

Energy Unit Visuals:

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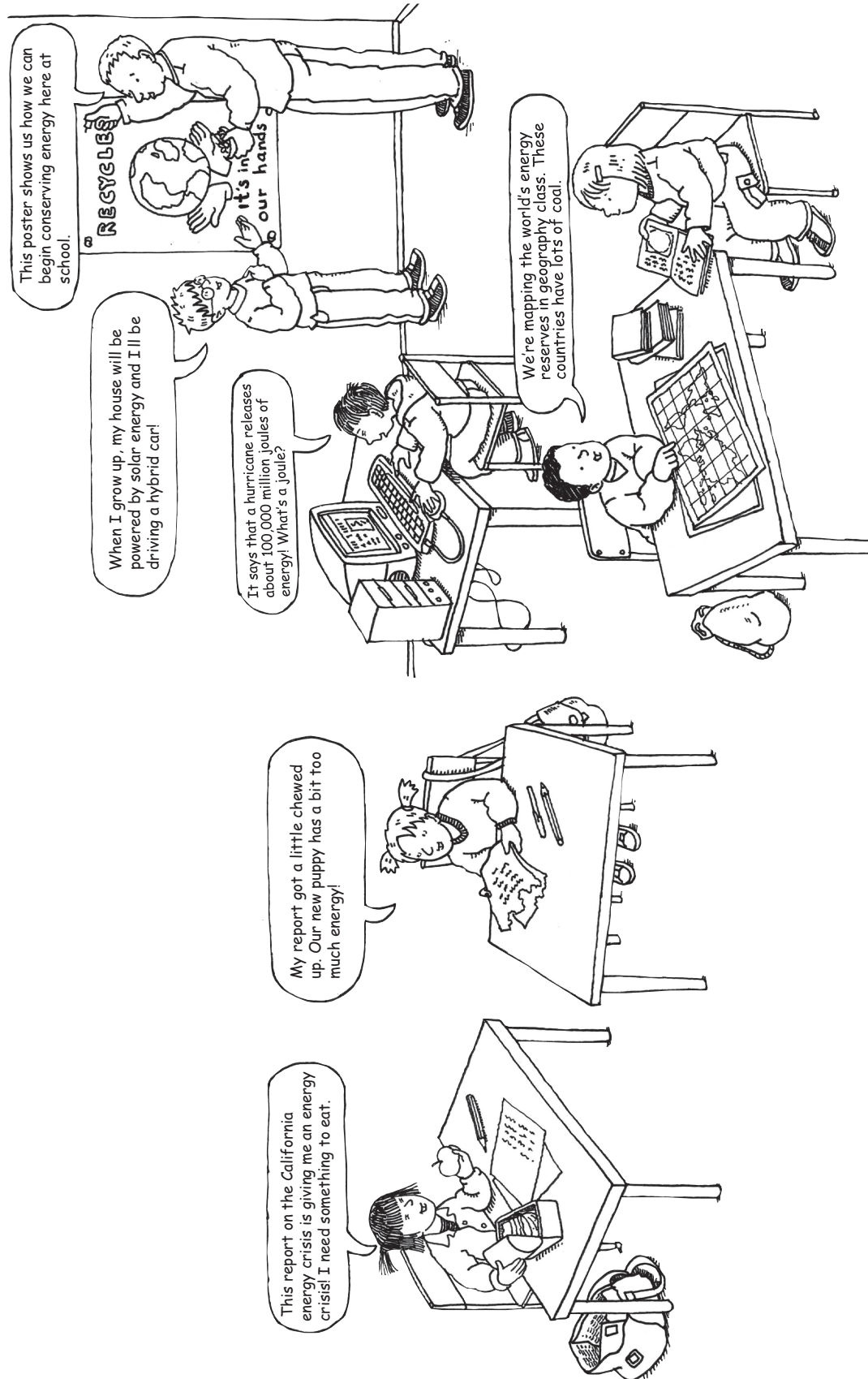
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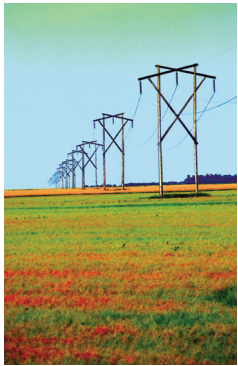
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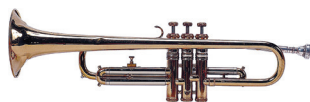
Energy Talk



