

# ALL IN ONE

# SCIENCE NOTEBOOK



10  
Free  
Templates  
& Preview

# SAMPLER

# TERMS OF USE

Copyright 2012 The Science Penguin Incorporated  
Updated 2021.

All rights reserved by author.

Permission to copy and upload for single classroom use only.  
Not for public display.

Respect the Digital Millennium Copyright Act (DMCA) by only using this resource for **your students on password protected sites such as Canvas, Google Classroom, and other password-protected digital learning platforms.**

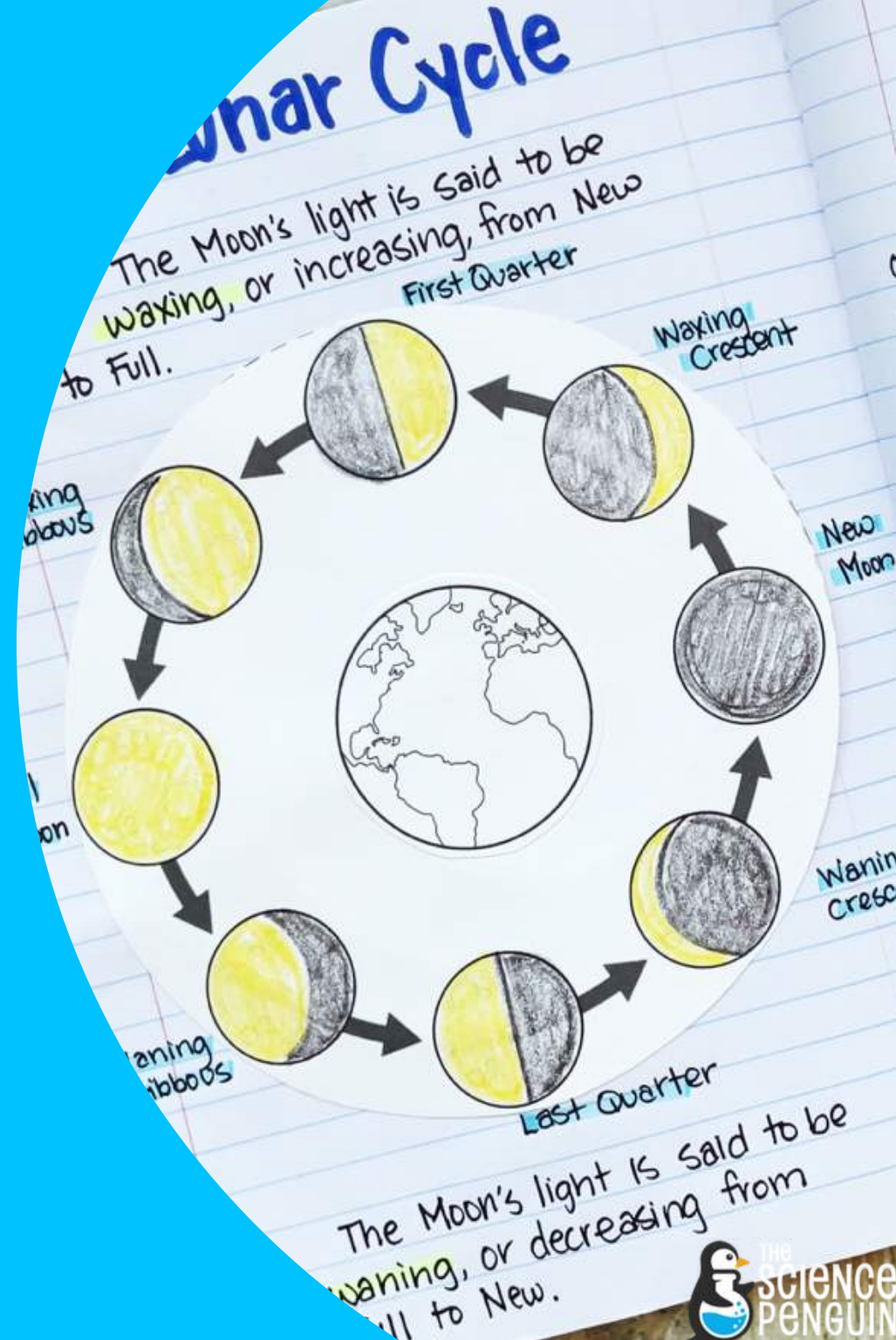
**Do not place this resource openly on the Internet, on shared district or campus drives, or on social media for others to access.**

**Do not share this resource** with other teachers without proper licensing.



# FREE TEMPLATES IN THIS SAMPLER

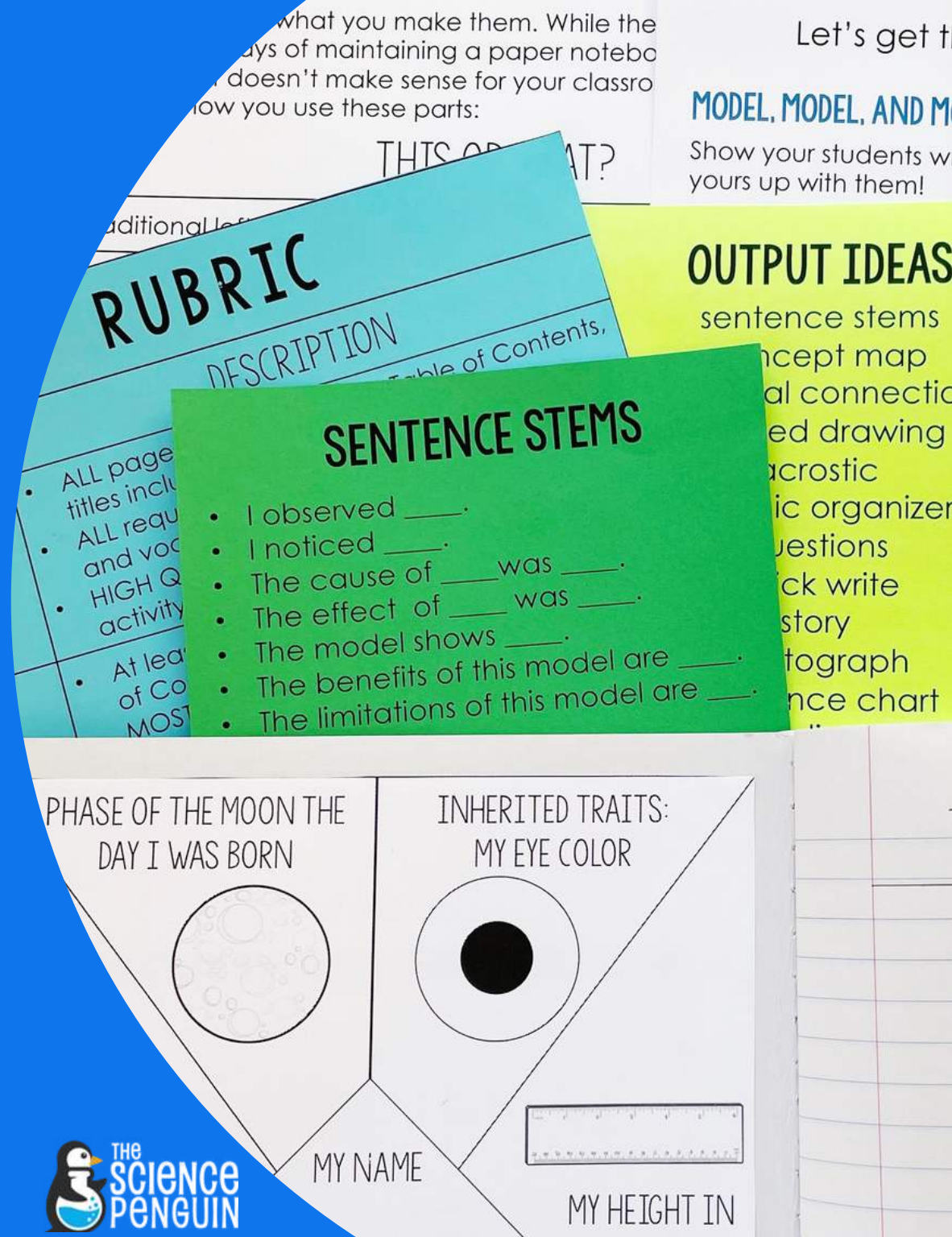
1. Lab Safety
2. Parts of a Graph
3. Photosynthesis
4. Types of Organisms
5. Desert Plant Structures
6. Solids
7. Build a Circuit
8. Simple Machines
9. Landforms Vocabulary
10. Lunar Cycle



