

<b>EiE for Kindergarten</b>		
<b>Unit</b>	<b>Science Concept Connections</b>	<b>Louisiana Student Standards Science</b>
		<b>Kindergarten</b>
<b>Raise the Roof: Designing Shelters</b>	<ul style="list-style-type: none"> <li>• light and shadow</li> <li>• the warming effect of the Sun</li> <li>• animals and animal needs</li> </ul>	Energy: K-PS3-1, K-PS3-2 Earth's Systems: K-ESS2-2
<b>Here's the Scoop: Designing Trash Collectors</b>	<ul style="list-style-type: none"> <li>• the basic needs of living things</li> <li>• animal habitats and ecosystems</li> <li>• human impact on the environment</li> <li>• recycling and environmental stewardship</li> </ul>	Earth and Human Activity: K-ESS3-3

## Units with Life Science Topics

Unit	Engineering and Science Fields	Louisiana Student Standards Science					
		Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<b>The Best of Bugs: Designing Hand Pollinators</b>	Agricultural Engineering Insects and Plants		1-LS1-1	2-LS2-2 2-PS1-1 2-PS1-2	3-LS4-3		
<b>Just Passing Through: Designing Model Membranes</b>	Bioengineering Needs of Organisms	K-LS1-1	1-LS1-1		3-LS4-3		
<b>No Bones About It: Designing Knee Braces</b>	Biomedical Engineering Skeletal and Muscular Systems					4-LS1-1	
<b>A Slick Solution: Cleaning an Oil Spill</b> <i>Also listed with Earth Science</i>	Environmental Engineering Ecosystems				3-LS4-3 3-LS4-4		5-LS1-1 5-LS2-1
<b>Thinking Inside the Box: Designing Plant Packages</b>	Package Engineering Plants	K-LS1-1		2-LS2-1 2-PS1-1 2-PS1-2		4-LS1-1	

### Units with Earth Science Topics

Unit	Engineering and Science Fields	Louisiana Student Standards Science					
		Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<b>Catching the Wind: Designing Windmills</b>  <i>Also listed with Physical Science</i>	Mechanical Engineering  Weather	K-ESS2-1			3-ESS2-2 3-PS2-1 3-PS2-2		
<b>Now You're Cooking: Designing Solar Ovens</b>  <i>Also listed with Physical Science</i>	Green Engineering  Energy and Energy Resources					4-ESS3-1 4-PS3-2 4-PS3-4	5-ESS3-1
<b>A Slick Solution: Cleaning an Oil Spill</b>  <i>Also listed with Life Science</i>	Environmental Engineering  Ecosystems	K-ESS2-1 K-ESS3-1 K-ESS3-3					5-ESS2-1 5-ESS2-2 5-ESS3-1
<b>Solid as a Rock: Replicating an Artifact</b>	Materials Engineering  Rocks and Minerals			2-PS1-1 2-PS1-2			
<b>A Stick in the Mud: Evaluating a Landscape</b>	Geotechnical Engineering  Landforms and Maps			2-ESS1-1	3-ESS3-1	4-ESS2-1 4-ESS2-2 4-ESS3-2	
<b>Taking the Plunge: Designing Submersibles</b>  <i>Also listed with Physical Science</i>	Ocean Engineering  Sinking and Floating					4-ESS2-2	5-ESS2-1 5-ESS2-2 5-PS1-3
<b>Water, Water Everywhere: Designing Water Filters</b>	Environmental Engineering  Water				3-LS4-4		5-ESS2-1 5-ESS3-1

