



Students are encouraged to maintain contact with their home school and classroom teacher(s). If you have not already done so, please visit your child's school website to access individual teacher web pages for specific learning/assignment information. If you cannot reach your teacher and have elected to use these resources, please be mindful that some learning activities may require students to reply online, while others may require students to respond using paper and pencil. In the event online access is not available, please record responses on

paper. Completed work should be dropped off at your child's school. Please contact your child's school for the dates and times to drop off your child's work.

If you need additional resources to support virtual learning, please visit: <https://www.slps.org/extendedresources>

Science



Grades 3, 4, 5

Every Scientist has to make claims and then state their reasons. Print and complete these pages so YOU can become real scientist!

Learning Objectives and Teacher Notes

Energy Conversions - **I can tell how energy is converted from water.**

Nonrenewable Energy - **I can use what I know about energy to write a song** *(see end of document)*

Renewable Energy Resources - **I can explain how solar energy heats a home**

Motion - **I can calculate speed**

Patterns of Motion - **I can see patterns in the way objects move**

Water and Weather - **I can explain what causes breezes**

Seasonal Weather Changes - **I can recreate a weather chart** *(see end of document)*

Climate = **I can tell about weather patterns**

Climate Change - **I can complete a graphic organizer about climate change**

Average temperatures in St. Louis

Month	High Temp Fahrenheit	Low Temp Fahrenheit
March	56	38
June	86	67
September	81	61
December	44	29

We Can Make a Difference [Jaci Velasquez](#)

We live in a dream
If we really think
Everything's alright
This world is in need
Crying out to be freed
We gotta shed some light
Teach the world to smile
And hear angels sing
Feel the breath of God
And the power it brings
It's time to come together, you and I
And share the love of Jesus Christ
We can make a difference
We can make a change
We can make the world a better place
We can make a difference
We can make a change
We can make the sun shine through the rain
(Shine on through the rain)
Do you know a man
Who's needing a hand?
Don't ya wall on by
A sister is sad
Lost all that she had
We gotta take the time
Look around the world
It will testify
Some have empty hearts
Some...

If there's garbage around, all over the ground

Can it! Save the Planet!

If you've had something sweet,

Keep the wrapper off the street

- Can it! Save the Planet!

We like our water and we like our air

So don't throw garbage anywhere

We put some stuff in a special bin

That's called recycling!

When your ice cream's off the stick,

Get rid of it real quick

Can it! Save The Planet!

When you're finished with the snack for school you did pack

- Can it! Save the Planet!

It's important that you know what to do so

Can it! Save the Planet!