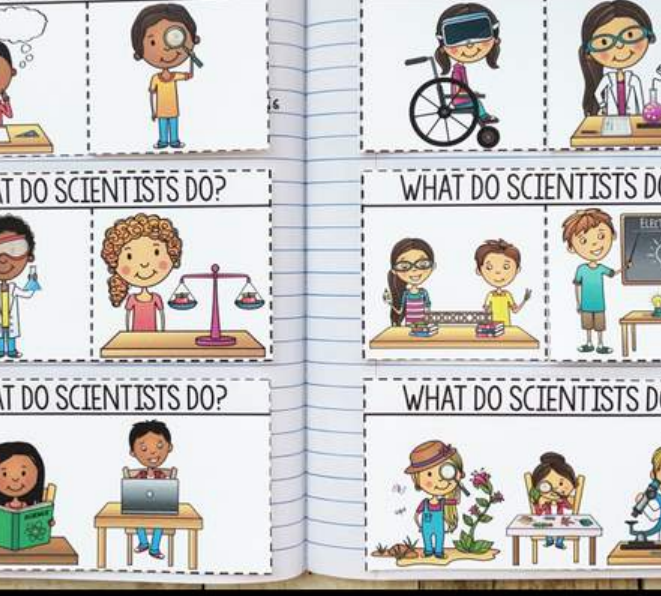
# YOUR NOTEBOOK INCLUDES

- Setting Up Your Science Notebook Guide & Printables
- All-around Templates to use time and again
- Scientific & Engineering Practices
- Life Science
- Earth & Space
- Energy, Force, & Matter

IDEAS FOR USE &  
PHOTOS FOR  
TEMPLATES



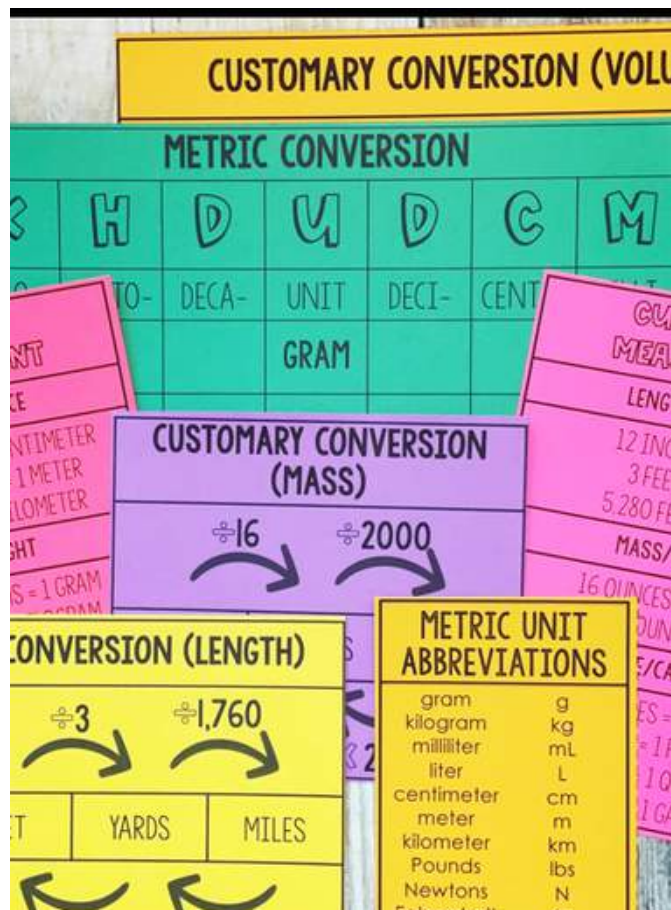
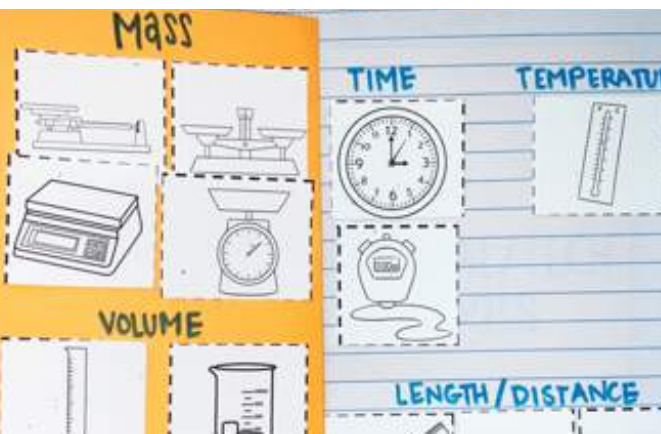