Energy Cards



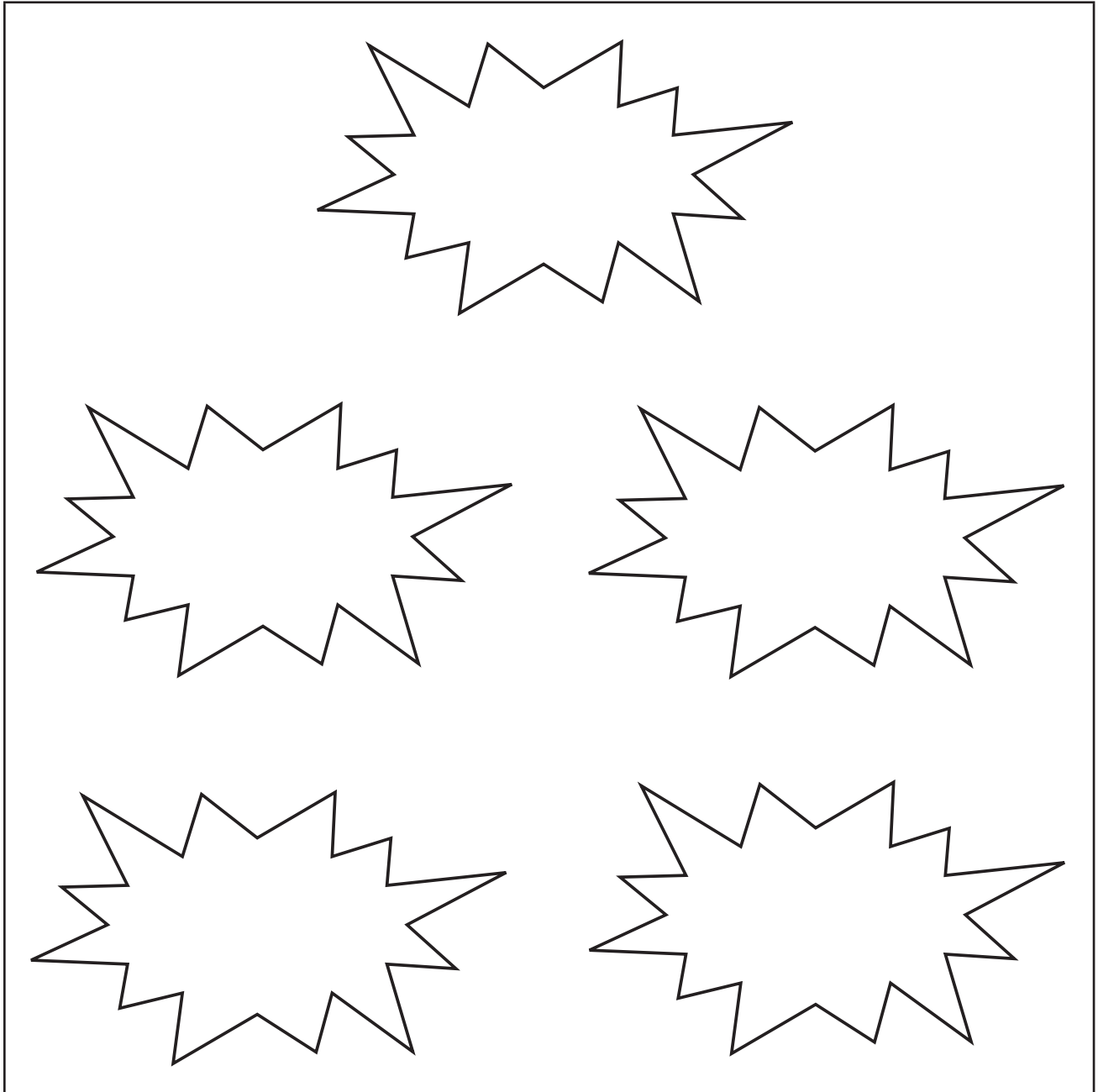
Energy Cards



Mapping Energy Transfers

Demonstration: _____

Use arrows and words to show what types of energy transfers occurred as your teacher operated the item listed above.

A large rectangular box containing five starburst shapes. One starburst is at the top center, and the other four are arranged in two rows of two below it. These starbursts are intended for students to draw arrows and write words to map energy transfers.

