WONDERS OF ENERGY

Grades 3-6

STUDENT JOURNAL

This journal belongs to:

THE GOOD AND THE BEAUTIFUL

INSTRUCTIONS

This student journal accompanies *The Good and the Beautiful Wonders of Energy* science unit. It contains all the activity and journal pages that are needed to complete the unit. Each student will need a copy of the science journal.

Have each student spend enough time to create high-quality work as the activities and worksheets are completed. Students may enjoy looking back on their past discoveries after they've finished.

TABLE OF CONTENTS

ENERGY DETECTIVE Cutouts

Cut out the cards below. Listen to the clues and figure out which card matches each clue. You will be told how many cards are correctly placed after each round of clues. There will be four rounds. See how many clues you need to get them right.

Chemical ENERGY

Electrical ENERGY

Light ENERGY

Thermal ENERGY

Mechanical ENERGY

Magnetic ENERGY

Sound ENERGY

Nuclear ENERGY

Elastic ENERGY

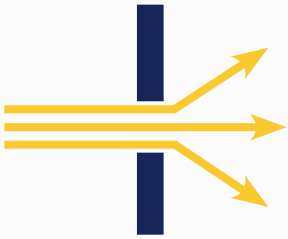
Gravitational ENERGY

HOW LIGHT MOVES

Match each type of light behavior to the correct picture.

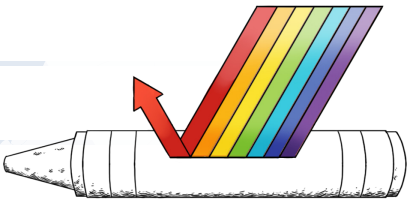
Reflection

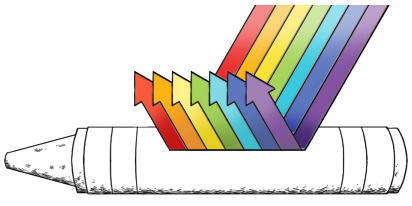
Refraction

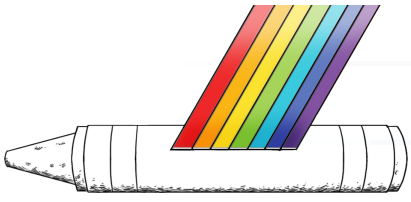


Diffraction

Examine the way light is reflecting in each image below.
Color each crayon the color it would appear, or leave it blank for white.

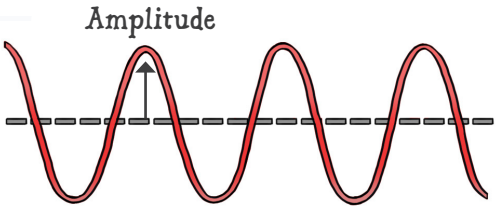




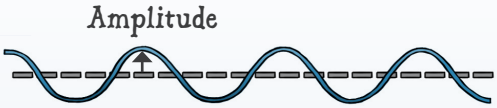


SOUND WAVES

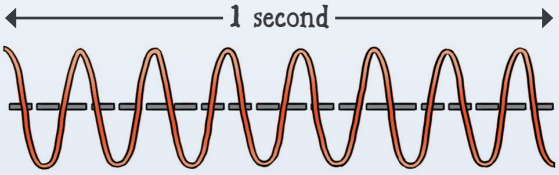
Match the "Sound Waves Cutouts" with the correct types of sound in real life.



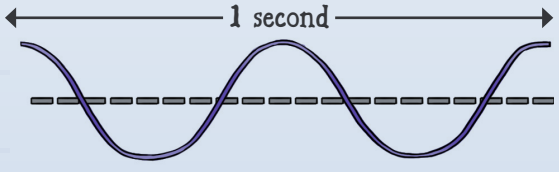
High Amplitude - Loud Sound



Low Amplitude - Quiet Sound



High Frequency - High Pitch - High Sound



Low Frequency - Low Pitch - Low Sound

CIRCUIT EXPERIMENT

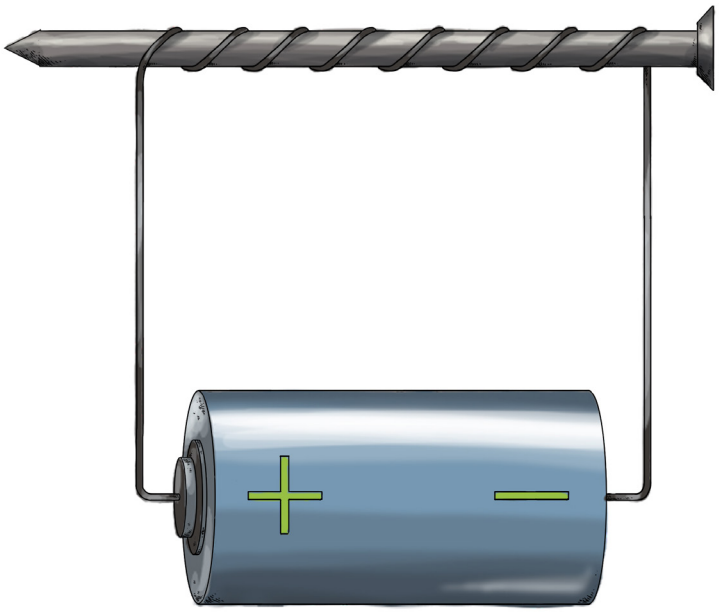
Write your predictions and results for each activity below.

	MY PREDICTIONS	RESULTS
Extra Bulb + 	I predict that when I add the extra bulb, the light will . . .	When I added the extra bulb, the light . . .
Extra Battery + 	I predict that when I add the extra battery, the light will . . .	When I added the extra battery, the light . . .
Parallel Circuit − 	I predict that when I unscrew a light from the circuit, the other light will . . .	When I unscrewed a light from the circuit, the other light . . .

ELECTROMAGNET ACTIVITY

Draw a line from each part of the electromagnet to the correct part name in the word bank.

SIMPLE ELECTROMAGNET



WORD BANK

- Coiled wire
- Battery
- Iron nail
- Wire

Reconfigure your electromagnet by changing the number of times you wrap the wire around the nail. Circle the number of wraps around the nail you predict will pick up the most. See how many paper clips or safety pins each configuration will actually pick up. Record your results below.

Coils wrapped around nail	Paper clips or safety pins picked up
30	
5	
45	
10	

How many wraps of the wire picked up the most paper clips or safety pins? Why do you think that happened? Circle the correct response below.

A. 45 wraps around the nail picked up more paper clips or safety pins because the wire has contact with the nail in more places and creates a stronger magnet.

B. 5 wraps around the nail picked up more paper clips or safety pins because the wire has less contact with the nail and creates a stronger magnet.