SCIENTISTS  
ENGINEERING  
TOOLS  
MODELS  
DATA  
BIG MONEY WORDS



TOOLS &  
SKILLS

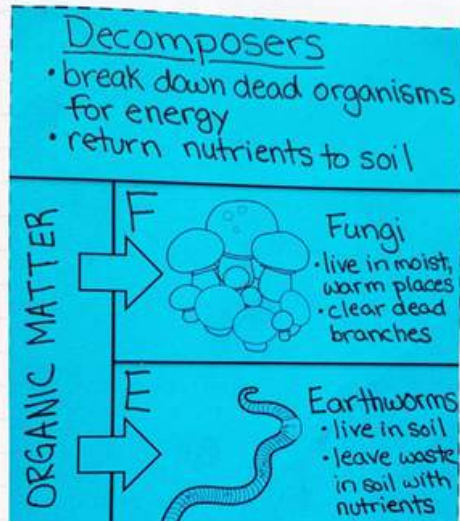


30  
TIME-SAVING  
TEMPLATES





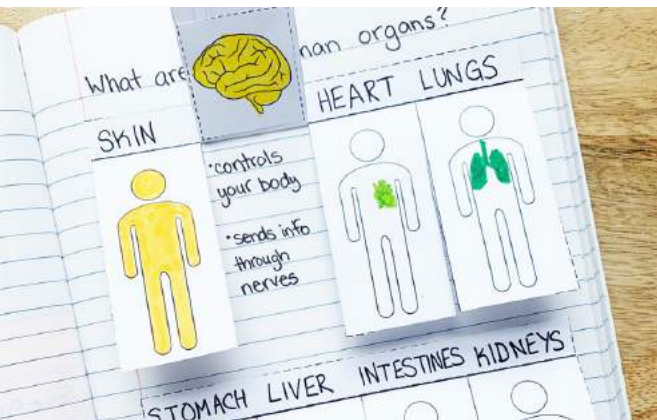
## Decomposers



PLANTS  
LIFE CYCLES  
ECOSYSTEMS  
TRAITS & BEHAVIORS  
ADAPTATIONS  
HUMAN BODY



# LIFE

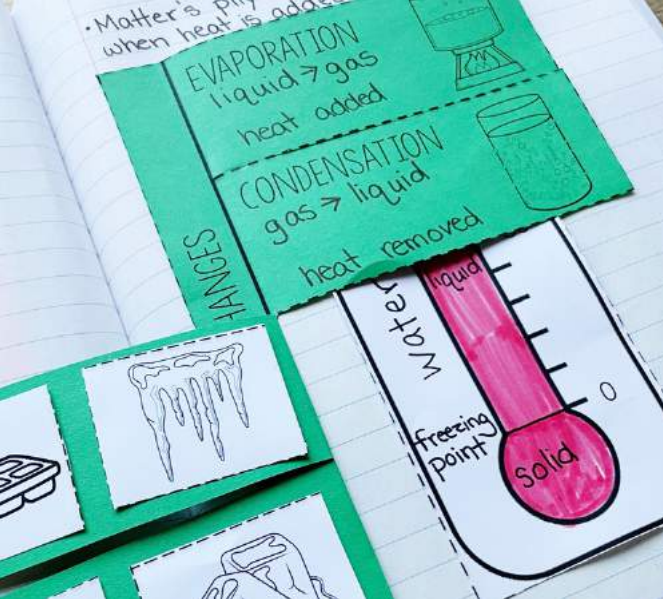


62  
TIME-SAVING  
TEMPLATES

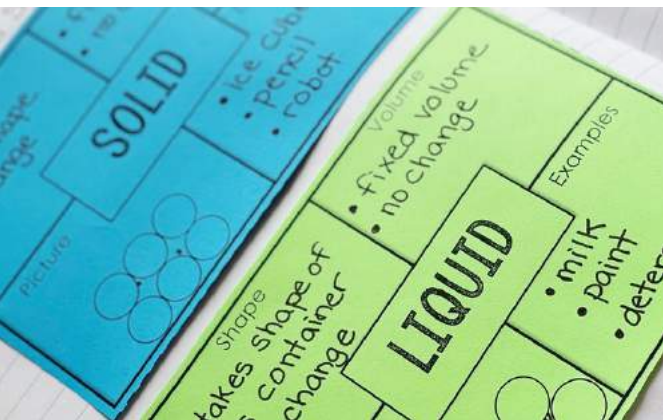
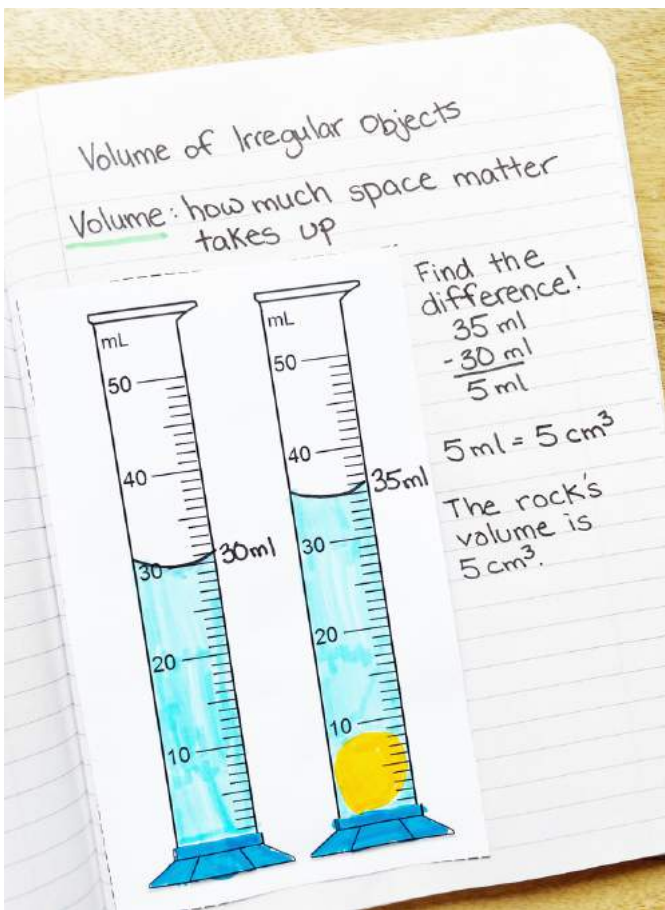
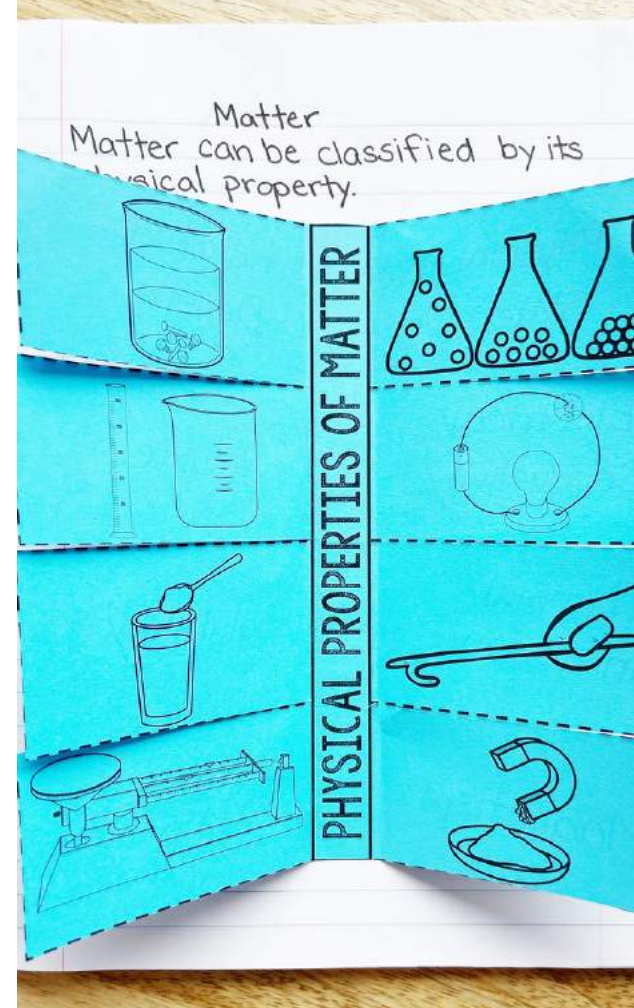




# MATTER



PHYSICAL PROPERTIES  
STATES OF MATTER  
CHANGES TO MATTER  
MIXTURES  
ELEMENTS



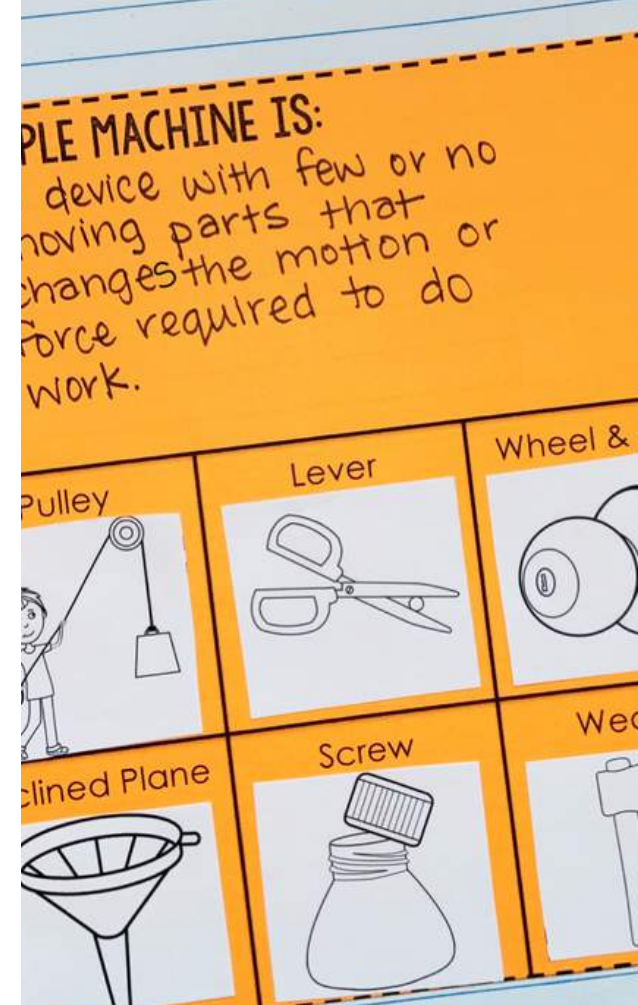
25  
TIME-SAVING  
TEMPLATES



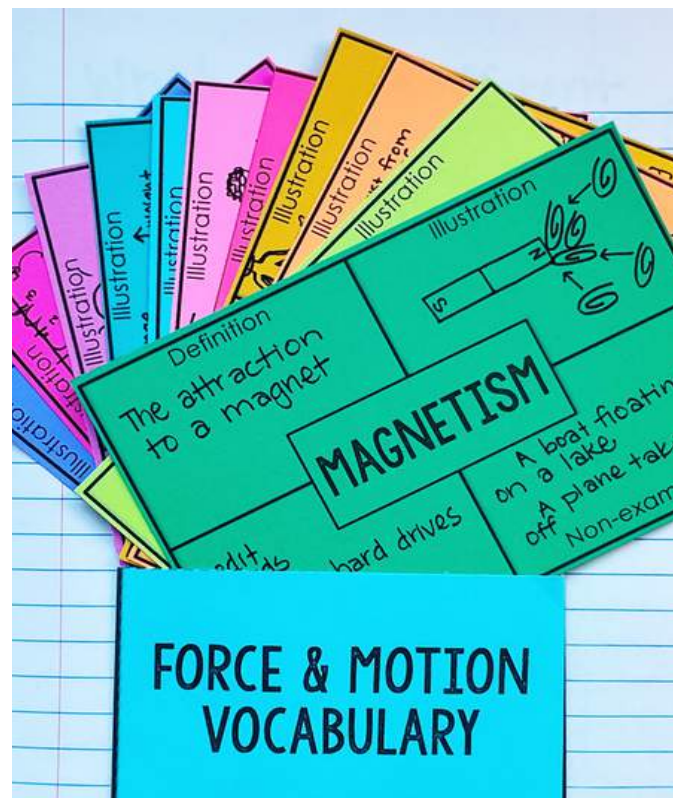
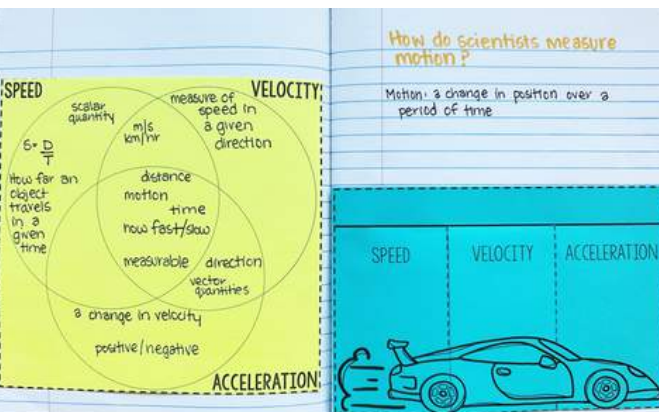