Energy Forms

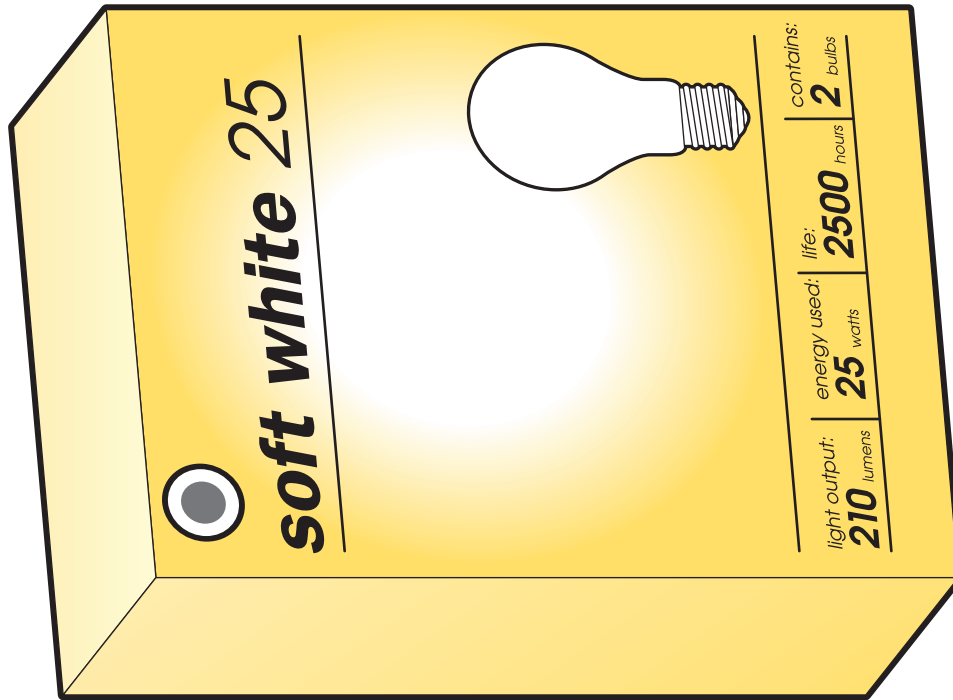
Electrical Chemical Motion Elastic Gravitational Heat Light Sound

Exploring How Well Different Materials Slow Heat Energy Transfer

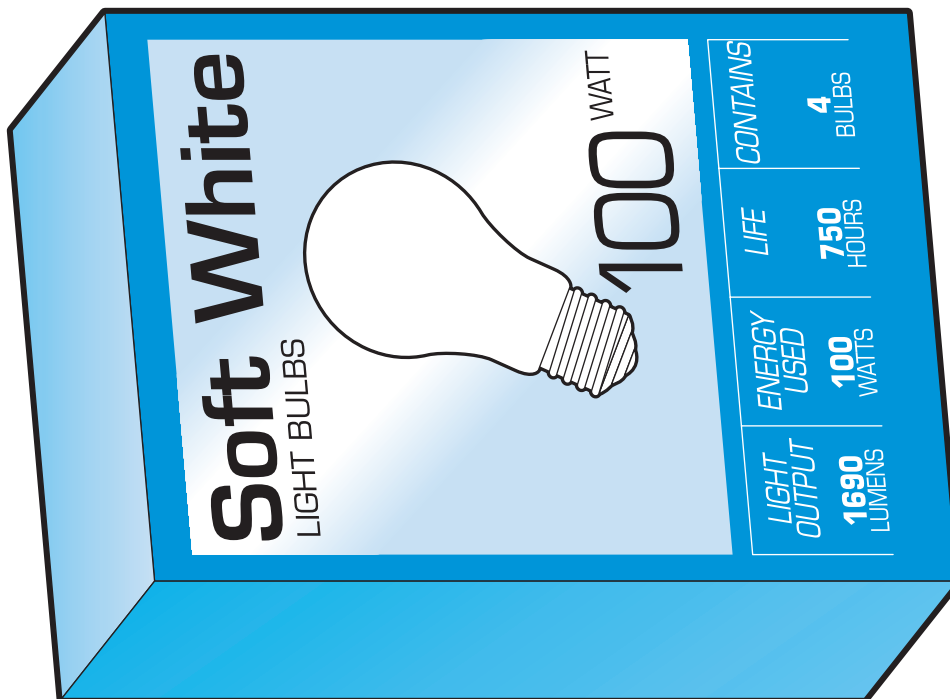
Class Data:

Test Material	A Beginning Temperature (°C)	B Temperature after 5 Minutes (°C)	C Temperature after 5 More Minutes (°C)	A – C Total Temperature Change (°C)
Control				

100W and 25W Light Bulbs

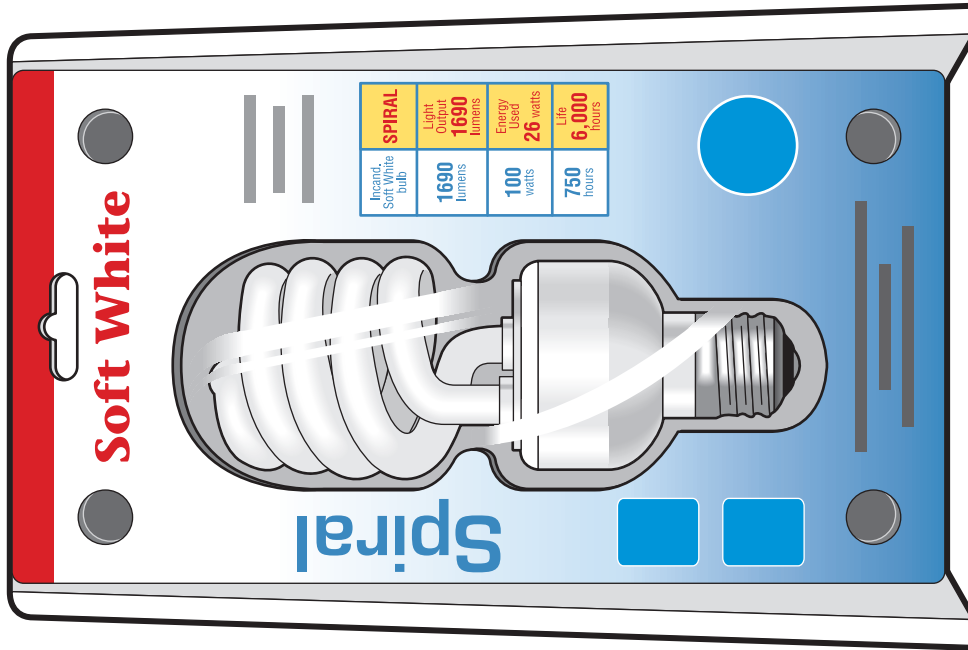


25W Incandescent Light Bulb

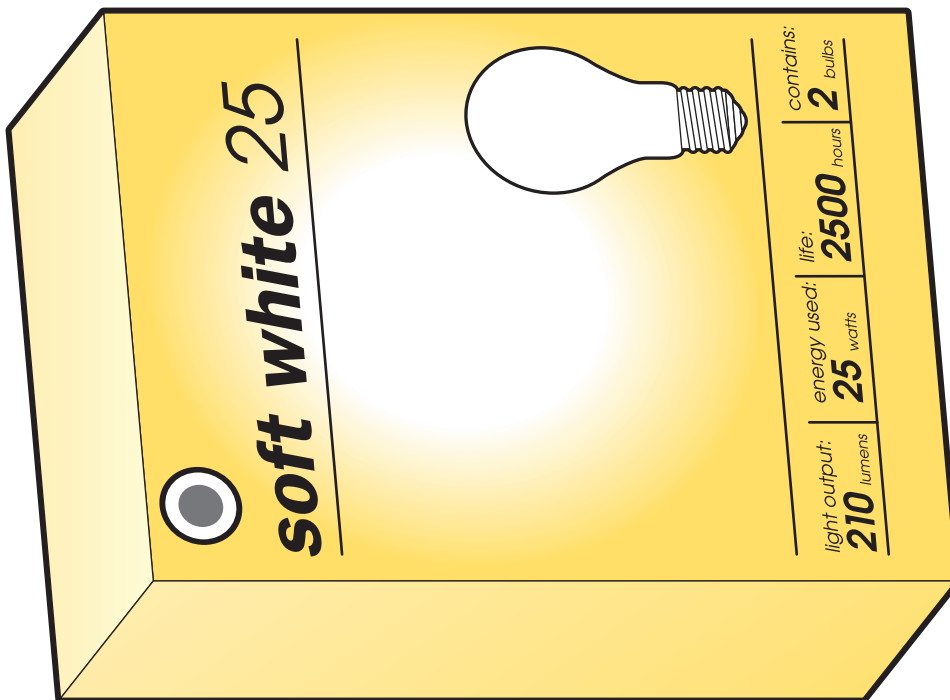


100W Incandescent Light Bulb

25W and 26W Light Bulbs

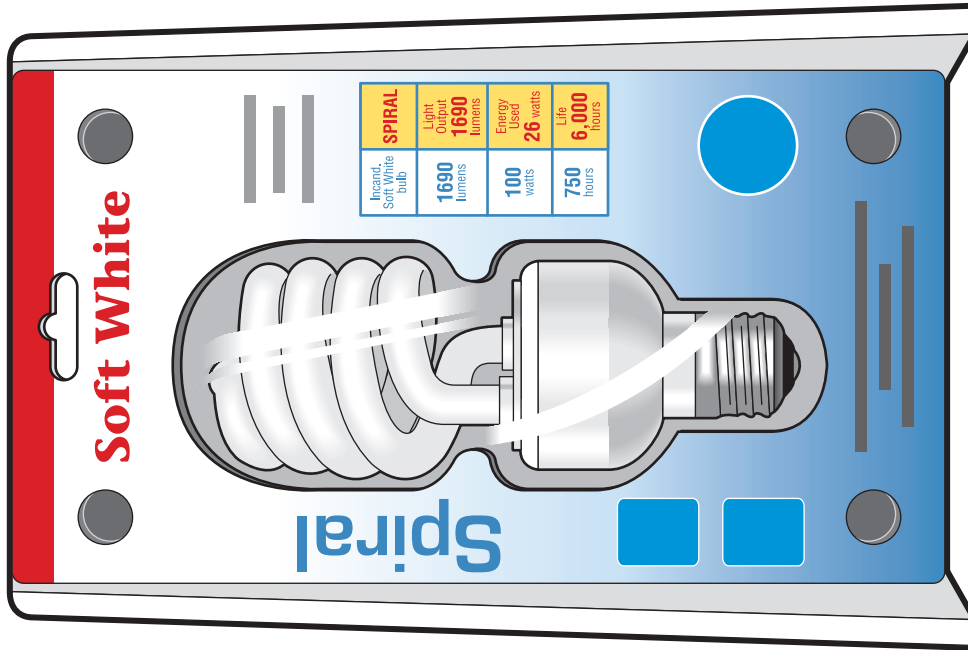


26W Compact Fluorescent (CFL)
Light Bulb

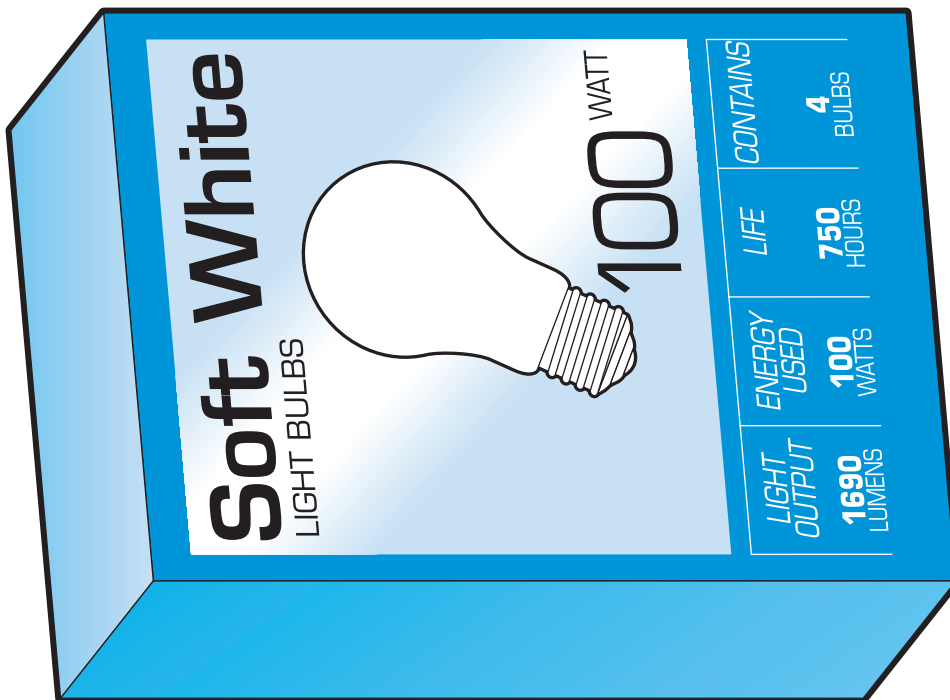


25W Incandescent Light Bulb

100W and 26W Light Bulbs

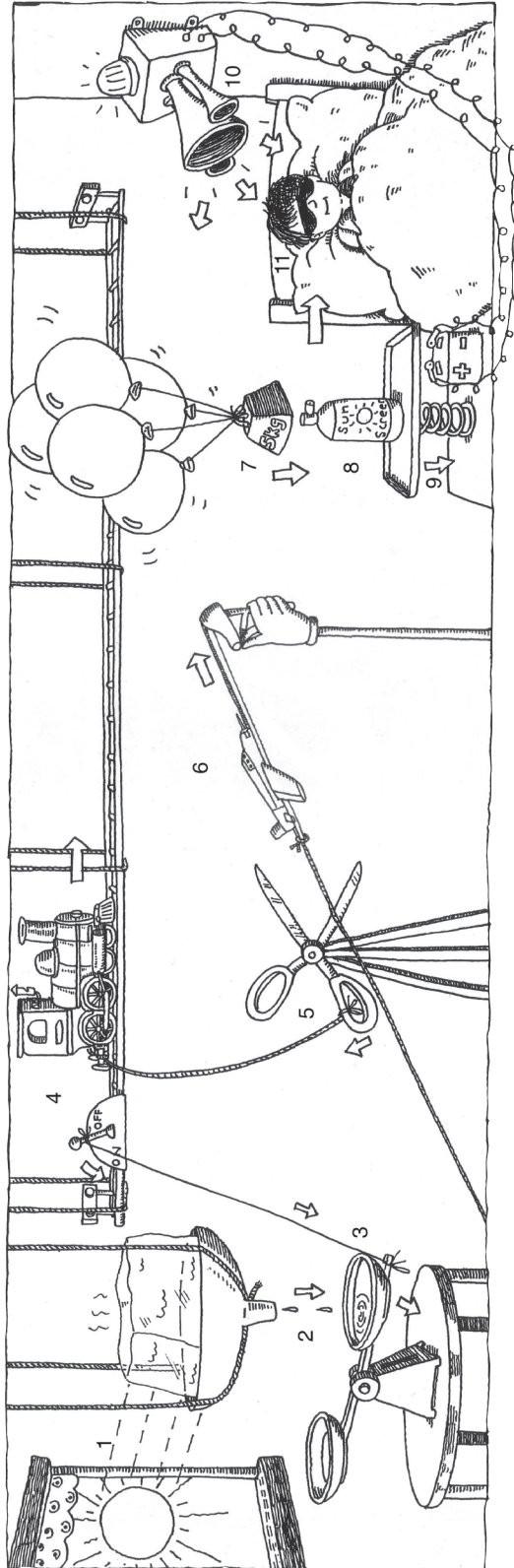


26W Compact Fluorescent (CFL)
Light Bulb



100W Incandescent Light Bulb

Automatic Sunscreen Applicator and Alarm



