

Units with Life Science Topics

Unit	Engineering and Science Fields	NGSS Performance Expectations					
		Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
The Best of Bugs: Designing Hand Pollinators	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		
Just Passing Through: Designing Model Membranes	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		
No Bones About It: Designing Knee Braces	Biomedical Engineering Skeletal and Muscular Systems					4-LS1-1 3-5-ETS1-1 3-5-ETS1-2 3-5-ETS1-3	
A Slick Solution: Cleaning an Oil Spill <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
Thinking Inside the Box: Designing Plant Packages	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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Catching the Wind: Designing Windmills <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	
Now You're Cooking: Designing Solar Ovens <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
A Slick Solution: Cleaning an Oil Spill <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
Solid as a Rock: Replicating an Artifact <i>Available as a digital unit. Materials Kit not available for purchase.</i>	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	
A Stick in the Mud: Evaluating a Landscape	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*

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Taking the Plunge: Designing Submersibles <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
Water, Water Everywhere: Designing Water Filters	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
An Alarming Idea: Designing Alarm Circuits	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
The Attraction Is Obvious: Designing Maglev Systems	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
Catching the Wind: Designing Windmills <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	
To Get to the Other Side: Designing Bridges	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
Lighten Up: Designing Lighting Systems	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	
A Long Way Down: Designing Parachutes	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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Marvelous Machines: Making Work Easier	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
Now You're Cooking: Designing Solar Ovens <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	
Sounds Like Fun: Seeing Animal Sounds	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	
A Sticky Situation: Designing Walls	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
Taking the Plunge: Designing Submersibles <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
A Work in Process: Improving a Play Dough Process	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