BALANCED	CHARACTERISTICS OF FORCES	UNBALANCED
CONTACT		NONCONTACT

FORCES  
 PATTERNS OF MOTION  
 SIMPLE MACHINES  
 FRICTION  
 MAGNETISM  
 GRAVITY  
 NEWTON'S LAWS



# FORCE



17  
**TIME-SAVING  
 TEMPLATES**

THE SCIENCE PENGUIN





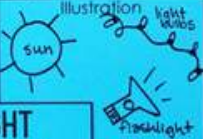



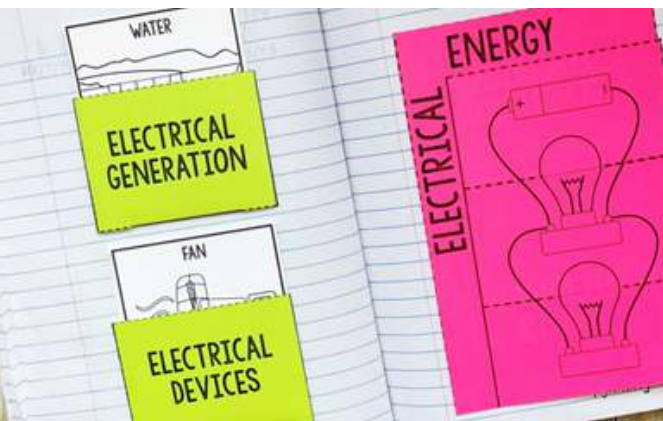
MECHANICAL	The energy of motion & moving parts. •chewing food •gears •pedaling a bike
SOUND	The energy of vibrations Energy we can hear •horn •sonar •whispering
ELECTRICAL	The energy of charged particles called electrons. •charging a phone •flashlight •toaster
LIGHT	Energy we can see. Energy of photons that travel in straight lines in waves. •sun •laser •fire
THERMAL	The total energy of moving particles that

USES OF ENERGY  
TRANSFORMATION  
WORK  
COLLISIONS  
CIRCUITS  
LIGHT

LIGHT ENERGY	THERMAL ENERGY	SOUND ENERGY
Wearing glasses to see better	Cooking smores over an open fire while camping	Clapping and yelling for the winning
Examining an insect with a hand lens	Using a toaster to make toast for breakfast	
	Wearing a hat, a pair of gloves, and a coat during the winter	A bo... echo... i...
Looking at distant planets through a telescope		o...

ENERGY

<p>Definition: all the articles up an</p> <p>Illustration: </p> <p><b>THERMAL ENERGY</b></p> <p>Examples: Sound waves, bird chirping, gears on bike</p> <p>Non-examples:</p>	<p>Definition: The energy of motion and moving parts</p> <p>Illustration: </p> <p><b>MECHANICAL ENERGY</b></p> <p>Examples: turbine blades spinning, cat running, ball rolling, hammering a nail</p> <p>Non-examples: sunlight, pot of hot soup, lion growl</p>
<p>Definition: Energy from motion of</p> <p>Illustration: </p> <p><b>ELECTRICAL ENERGY</b></p> <p>Examples: bird flying, ice cubes, riding a bike, sunshine</p> <p>Non-examples:</p>	<p>Definition: Energy stored in the bonds of chemical compounds. Released during chemical reactions.</p> <p>Illustration: </p> <p><b>CHEMICAL ENERGY</b></p> <p>Examples: combustion, digestion, photosynthesis, hot packs</p> <p>Non-examples: bird flying, playing a flashlight, turbine spin</p>
<p>Definition: Energy of use</p> <p>Illustration: </p> <p><b>LIGHT ENERGY</b></p> <p>Examples: sun, lava, light bulbs</p>	<p>Definition: Energy produced by vibrating sound waves</p> <p>Illustration: </p> <p><b>SOUND ENERGY</b></p> <p>Examples: strumming a guitar, SONAR, flashlight, solar panel</p>



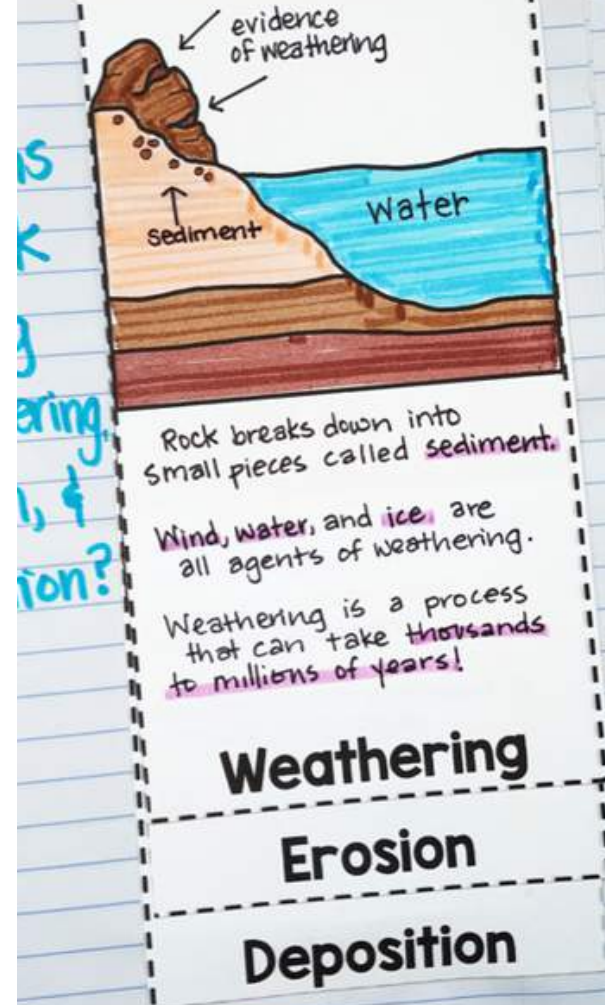
33  
TIME-SAVING  
TEMPLATES



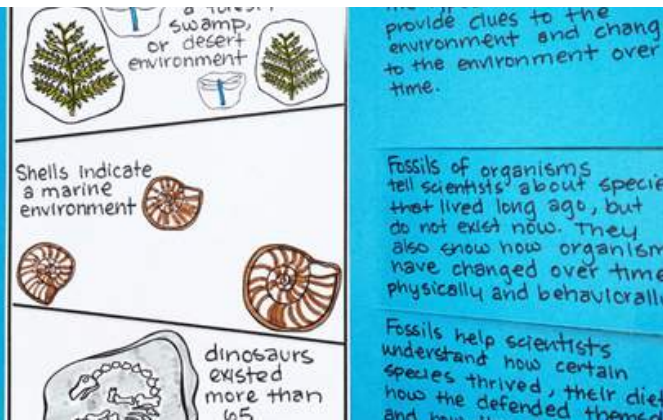
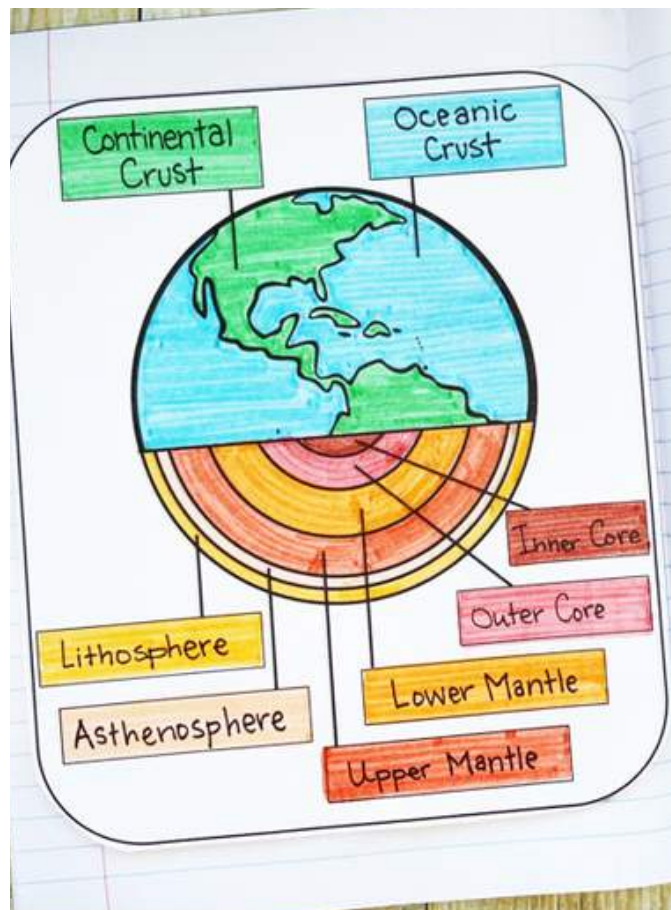