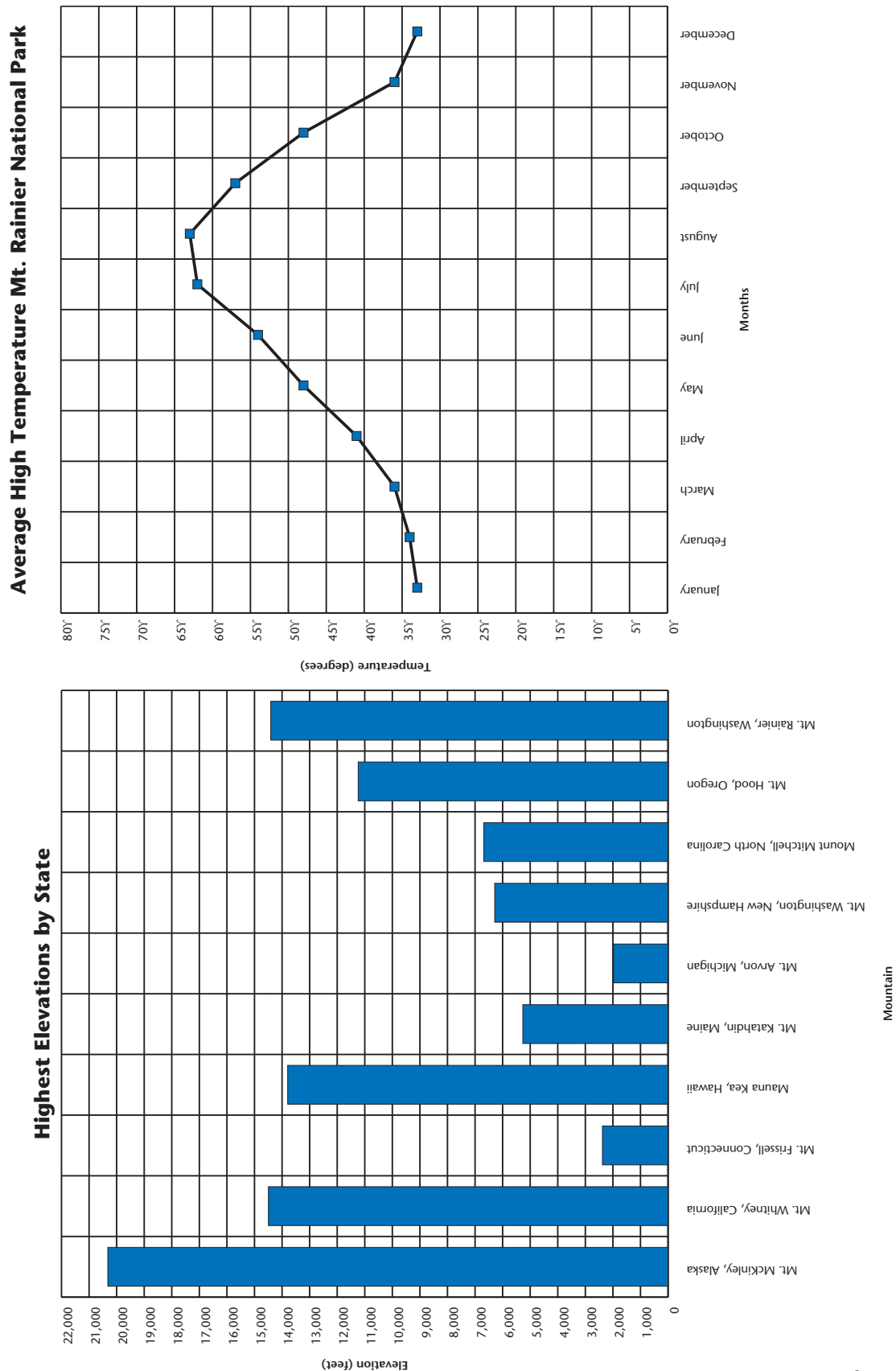
Invention Sketch

Automatic Sunscreen Applicator and Alarm

Teacher Explanation

1. As the sun shines through the window the block of ice melts. (Light to heat)
2. Water from the melting ice is channeled through a spout into the tray of a balance scale. (Heat to gravity to motion)
3. As the water collects in the tray the scale is weighted down towards the right. A string that is attached to the tray and the lever for a model train is pulled down. (Motion to motion)
4. The lever is moved to the "On" position and the train moves forward towards the right side of the room. (Electricity to motion)