## Units with Physical Science Topics

Unit	Engineering and Science Fields	Louisiana Student Standards Science					
		Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<b>An Alarming Idea: Designing Alarm Circuits</b>	Electrical Engineering Electricity					4-PS3-2 4-PS3-4	5-PS1-3
<b>The Attraction Is Obvious: Designing Maglev Systems</b>	Transportation Engineering Magnets				3-PS2-3 3-PS2-4		5-PS1-3
<b>Catching the Wind: Designing Windmills</b> <i>Also listed with Earth Science</i>	Mechanical Engineering Weather				3-PS2-1 3-PS2-2 3-ESS2-1	4-PS3-1 4-PS3-4 4-ESS3-1	
<b>To Get to the Other Side: Designing Bridges</b>	Civil Engineering Forces	K-PS2-1 K-PS2-2			3-PS2-1		5-PS2-1
<b>Lighten Up: Designing Lighting Systems</b>	Optical Engineering Light		1-PS4-2 1-PS4-3			4-PS4-2	
<b>A Long Way Down: Designing Parachutes</b>	Aerospace Engineering Solar System				3-PS2-1 3-PS2-2		5-PS2-1
<b>Marvelous Machines: Making Work Easier</b>	Industrial Engineering Simple Machines				3-PS2-1		5-PS2-1
<b>Now You're Cooking: Designing Solar Ovens</b> <i>Also listed with Earth Science</i>	Green Engineering Energy					4-PS3-2 4-PS3-4 4-ESS3-1	

*Physical Science continues on next page.*

**Units with Physical Science Topics, *continued***

Unit	Engineering and Science Fields	Louisiana Student Standards Science					
		Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<b>Sounds Like Fun: Seeing Animal Sounds</b>	Acoustical Engineering Sound		1-PS4-1 1-PS4-4			4-PS3-2 4-PS4-1 4-PS4-3	
<b>A Sticky Situation: Designing Walls</b>	Materials Engineering Earth Materials			2-PS1-1 2-PS1-2 2-PS1-3			5-PS1-4
<b>Taking the Plunge: Designing Submersibles</b> <i>Also listed with Earth Science</i>	Ocean Engineering Sinking and Floating			2-PS1-1 2-PS1-2			5-PS1-3 5-ESS2-1 5-ESS2-2
<b>A Work in Process: Improving a Play Dough Process</b>	Chemical Engineering Process Engineering Solids and Liquids			2-PS1-1 2-PS1-2			5-PS1-3 5-PS1-4

## Engineering Essentials Alignment to Louisiana Student Standards Science, 2017

Grade	Unit	Engineering Field	Louisiana Student Standards Science
1st	Designing Lighting Systems	Optical Engineering	1-PS4-2 1-PS4-3
2nd	Designing Hand Pollinators	Agricultural Engineering	2-LS2-2 2-PS1-1 2-PS1-2
3rd	Designing Maglev Systems	Transportation Engineering	3-PS2-3 3-PS2-4
4th	Designing Solar Ovens	Green Engineering	4-ESS3-1 4-PS3-2 4-PS3-4
5th	Cleaning an Oil Spill	Environmental Engineering	5-ESS2-1 5-ESS2-2 5-ESS3-1 5-LS1-1 5-LS2-1

Unit	Engineering Fields and Science Connections	Louisiana Student Standards Science		
		Grade 3	Grade 4	Grade 5
<b>Bubble Bonanza: Engineering Bubble Wands</b>	Materials Engineering Matter and Its Interactions			5-PS1-3 5-PS1-4
<b>Go Green: Engineering Recycled Racers</b>	Green Engineering Energy, Forces	3-PS2-1	4-PS3-1	
<b>In Good Hands: Engineering Space Gloves</b>	Materials Engineering Properties of Materials, Energy Transfer	3-ESS3-1	4-PS3-2 4-PS3-3	5-PS1-3
<b>Liftoff: Engineering Rockets and Rovers</b>	Aerospace Engineering Forces and Interactions	3-PS2-1		5-PS2-1
<b>Light Up the Night: An Electrical Engineering Challenge</b>	Electrical Engineering Electric Circuits, Light		4-PS3-2 4-PS3-4	5-PS1-3
<b>Music to My Ears: An Acoustical Engineering Challenge</b>	Acoustical Engineering Sound		4-PS3-2 4-PS4-1	
<b>The Sky's the Limit: Engineering Flying Technologies</b>	Aeronautical Engineering Forces and Interactions	3-PS2-1 3-PS2-2 3-ESS2-2		5-PS2-1