microorganisms over millions of years.  
**Natural Gas:** a gaseous energy resource that forms near oil deposits  
**Fossil Fuel:** A source of energy that forms over millions of years from ancient plants and microorganisms.

EARTH'S SYSTEMS  
 WEATHER & CLIMATE  
 WATER CYCLE  
 EARTH'S CHANGES  
 NATURAL RESOURCES  
 ROCKS & SOIL



# EARTH



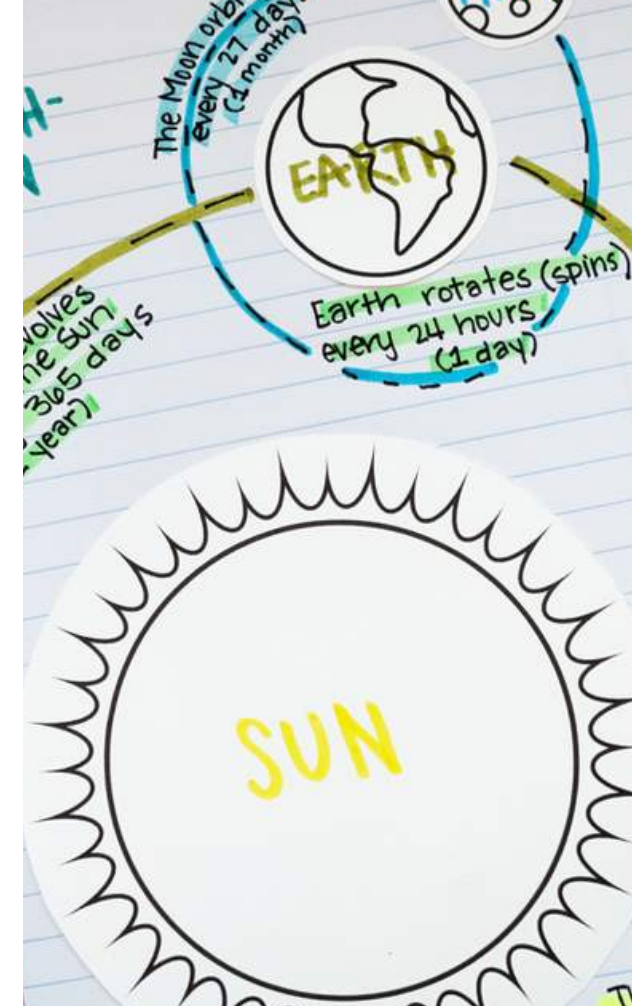
58  
 TIME-SAVING  
 TEMPLATES



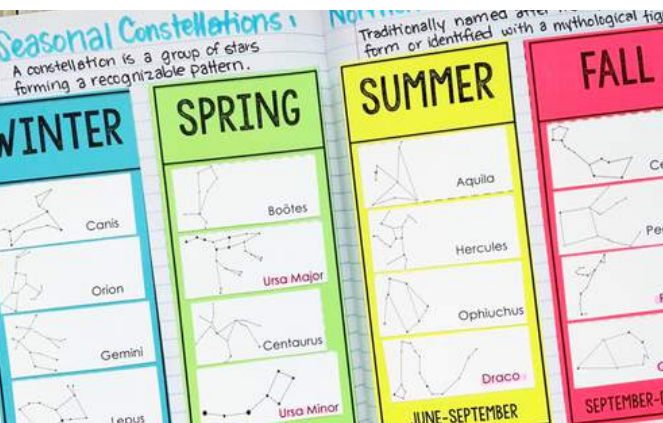
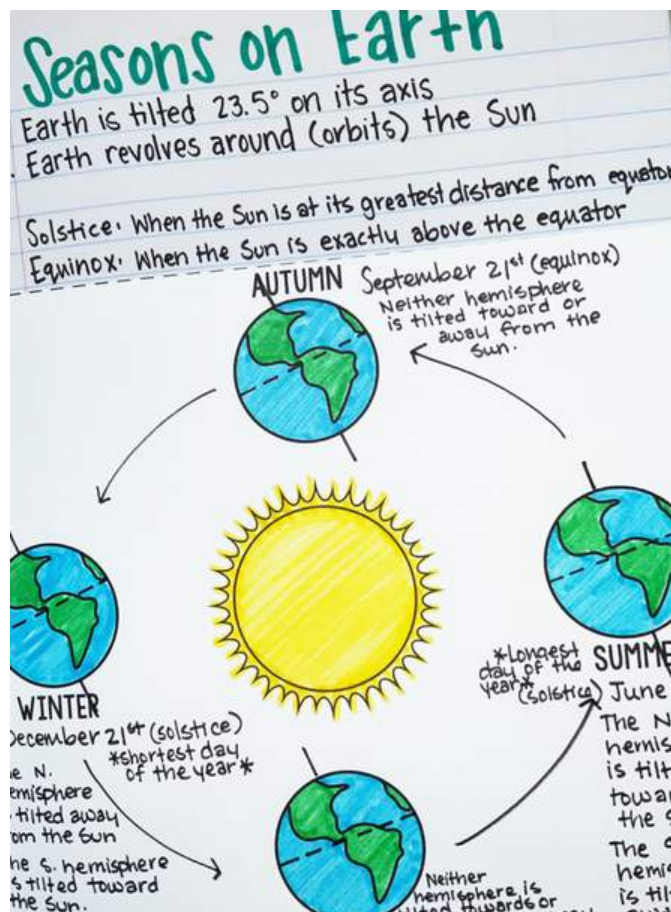