Name _____

Date _____

Energy Conversions

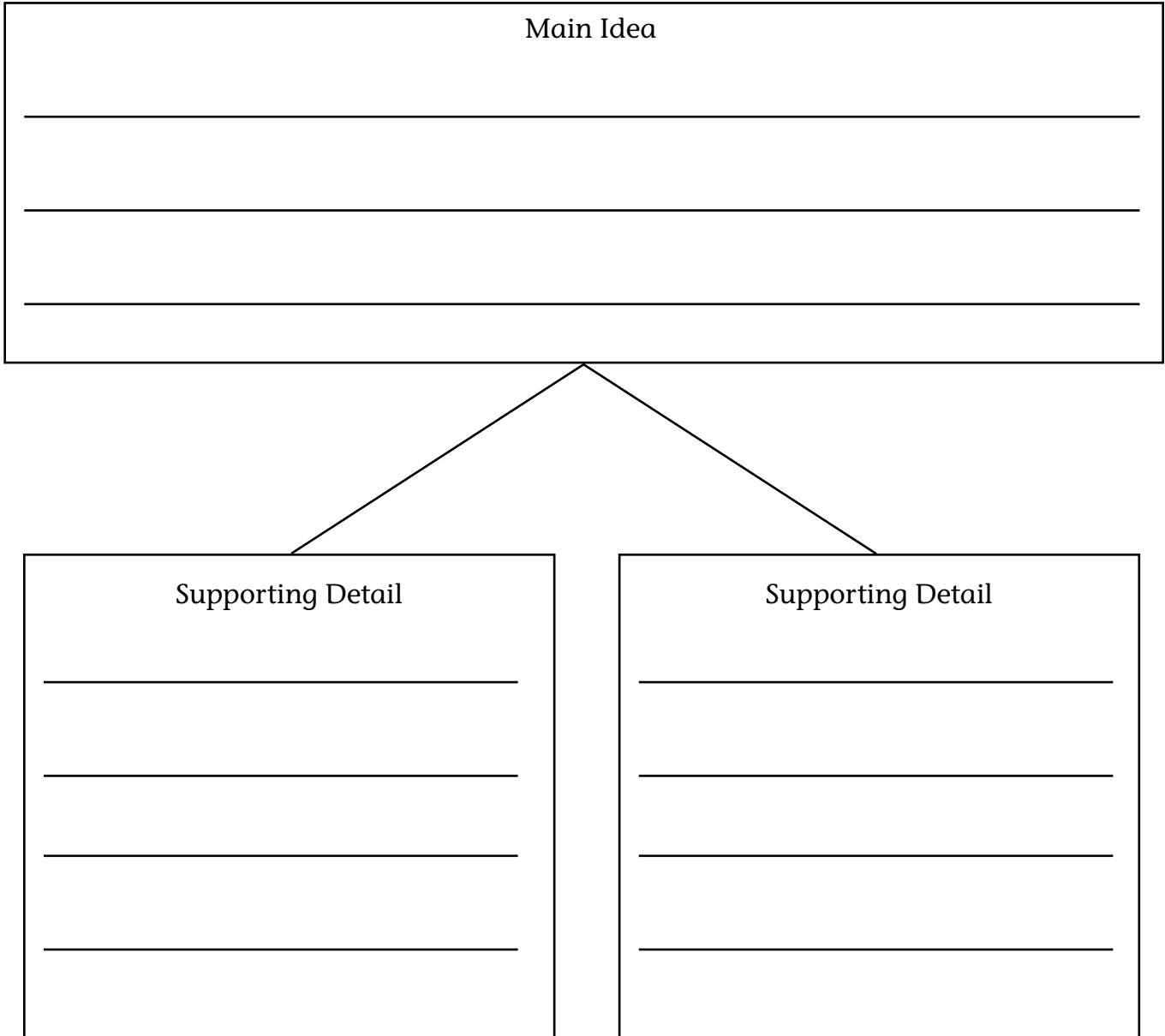
In this activity, you will read a passage about how flowing water is converted into electrical energy. Then, you will identify the main idea and supporting details of the passage.

People have used the power of flowing water to generate energy for centuries. At first, simple water wheels, or watermills, helped transform flowing water into useable energy. Watermills can only produce enough energy to support small groups of people. To generate enough energy for larger populations, hydroelectric dams are often used.

Hydroelectric power is generated by flowing water. Hydroelectric dams are often constructed to help engineers regulate the water flow to produce electricity at a specific rate. Large machines, which contain a turbine and generator, are used to transform energy from flowing water into electricity. As flowing water passes through the turbine, the turbine spins. The turbine is connected to the generator, so as the turbine spins, energy is transformed into electricity.

Name _____ Date _____

In the graphic organizer, record the text's main idea and two supporting details.



Name _____ Date _____

Nonrenewable Energy Sources

In this activity, you will listen to songs about the environment and then write your own song.

Many songs have been written about the environment. Some songs celebrate the beauty of nature. Other songs comment on how humankind has affected the environment. The burning of oil, coal, and natural gas, for example, has contributed to air and water pollution. It has also negatively affected the health of plants, animals, and people.

Your teacher will play you several songs about humans and the environment. Your teacher will also give you copies of the lyrics. Follow along as the songs are playing. Then, on the lines below, write your own song about the environment. You can set it to the tune of a familiar song, or you can compose your own melody.

