



**ByDesign**

A Journey to Excellence through Science

# Physical Science Units

Correlation to By Design Science and VictoryVR,  
a virtual reality supplemental resource.

**Kendall Hunt**  
publishing company



Unit	Forces & Interactions	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Exp 1	Field Trip 1: San Francisco Street		C13L2-3/ <b>PSC10</b>		C12L3-4	
Exp 2	Interactive: Simple Machines: Classify the Machine		C14L2-3/ <b>CSC13/PS14</b>		C13L1-4	
Exp 3	Theatre 1: Forces in Motion	<b>PS9</b>	C14L2-3/ <b>PSC13/CSC13</b>		C13L1-4/ <b>CSC8/CSC12</b>	
Exp 4	Comic book: Isaac Newton				C12L3-4	
Exp 5	Teacher Demo: Wendy Martin-Game of Billiards		C13L2-3		C12L2-3, C14L2	
Unit	Synthetic Materials					
Exp 1	Field Trip 1: Football Field	C10L1		C11L1, C12L3		C11L1, C13L2
Exp 2	Interactive: [Escape Room]					
Exp 3	Theater 1: Surrounded by Synthetics	C10L1/ <b>ST10</b>		C11L1, C12L3/ <b>PSC11/CSC11</b>		C11L1, C13L2
Exp 4	Theatre 2: Thermal Energy		C11L2		C14L3-4	
Exp 5	Teacher Demo - Anatomizing with Wendy*			C11L1, C12L3		C11L1, C13L2
Unit	Waves					
Exp 1	Field Trip 1: Radio Telescope, North Liberty	C9L1	C12L5		C8L3, C11L1, L3/ <b>PSC10/CSC11</b>	<b>PSC14</b>
Exp 2	Interactive: Boulder Roll					
Exp 3	Comic: Hedy Lamarr & Frequency Hopping		C12L1-2		C11L1, L3	
Exp 4	Theatre 2: Waves Are Everywhere		C12L1-3		C11L1, L3-4/ <b>PSC13/STC14</b>	
Exp 5	Teacher Demo: Waving With Wendy		C11L2-3, C12L1-2		C11L1, L3-4	
	*could be used in a&p lesson					

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Exp 1	Field Trip : Stinson Beach, CA		C11L1		C11L2, C14L1-2	
Exp 2	Interactive: Word Search					
Exp 3	Movie Theatre 1: Transformation of Energy		C11L1, C14L1-2			
Exp 4	Movie Theatre 2: Electric & Gravitational Fields	C11L1-2	C12L1	C13L1-2, L4, C14L1-3	C14L1-2	
Exp 5	Teacher Demo: Kitchen Physics with Wendy	C11L1, L3	C11L1-3, C13L1	C13L1-4, C14L2-3	C14L1-2	C14L2-3
Unit	Molecular Interaction					
Exp 1	Field Trip: Backyard Bonfire	C10L5		C11L2, L4		C14L2
Exp 2	Interactive Exp: Boulder Roll					
Exp 3	Comic: Mario Molina	C10L1, L5	C8L1	C11L4, C12L1-2		C8L1, C9L14, C11L1, C12L1-2, C14L1-2
Exp 4	Journey Exp: When Molecules Meet	C10L5		C11L3-4		C13L1-3, C14L1-2
Exp 5	Teacher Demo: Flame Testing with Wendy		C11L2		C14L1-2, L4	C14L2-3
Unit	Properties of Matter					
Exp 1	Field Trip: Reed Gold Mine	C8L1, L3, C10L1		C7L1-3, C11L1-3, C12L1-2/ <b>PSC11</b>		C9L1-2, C11L1, C12L2-3
Exp 2	Interactive Game: [Racing for Answers]					
Exp 3	Movie Theater 1: Matter	C10L1-4		C11L1-4, C12L1-4/ <b>CSC11</b>		C11L1-3, C12L1-5, C13L1-3, C14L1-13
Exp 4	Comic: The First Lady of Physics			C12L1-2		
Exp 5	Teacher Demo: What's Matter? with Wendy	C10L1-2/ <b>CSC10</b>		C11L1-4		C11L1