# PLANETS SUN-EARTH-MOON LUNAR CYCLE DAY & NIGHT SEASONS TIDES



# SPACE



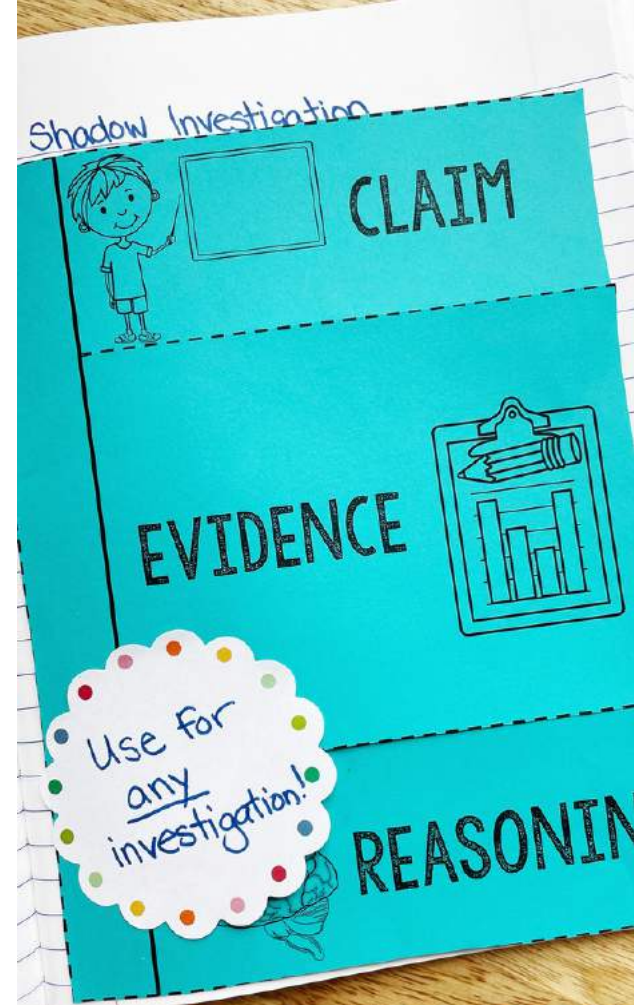
# 18 TIME-SAVING TEMPLATES



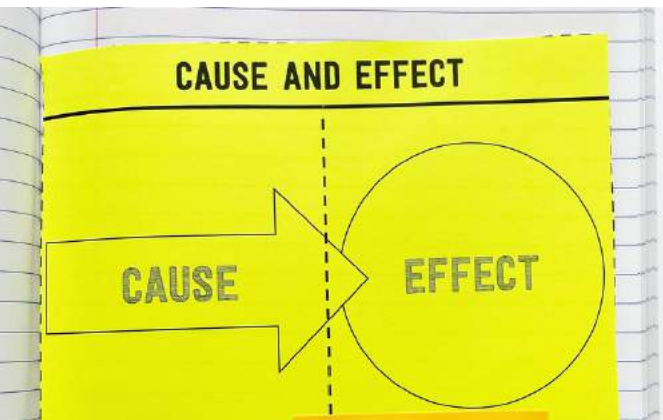




SCIENTIFIC METHOD  
C-E-R  
CAUSE & EFFECT  
OBSERVATIONS  
COLLECTING DATA  
BLANK TEMPLATES



ALL-  
AROUND



23  
TIME-  
SAVING  
TEMPLATES

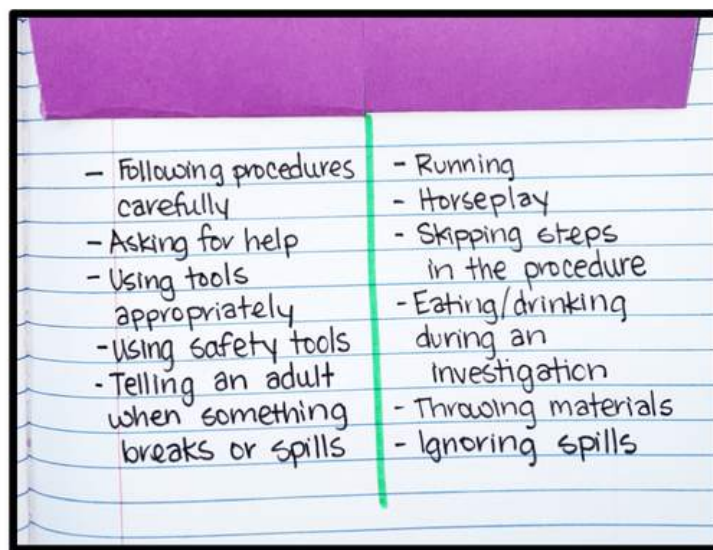
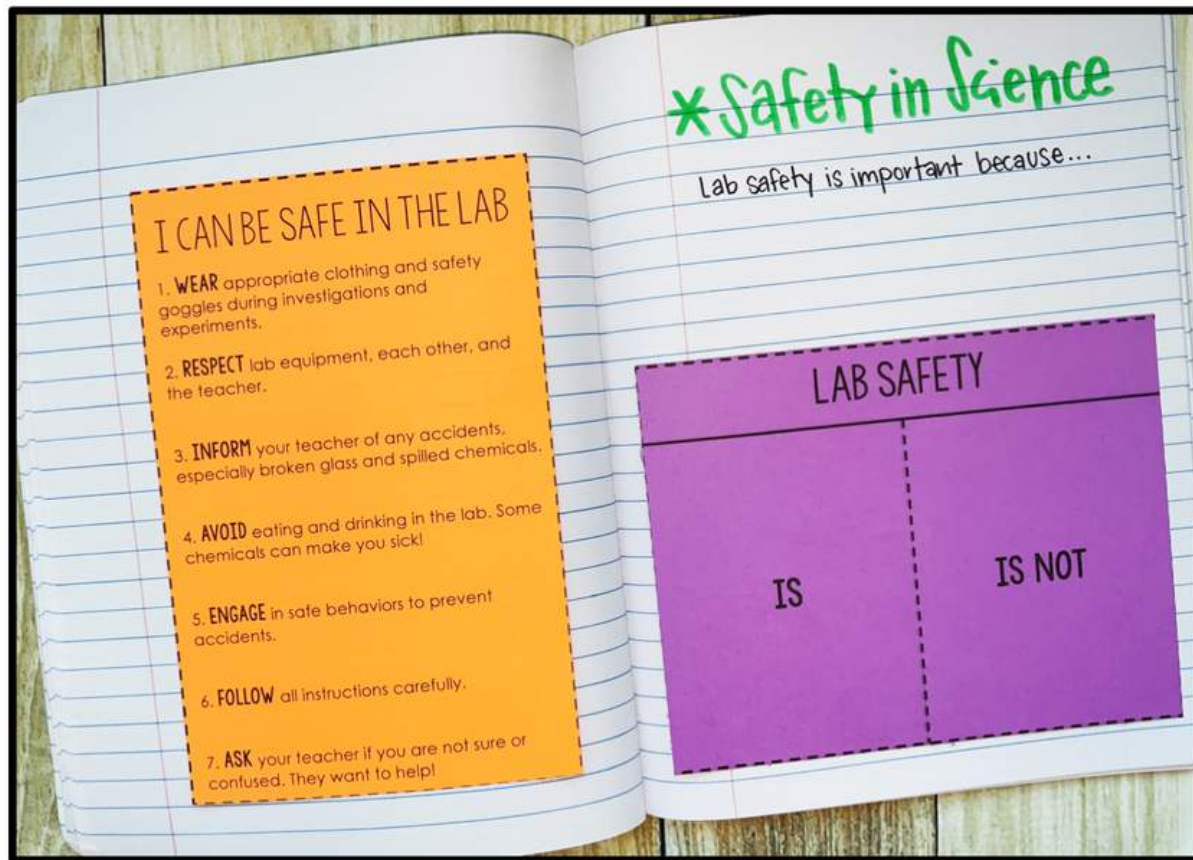




# LAB SAFETY

## IDEAS:

- Glue rules into science notebook
- Discuss each rule, including consequences of broken rules
- Have students draw themselves being safe in the lab. Use labels to indicate how they are being safe.
- Pair with Lab Safety Is/Is Not and classify actions as safe and unsafe
- Have students choose one rule and explain why it is important to follow



## LAB SAFETY

### I CAN BE SAFE IN THE LAB

1. **WEAR** appropriate clothing and safety goggles during investigations and experiments.
2. **RESPECT** lab equipment, each other, and the teacher.
3. **INFORM** your teacher of any accidents, especially broken glass and spilled chemicals.
4. **AVOID** eating and drinking in the lab. Some chemicals can make you sick!
5. **ENGAGE** in safe behaviors to prevent accidents.
6. **FOLLOW** all instructions carefully.
7. **ASK** your teacher if you are not sure or confused. They want to help!

## LAB SAFETY

### I CAN BE SAFE IN THE LAB

1. **WEAR** appropriate clothing and safety goggles during investigations and experiments.
2. **RESPECT** lab equipment, each other, and the teacher.
3. **INFORM** your teacher of any accidents, especially broken glass and spilled chemicals.
4. **AVOID** eating and drinking in the lab. Some chemicals can make you sick!
5. **ENGAGE** in safe behaviors to prevent accidents.
6. **FOLLOW** all instructions carefully.
7. **ASK** your teacher if you are not sure or confused. They want to help!