5. A string that is attached to the train at one end and one of the handles of a pair of open scissors at the other end is pulled forward causing the scissors to close down on a string holding the rubber band of a toy plane's launcher taut. (Motion to motion)
6. The scissors cut the string releasing the rubber band and sending the plane flying. (Elastic to motion)
7. The plane, which has a pin attached to its nose, travels towards a bouquet of helium balloons holding up a 5 kg weight. As one of the balloons is popped the weight lowers, pressing down on the pump of a bottle of sunscreen directed towards the person sleeping in the bed. (Gravity to motion)
8. The compressed pump sprays sunscreen onto the face of the sleeper. (Elastic to motion)
9. At the same time, the 5 kg weight presses down on the tray holding the sunscreen, compressing the spring supporting it from below. (Gravity to motion)
10. As the spring is compressed, the battery beneath it is brought into firm contact with the electrode below, completing the circuit for an alarm/noisemaker. (Motion to chemical to electricity to sound)
11. The sleeper awakes, ready to face the sunny day!

Comparing Graphs



Graphing the Height of a Fern

The chart below lists a fern's height, in centimeters, at the end of each month from January 2011 to June 2012.

Jan 2011	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 2012	Feb	Mar	Apr	May	Jun
5	7	10	15	20	30	45	53	59	65	68	70	70	72	75	80	86	95

[illegible]