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HS Unit	Structure & Properties of Matter	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
<b>Exp 1</b>	Field Trip: Iowa 80 Trucking Museum	C10L1-5	C13L3, C14L1-3	C11L1-3, C12L2-3	C12L1-3	C11L1-2, C12L1-4
<b>Exp 2</b>	Interactive Trickybeard's Challenge					
<b>Exp 3</b>	Story 1: The Periodic Table of Elements (script)	C10L1-5		C12L1-3		C12L2-4
<b>Exp 4</b>	Story 2: Reality Glue	C10L1-5	C11L2	C11L1-4, C12L1-4, C13L1	C14L3	C12L1-4, C13L1-2, C14L1-3
<b>Exp 5</b>	Teacher Demo: Metals: Alkali Earth vs Alkali with Wendy	C10L5		C12L1-2		C12L1-3
<b>HS Unit</b>	<b>Chemical Reactions</b>					
<b>Exp 1</b>	Indy Motor Speedway Museum	C10L5	C11L1-L2, C13L1, C14L3		C12L3L4, C13L1	
<b>Exp 2</b>	Stoichiometry		C11L3-L4	C12L1-L4		C12L1-L5, C13L3, C14L1-L3
<b>Exp 3</b>	Energy Breakdown		C11L1-L2,	C11L4	C7L1, C14L1-L4	L11-L2, C14L1-L3
<b>Exp 4</b>	Reacting With Wendy			C10L3-L4		C11L2-L3, C13L1-3, C14L1-L3
<b>HS Unit</b>	<b>Biochemistry</b>					
<b>Exp 1</b>	Making Cheese At Hennings	C10L5		C11LL2-L4, C12L3-L4,		C6L3, C11L3, C13L2-L3, C14L2-L3
<b>Exp 2</b>	Pasteur & Roux: Vaccinating The Masses*		C7L1-L3	C2-PS	C1L2, C6L1-L4	
<b>Exp 3</b>	Solar Flares & CMEs	C9L2			C8L1-3, C9L1	C7L3-L3
<b>Exp 4</b>	Laughing Gas With Wendy		C5L2	C1L1-, L2, C2L3, C3L1-L3, C6L4-L5		

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<b>Exp 1</b>	Concussion Testing At Purdue		C11L1, C13L1-L3, <b>C13PS</b>	C5L1-L2, C6L2, <b>U2EP</b>	C12L1-L4, C13L1, C14L1-L2	C6L3, C7L1-L3, C11- <b>T&amp;S</b>
<b>Exp 2</b>	Issac Newton: Pool Shark		C13L1, C13L3, <b>C13PS</b>		C12L3-L4	
<b>Exp 3</b>	Struck by Lightning		C8L1-L3	C6L2-L3, C13L1, <b>C13S&amp;T</b>		C8L1, L3-L4
<b>Exp 4</b>	Transforming with Wendy	C11L2-L3		C13L1-L2, L4	C14L1-L2	
HS Unit	Energy					
<b>Exp 1</b>	Ludington Storage Power Plant	C3L4, C11L1-L3	C11L1	C14L2-L4	C13L3, C14L1-L2	C9L1
<b>Exp 2</b>	Entropy For Dessert	C10L2	C11L2		C14L2-L4	
<b>Exp 3</b>	The Tao of Pinball		C11L1-L2		C14L1-L4	
<b>Exp 4</b>	Poo Power With Wendy	C3L4, C8L3	C8L4, C11L1-L3	C6L4, C12L1, C14L4	C1L2C14L1-L4	C9L1-L3, C12L5, C13L2-3, C14L3
HS Unit	Waves & Electromagnetic Spectrum					
<b>Exp 1</b>	Laser Tag		C12L1-L3	C5L1	C11L1-L4	
<b>Exp 2</b>	Marie Curie & Radiation		C12LL1-L2		C8L3, C11L1-L4, C13CS, C14L1	C12L5
<b>Exp 3</b>	Makin' Waves		C11L2-L3, C12L1-L2	C2L1, C3L3, C4L1-L4,	C11L1-L3, C14L1-L4	
<b>Exp 4</b>	Microscopy With Wendy	C1L4	C1L1	<b>C4S&amp;T</b>	C1L3-L5	C2L1-L3, C5L3

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HS Unit	Mechanics	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8
Exp 1	Rube Goldberg Machine		C11L1, C13L1-L3, <b>C13PS</b> , C14L2-L3		C12L1-L4, C13L1-L3, C14L1-L2	
Exp 2	Newton's 2nd Law of Bowling		C13L1-L3, <b>C13PS</b>		C12L1-L4, C14L1-L2	
Exp 3	Brush's Mill	C11L2	C11L1	C13L2-L3, C14L3-L4	C13L3, C14L1-L2	
Exp 4	Imaging with Wendy	C4L1	C6L1, C12L1-L2	C4L1-L5	C7L1-L2, C11L1-L4	C7L2-L3

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