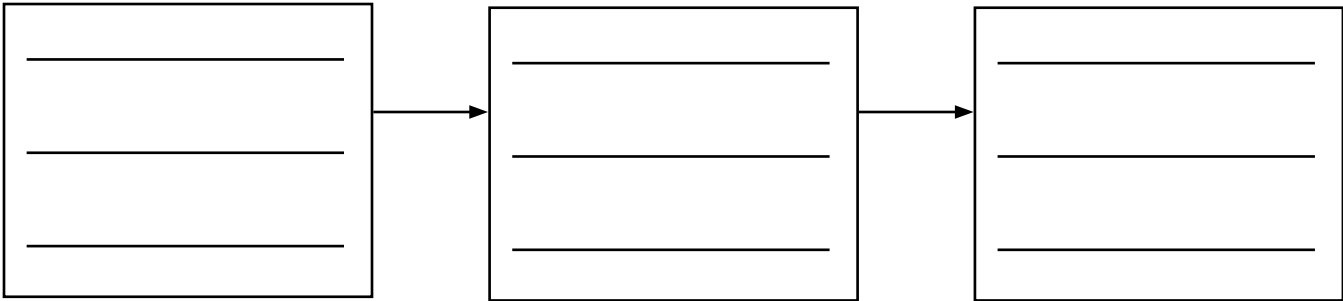
Name _____ Date _____

Renewable Energy Sources

In this activity, you will learn how solar energy can be used to directly heat a home. In the graphic organizer, write the sequence of how the sun can directly heat a home.

Think about how good it feels to sit in the sunshine. You can feel the warmth of the sun on your skin. Do you think it would be nice if you could heat your house the same way? Well, now you can! Scientists have invented a way to heat homes with a technique called passive solar heating. Home builders install large windows that face south. They use certain materials to make the floors and walls of the home. In the winter, the low angle of the sun causes sunlight to shine into the windows. The materials of the floors and walls absorb and store the heat from the sunlight. At night, the materials release the heat and warm the home.

Name _____ Date _____



Motion

In this activity, you will practice using division skills after you learn about how speed is calculated.

You can find an object's speed by dividing the distance the object travels by the time the object travels. For example, a woman rides her bicycle for 2 hours. She travels 25 kilometers (about 16 miles). She travels the same speed the entire time she is riding. To find her speed, divide 25 km by 2 hours (or 16 mi by 2 hours). The woman traveled 12.5 kilometers per hour (about 8 miles per hour).

1. Car A is driving to Everytown, a town that is 90 kilometers away. It takes 3 hours for the car to arrive at its destination. The car travels the same speed the entire time. What is Car A's speed?

2. Car Z is also driving to Everytown. It takes 2 hours for the car to arrive at its destination. The car travels the same speed the entire time. What is Car Z's speed?

3. Did Car A or Car Z have the greater speed?

Name _____

Date _____

Patterns in Motion

In this activity, you will compare and contrast the different ways that objects move.

The motions of objects sometimes form patterns. You can watch an object move and identify the pattern of its motion. Then, you can predict how it will move next. Other times, the motions of objects do not seem to have a pattern. You cannot tell how these objects will move next. Their motions are hard to predict.

Read the descriptions of two objects and how they move. Then, you will answer questions about each description.

1. Children are playing baseball. The pitcher throws the ball. The ball goes straight to the batter. The batter hits the ball. The ball moves away from the batter. It flies high over the heads of the pitcher and second baseman. The ball lands on the ground in the outfield.

Can you predict how the baseball will move the next time the pitcher throws it, or how the baseball will move the next time a batter hits it? Why or why not?

Name _____ Date _____

2. You want to wash your hands. You go to the sink.
You turn the hot water handle in one direction.
Water comes out of the faucet. When you are done,
you turn the handle in the opposite direction. The
water stops flowing.

Can you predict how the hot water handle will
move the next time you wash your hands? Why or
why not?

3. Compare and contrast the baseball's pattern of
movement with the hot water handle's pattern of
movement.

Name _____

Date _____

Water and Weather

In this activity, you will learn what causes land and sea breezes. Then, you will use a graphic organizer to identify cause-and-effect relationships.

