled.</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>Materials within the Earth system have physical/ Chemical properties that make them useful in different ways. See strand one for full text.</p>	<p>How do scientists describe things?</p> <p>What causes a reaction? How do we predict reactions before they happen?</p> <p>How do properties of an object determine its use?</p> <p>What makes objects move the way they do?</p> <p>How does energy, matter, and/or momentum remain constant in a closed system?</p> <p>What is the difference between living and non-living things?</p> <p>Why and how do scientists classify living things?</p> <p>How do organisms change, survive and adapt to their environments?</p> <p>What are the parts of this system? How do they work together?</p> <p>How does energy cause change?</p>	Observe and communicate properties of wood or paper	wood paper observing classifying

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Unit 2 Trees		<p><u>Physical Science:</u> 2.1 Chemical & Physical Properties of Matter</p> <p><u>Physical Science:</u> 2.3 Matter & Energy</p> <p><u>Life Science:</u> 3.1 Diversity of Life</p> <p><u>Life Science:</u> 3.2 Classification</p> <p><u>Life Science:</u> 3.3 Ecosystems</p> <p><u>Life Science:</u> 3.4 Genetics</p> <p><u>Earth & Space Science</u> 4.1 Structure, History, & Cycles</p>	<p>All matter is made up of relatively few kinds of basic materials combined in various ways.</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>All living things are made of similar chemicals, compounds, and elements.</p> <p>Living things have certain structures that serve necessary functions for growth, response to stimulus, reproduction and use of energy.</p> <p>The level of classification systems is an ongoing effort within the science community so that there are meaningful ways to study groups.</p> <p>Organisms can survive only in environment in which their needs can be met.</p> <p>The change one organism makes in order to adapt/survive has significant ripple effects.</p> <p>All living things go through predictable phase of life or maturity.</p> <p>While an organism's traits are inherited, the appearance of those traits can be modified.</p> <p>Environment has the power to shape/change how an organism responds/functions in it's surroundings.</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 system—a subsystem—with it's own internal parts and interactions.</p> <p>See strand one for full text.</p>	<p>How do scientists describe things?</p> <p>How do properties of an object determine its use?</p> <p>Where does energy come from? Where does it go?</p> <p>What is the difference between living and non-living things?</p> <p>What does it mean to be alive?</p> <p>What are living things made of?</p> <p>Why and how do scientists classify living things?</p> <p>How do organisms change, survive and adapt to their environments?</p> <p>How do living things interact with each other?</p> <p>What are the life cycles of living things?</p> <p>Where do living things get their traits?</p> <p>What are the parts of this system? How do they work together?</p>	<p>Observe & communicate properties of trees</p> <p>Observe & communicate changes in trees that come with different seasons</p>	<p>tree</p> <p>leaves</p> <p>observing</p> <p>classifying</p> <p>seasons</p> <p>living</p>

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Unit 2 Trees		<p><u>Earth & Space Science:</u> 4.2 Energy</p>	<p>The Earth's system is composed of interacting subsystems of the geosphere, hydrosphere, atmosphere, and biosphere.</p> <p>Almost all life on earth is ultimately maintained by transformation of energy from the sun.</p> <p>Energy is responsible for changes to the Earth's/Universe's structures.</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>	<p>Explain how trees/plants need earth materials to live (soil, water, lights, air)</p>	
Unit 3 Nutrition	20 sessions	<p><u>Physical Science:</u> 2.1 Chemical and Physical Properties of Matter and Energy</p> <p>Dental Health Nutrition Five sense</p> <p><u>Life Sciences:</u> 3.1 & 3.2 Diversity of Life & Classification</p> <p>Nutrition</p> <p><u>Earth and Space Science:</u> 4.1 Structure, History, & Cycles</p> <p>Nutrition</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>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 one form is converted into another.</p> <p>Living things have certain structures that serve necessary functions for growth, response to stimulus, reproduction and use of energy.</p> <p>The level of classification systems is an ongoing effort within the science community so that there are meaningful ways to study groups.</p> <p>Each part of a system is only fully understandable in a relation to the rest of the system.</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>See strand one for full text.</p>	<p>How do scientists describe things?</p> <p>What causes a reaction? How do we predict reactions before they happen?</p> <p>How does energy cause change?</p> <p>Where does energy come from? Where does it go?</p> <p>What does it mean to be alive?</p> <p>Why and how do scientists classify living things?</p> <p>What are the parts of this system? How do they work together?</p>	<p>Observe and communicate properties of the food pyramid. Constructed Response (label pyramid)</p>	<p>bacteria observing classifying</p>