



Content Alignment: High School Physics

Unit Topic	Chapter Topic	Subtopic	NanoSense Lessons	Specific Materials
Mechanics	Measurement	Length/mass/time	Size Matters <ul style="list-style-type: none"> Lesson 1 (L1): Intro to Nano Lesson 2 (L2): Scale of Objects Lesson 6 (L6): One Day Introduction 	Slides <ul style="list-style-type: none"> L1: 2-3 L6: 2-3 Activity/Handout <ul style="list-style-type: none"> L2 <ul style="list-style-type: none"> Card Sort/Number Line Scale Diagram Cutting it Down
		Units/order of magnitude		
	Forces	Energy conversion Measurement Conservation of energy	Clean Energy <ul style="list-style-type: none"> Lesson 2 (L2): Solar Energy and Nanoscience 	Slides <ul style="list-style-type: none"> L2: 2, 8, 10, 12
	Potential Energy and Conservation of Energy	Absorption Dispersion/scattering	Clear Sunscreen <ul style="list-style-type: none"> Lesson 2 (L2): All About Sunscreens Lesson 3 (L3): The Science Behind Sunscreen Protection: Absorption Lesson 4 (L4): The Science Behind Sunscreen Appearance: Scattering 	Slides <ul style="list-style-type: none"> L2: 8-10, 14, 18-24 L3: (most) L4: (most) Activity <ul style="list-style-type: none"> Sunscreen Animation
Light and Optics	Light Rays	Electron clouds Orbitals Charges	Fine Filters <ul style="list-style-type: none"> Lesson 2 (L2): The Science of Water 	Slides <ul style="list-style-type: none"> L2: 5-16
		Circuits Electron flow/current	Clean Energy <ul style="list-style-type: none"> Lesson 2 (L2): Solar Energy and Nanoscience 	Teacher Reading <ul style="list-style-type: none"> L2: Teacher Reading Activity <ul style="list-style-type: none"> Solar Cell Animation



Atomic Physics	Atomic Models	Electromagnetic spectrum Frequency/ wavelength	Clear Sunscreen <ul style="list-style-type: none"> Lesson 1 (L1): Intro to Sun Protection 	Slides <ul style="list-style-type: none"> L1: 7
Electricity and Magnetism	Current and Resistance	Classical vs. Modern Physics (e.g., different dominant forces, different “rules” at nano/atomic scale)	Size Matters <ul style="list-style-type: none"> Lesson 3 (L3): Unique Properties at the Nanoscale 	Slides <ul style="list-style-type: none"> L3: (most)
	Electromagnetic Waves	Photoelectric effect $E=hf$; energy levels	Clear Sunscreen <ul style="list-style-type: none"> Lesson 3 (L3): The Science Behind Sunscreen Protection: Absorption Lesson 4 (L4): The Science Behind Sunscreen Appearance: Scattering Clean Energy <ul style="list-style-type: none"> Lesson 2 (L2): Solar Energy (depending on how in depth teacher wants to get) 	Slides <ul style="list-style-type: none"> L3: 3, 6-7, 14 L4: 5, 8 Teacher Reading <ul style="list-style-type: none"> L2: Teacher Reading