The ocean and other bodies of water can affect weather and temperature. And, they can even make wind, or moving air. During the day, the ocean heats up more slowly than the land. As a result, the air above the water is cooler than the air above the land, which causes a sea breeze to happen. The cooler air begins to move toward the land.

At night, ocean water is warmer than the land because the land loses heat much quicker than water. As the land becomes cooler, the air above the land becomes cooler too. Cool air begins to sink which causes a land breeze to happen. The cooler air begins to move toward the ocean.

In the graphic organizer, identify and write a cause-and-effect relationship for a sea breeze and a land breeze.

1.

Sea Breeze	
Cause	Effect

Name _____ Date _____

2.

Land Breeze	
Cause	Effect

Seasonal Weather Changes

In this activity, you will practice your research skills. You will record data about seasonal temperature changes in the city you currently live.

1. Use approved sources provided by your teacher to research weather data.
2. Identify the average high temperature for four months, which represent the four seasons of the year for your city. Identify the average low temperature for four months, which represent the four seasons of the year for your city. Record your data in the table below.

Month	High	Low
March		
June		
September		
December		

2. Do you see any seasonal weather patterns in temperature? Use the data in the table to describe the weather patterns.

Name _____

Date _____

Weather Hazards

In this activity, you will learn about how tornadoes form. You will also learn about a region in the United States called "Tornado Alley."

Tornadoes happen all over Earth. Many tornadoes reported occur in a region of the United States called "Tornado Alley." This region includes parts of Texas, Oklahoma, Nebraska, Iowa, Kansas, and South Dakota. Tornadoes also happen in parts of states that surround Tornado Alley. Why are there so many reported tornadoes in this region?

The weather patterns of Tornado Alley cause tornadoes to form. Huge bodies of air, called air masses, move in from three directions. Cold, dry air moves south from the northern states. Warm, wet air moves north from the Gulf of Mexico. Warm, dry air moves in east from the southwest states. The air masses meet. When the different types of air masses meet, they cause violent thunderstorms called supercells. The supercells cause clouds to rotate. When the rotating cloud touches Earth, a tornado is born!

1. What three weather patterns cause tornadoes to form?

Name _____ Date _____

2. What is a supercell? How does it turn into a tornado?

Climates

In this activity, you will learn about how El Niño, a certain climate pattern, causes climate change. Then, you will use a graphic organizer to identify cause and effects of El Niño.

About every three to seven years, warm water moves across the Pacific from east to west. The warm ocean water flows towards the west coast of North America, when it usually does not. The change in water flow disturbs ocean currents. The warm water changes wind patterns around the world. This disturbance in ocean currents and wind patterns is called El Niño.

As a result, climate patterns can change. In the United States, El Niño causes heavy rainfall and higher temperatures. This especially happens along the west coast. The heavy rainfall often results in flooding. In the eastern United States, temperatures are also warmer than average. Sometimes this results in heat waves. The last El Niño happened in 2015 to 2016.

1. In the graphic organizer, write the causes and effects of El Niño.

El Niño	
Cause	Effect

Climate Change

In this activity, you will discover that scientists learn about climate change by studying ice cores. Then, you will use a graphic organizer to record the main idea and two supporting details of the passage.

Many parts of Earth are covered with large sheets of ice. Antarctica is a continent that lies at Earth’s South Pole. It is covered with Earth’s largest ice sheet. Glaciers also move across Antarctica. They end on land or at the edge of the sea. Scientists can learn a lot about how Earth has changed by studying the ice. To do this, they drill into the ice with long, hollow tubes. The tubes contain samples called ice cores.

The ice core samples can reach from 100 meters to 3,000 meters. They show what Earth was like thousands of years ago. For example, scientists found frozen air bubbles in the ice cores. The air bubbles contained carbon dioxide, a gas in Earth’s air. The bubbles showed that there was less carbon dioxide, in air on Earth, thousands of years ago than today. This evidence from the ice cores helps scientists understand how Earth’s air has changed.

Main Idea	
Supporting Detail	Supporting Detail