LAB SAFETY

LAB SAFETY	IS NOT
IS	

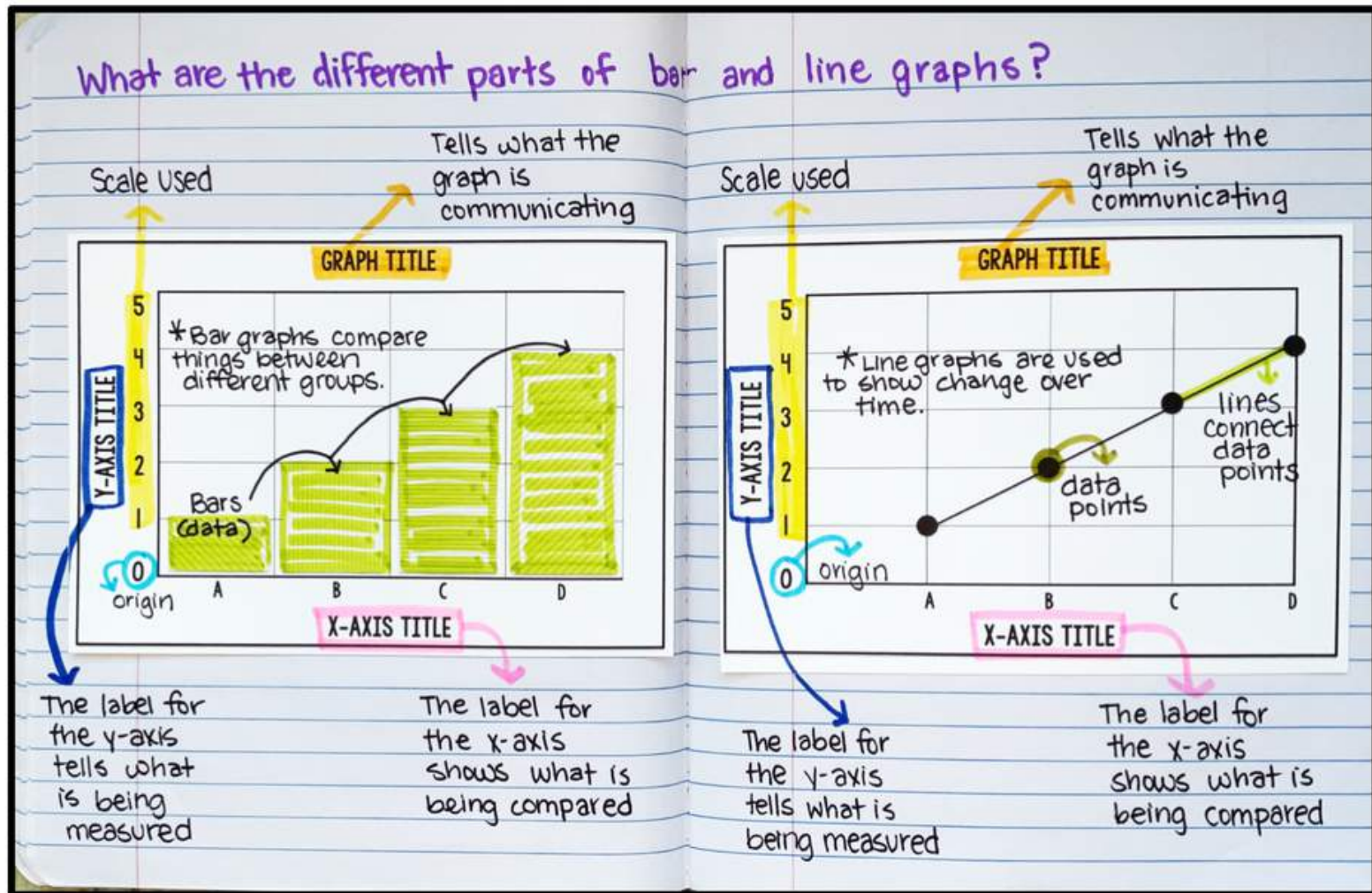
LAB SAFETY

LAB SAFETY	IS NOT
IS	

# PARTS OF A GRAPH

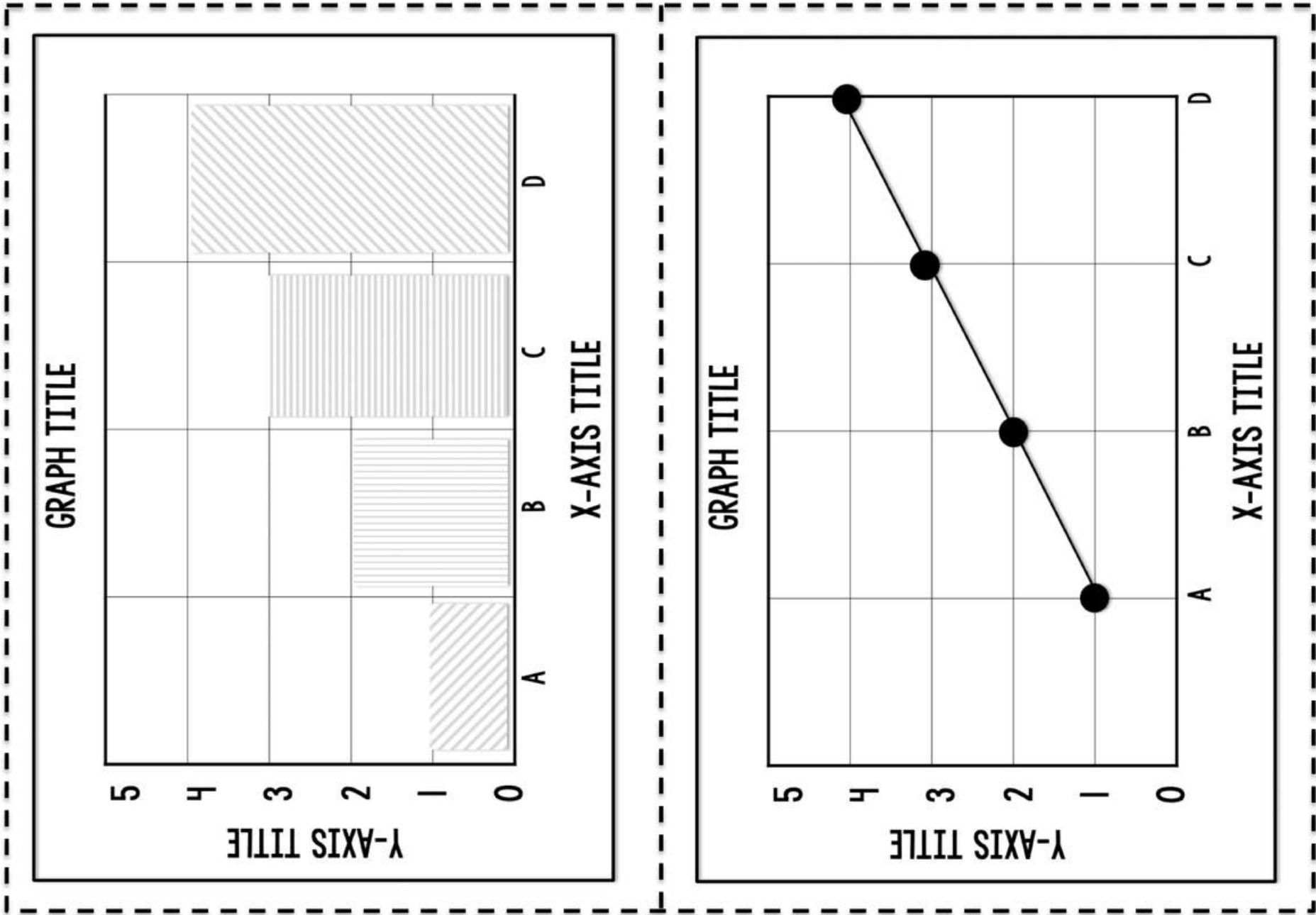
## IDEAS:

- Includes bar graph and line graph
- Locate and label each part of the graph
- Compare and contrast bar graphs and line graphs