Unit	Engineering Fields and Science Connections	Louisiana Student Standards Science		
		Grade 3	Grade 4	Grade 5
<b>Shake Things Up: Engineering Earthquake-Resistant Buildings</b>	Earthquake Engineering Earthquakes	3-PS2-1	4-ESS3-2	
<b>A Slippery Slope: Engineering an Avalanche Protection System</b>	Avalanche Engineering Forces and Interactions	3-PS2-1 3-PS2-2	4-PS3-2 4-PS4-1 4-ESS3-2	
<b>Hop to It: Safe Removal of Invasive Species</b>	Mechanical Engineering Environmental Science	3-PS2-1 3-LS4-2 3-LS4-3 3-LS4-4		
<b>To the Rescue: Engineering Aid Drop Packages</b>	Package Engineering Energy, Forces		4-PS3-3	



Unit	Engineering Field	Science Topics	Louisiana Student Standards Science		
			Grade 6	Grade 7	Grade 8
<b>Don't Runoff: Engineering an Urban Landscape</b>	Environmental Engineering	Natural Resources Earth and Human Activity	6-MS-LS2-1 6-MS-ESS3-4	7-MS-LS2-5 7-MS-LS2-4	8-MS-ESS3-3
<b>Food for Thought: Engineering Ice Cream</b>	Process Engineering	Matter Energy Transfer	6-MS-PS4-2	7-MS-PS1-2	8-MS-PS1-6
<b>Go Fish: Engineering Prosthetic Tails</b>	Biomechanical Engineering	Structures and Function in Animals			8-MS-LS1-4
<b>Growing Up: Engineering Vertical Farms</b>	Agricultural Engineering	Light Photosynthesis Natural Resources	6-MS-PS4-2	7-MS-LS1-6 7-MS-LS2-5	8-MS-LS1-4
<b>It's in the Bag: Engineering Bioinspired Gear</b>	Materials Engineering Bioinspired Engineering	Structures and Function in Animals			8-MS-LS1-4
<b>Outbreak Alert!: Engineering a Pandemic Response</b>	Biomedical Engineering	Cells, Viruses Public Health	6-MS-LS1-1	7-MS-LS4-4	8-MS-LS3-1
<b>Testing the Waters: Engineering a Water Reuse Process</b>	Process Engineering Water Resource Engineering	Natural Resources	6-MS-ESS3-4	7-MS-LS2-5	8-MS-ESS3-3
<b>Worlds Apart: Engineering Remote Sensing Devices</b>	Remote Sensing Engineering	Light Solar System	6-MS-PS4-2 6-MS-ESS1-3		8-MS-ESS2-3
<b>Plants to Plastics: Engineering Bioplastics</b>	Chemical Engineering	Properties of Matter Chemical Reactions		7-MS-PS1-2	8-MS-ESS3-3 8-MS-PS1-3
<b>It's About Time: Engineering Timers</b>	Mechanical Engineering	Physical Science	ETS.MS.1B.a	ETS.MS.1B.a	ETS.MS.1A.a ETS.MS.1C.a ETS.MS.1C.b
<b>Put a Lid on It: Engineering Safety Helmets</b>	Biomechanical Engineering	Forces and Motion Nervous System	6-MS-PS2-1 MS-LS1-8		
<b>Here Comes the Sun: Engineering Insulated Homes</b>	Green Engineering	Thermal Energy Transfer Properties of Matter Natural Resources Earth and Human Activity	6-MS-PS4-2 6-MS-ESS3-4	7-MS-PS1-4 7-MS-PS3-4	8-MS-PS3-3 8-MS-ESS3-3