

### Units with Life Science Topics

Unit	Engineering and Science Fields	NGSS Performance Expectations					
		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 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	2-LS2-2 2-PS1-1 2-PS1-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	3-LS4-3 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		
<b>Just Passing Through: Designing Model Membranes</b>	Bioengineering Needs of Organisms	K-LS1-1 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	1-LS1-1 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3		3-LS4-3 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		
<b>No Bones About It: Designing Knee Braces</b>	Biomedical Engineering Skeletal and Muscular Systems					4-LS1-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
<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 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		5-LS1-1 5-LS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<b>Thinking Inside the Box: Designing Plant Packages</b>	Package Engineering Plants	K-LS1-1 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3		2-LS2-1 2-PS1-1 2-PS1-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3		4-LS1-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	

**Units with Earth Science Topics**

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		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 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			3-ESS2-2 3-PS2-1 3-PS2-2 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		
<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 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	5-ESS3-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<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 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3					5-ESS2-1 5-ESS2-2 5-ESS3-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<b>Solid as a Rock: Replicating an Artifact</b>	Materials Engineering  Rocks and Minerals			2-PS1-1 2-PS1-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3		4-ESS1-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
<b>A Stick in the Mud: Evaluating a Landscape</b>	Geotechnical Engineering  Landforms and Maps			2-ESS1-1 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3	3-ESS3-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	4-ESS2-1 4-ESS2-2 4-ESS3-2 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	

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**Units with Earth Science Topics, *continued***

Unit	Engineering and Science Fields	NGSS Performance Expectations					
		Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
<b>Taking the Plunge: Designing Submersibles</b> <i>Also listed with Physical Science</i>	Ocean Engineering  Sinking and Floating					4-ESS2-2 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	5-ESS2-1 5-ESS2-2 5-PS1-3 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<b>Water, Water Everywhere: Designing Water Filters</b>	Environmental Engineering  Water			3-LS4-4 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3			5-ESS2-1 5-ESS3-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3

### Units with Physical Science Topics

Unit	Engineering and Science Fields	NGSS Performance Expectations					
		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 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	5-PS1-3 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<b>The Attraction Is Obvious: Designing Maglev Systems</b>	Transportation Engineering Magnets				3-PS2-3 3-PS2-4 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		5-PS1-3 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<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 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	4-PS3-1 4-PS3-4 4-ESS3-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
<b>To Get to the Other Side: Designing Bridges</b>	Civil Engineering Forces	K-PS2-1 K-PS2-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			3-PS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		5-PS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<b>Lighten Up: Designing Lighting Systems</b>	Optical Engineering Light		1-PS4-2 1-PS4-3 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			4-PS4-2 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
<b>A Long Way Down: Designing Parachutes</b>	Aerospace Engineering Solar System				3-PS2-1 3-PS2-2 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		5-PS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3

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

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<b>Marvelous Machines: Making Work Easier</b>	Industrial Engineering Simple Machines				3-PS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3		5-PS2-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<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 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
<b>Sounds Like Fun: Seeing Animal Sounds</b>	Acoustical Engineering Sound		1-PS4-1 1-PS4-4 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			4-PS3-2 4-PS4-1 4-PS4-3 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
<b>A Sticky Situation: Designing Walls</b>	Materials Engineering Earth Materials			2-PS1-1 2-PS1-2 2-PS1-3 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			5-PS1-4 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<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 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			5-PS1-3 5-ESS2-1 5-ESS2-2 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3
<b>A Work in Process: Improving a Play Dough Process</b>	Chemical Engineering Process Engineering Solids and Liquids			2-PS1-1 2-PS1-2 K-2-ETS1-1 K-2-ETS1-2 K-2-ETS1-3			5-PS1-3 5-PS1-4 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3