

4th Grade

Energy and Heat Chapter 1 (pgs 1 - 45)

Performance Expectations

Use evidence to construct an explanation relating the speed of an object to the energy of that object.

Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat and electric currents.

Ask questions and predict outcomes about the changes in energy that occur when objects collide.

Apply scientific ideas to design, test and refine a device that converts energy from one form to another*.

Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.

Generate and compare multiple solutions that use patterns to transfer information*.

Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.

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Effort Credit

Vocabulary Smart Cards (15)

At-Home Lab: "Rainbows in Light" & "Heat on the Move" WS sent home to parents (pg 24 & 30)

Go Green - pg 13

Lightning Lab - pg 20

NASA Field Trip: Solar Cooking pg 45 (Can also build a solar cooker with this)

Spectrum - (TE pg 25) Draw the full radiation spectrum indicating the area of visible light

Use a Venn Diagram to compare & contrast (Greenhouse to Closed Car)

Science in Your Backyard "Sound and Temperature" pg 36

Day 1	Inquiry - Try It! "What are some forms of energy?" (pg 2) Set up Stations, let students go in pairs, Complete pg 2 Meanwhile, read pg 3 & 8, answer questions
Day 2 & 3	STEM Activity - "Is it Cold In Here?" (pgs 4 - 7) Read prompt & plans together "Know vs Need to Know" Q&A Divide class into 2 members per group Students should work together in their groups to complete the STEM Activity. HW: All questions should be finished as homework if not complete by 2nd day.

Day 4	<p>Students should SHARE what they learned about detecting drafts</p> <p>LESSON 1 - What are forms of energy?</p> <p>Read aloud pgs 9 - 15 completing questions individually, PAIR & SHARE</p> <p>HW: Lesson Check pg TE 15b</p>
Day 5	<p>LESSON 2 - What is sound energy?</p> <p>Read aloud pgs 17 - 21 completing questions individually</p>
Day 6	<p>LESSON 3 - What is light energy?</p> <p>Inquiry - Explore It! Pg 22</p> <p>Read aloud pgs 23 - 27; students should finish reading & questions alone</p> <p>HW: Finish reading & answering questions</p>
Day 7	<p>WS: Lesson Check 2 & 3 (TE 21b & 27b)</p>
Day 8	<p>LESSON 4: What is heat?</p> <p>Inquiry - Explore It! Pg 28</p> <p>Read aloud pgs 29 - 33</p> <p>HW: pg 18 "Do the Math!" & Lesson Check 4 (TE 33b)</p>
Day 9	<p>Directed Inquiry - Investigate It!</p> <p>Differentiation Available TE pg 35c</p> <p>"What material is the better heat conductor?" (pgs 34-35)</p>
Day 10	<p>Flex Day</p> <p>Chapter 1: Benchmark Practice pg 44 - Individually & Check Together</p>
Day 11	<p>Review for Chapter 1 Test</p>
Day 12	<p>Chapter 1 Test</p>