# PARTS OF GRAPHS- BAR GRAPHS

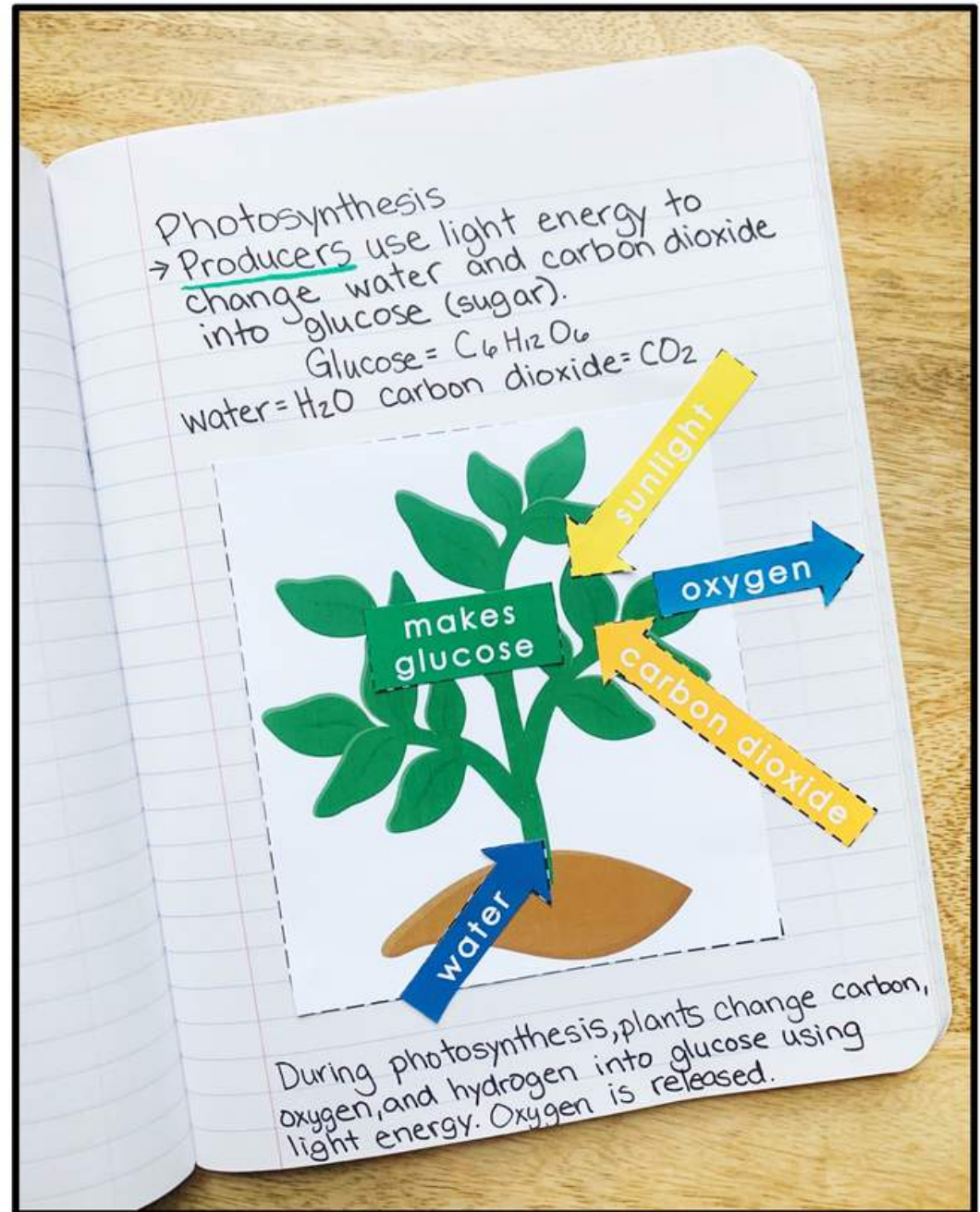


# PHOTOSYNTHESIS

## IDEAS:

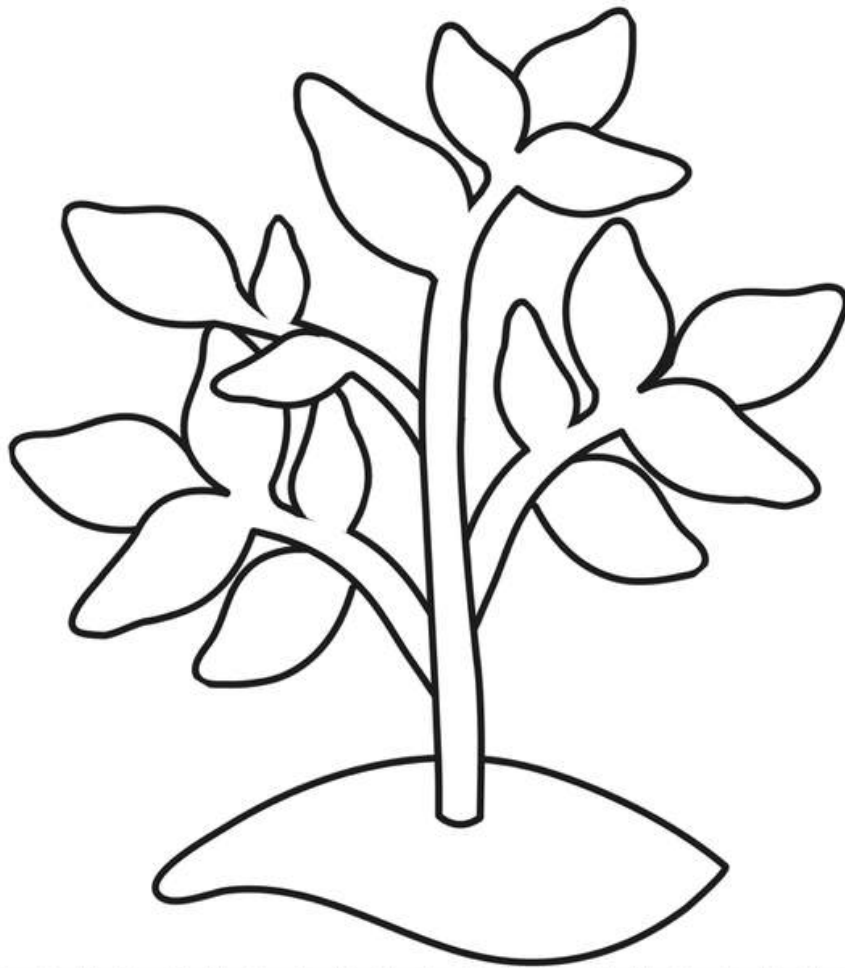
- Choose cut-and-paste or flat page option
- Build a diagram that shows the process of photosynthesis
- Include the chemical formulas for water, carbon dioxide, oxygen, and perhaps glucose
- Describe how matter changes during photosynthesis

TWO  
OPTIONS  
AVAILABLE





# PHOTOSYNTHESIS



oxygen

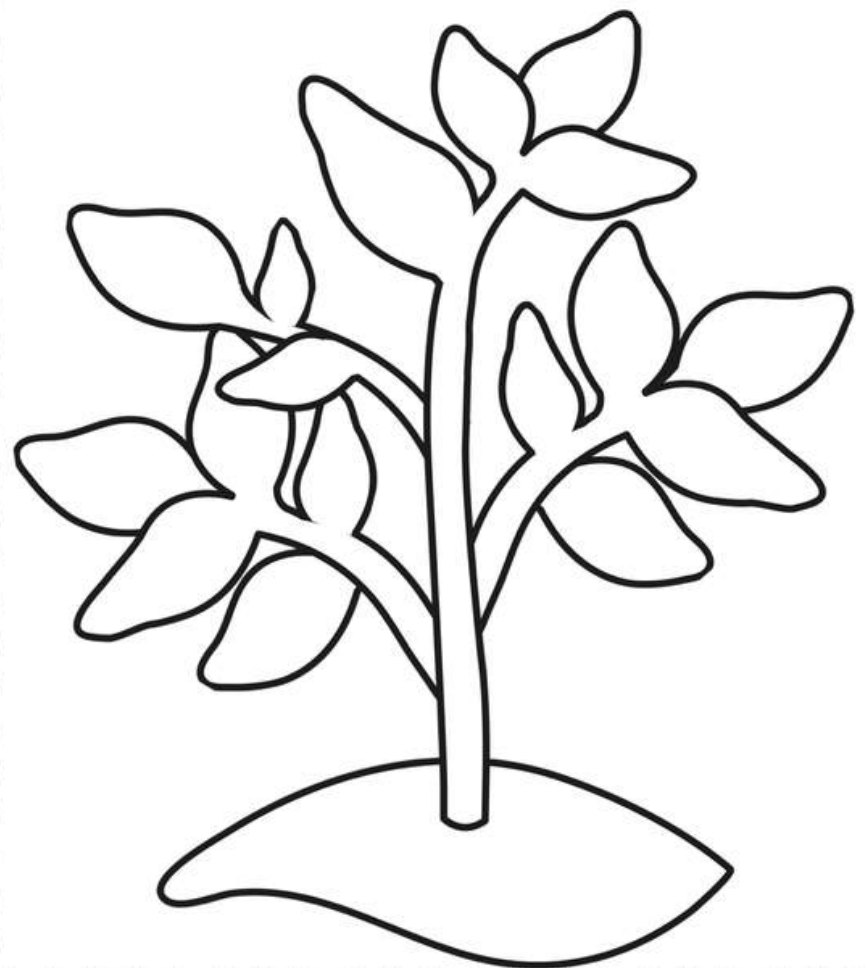
water

carbon dioxide

makes  
glucose

sunlight

# PHOTOSYNTHESIS



oxygen

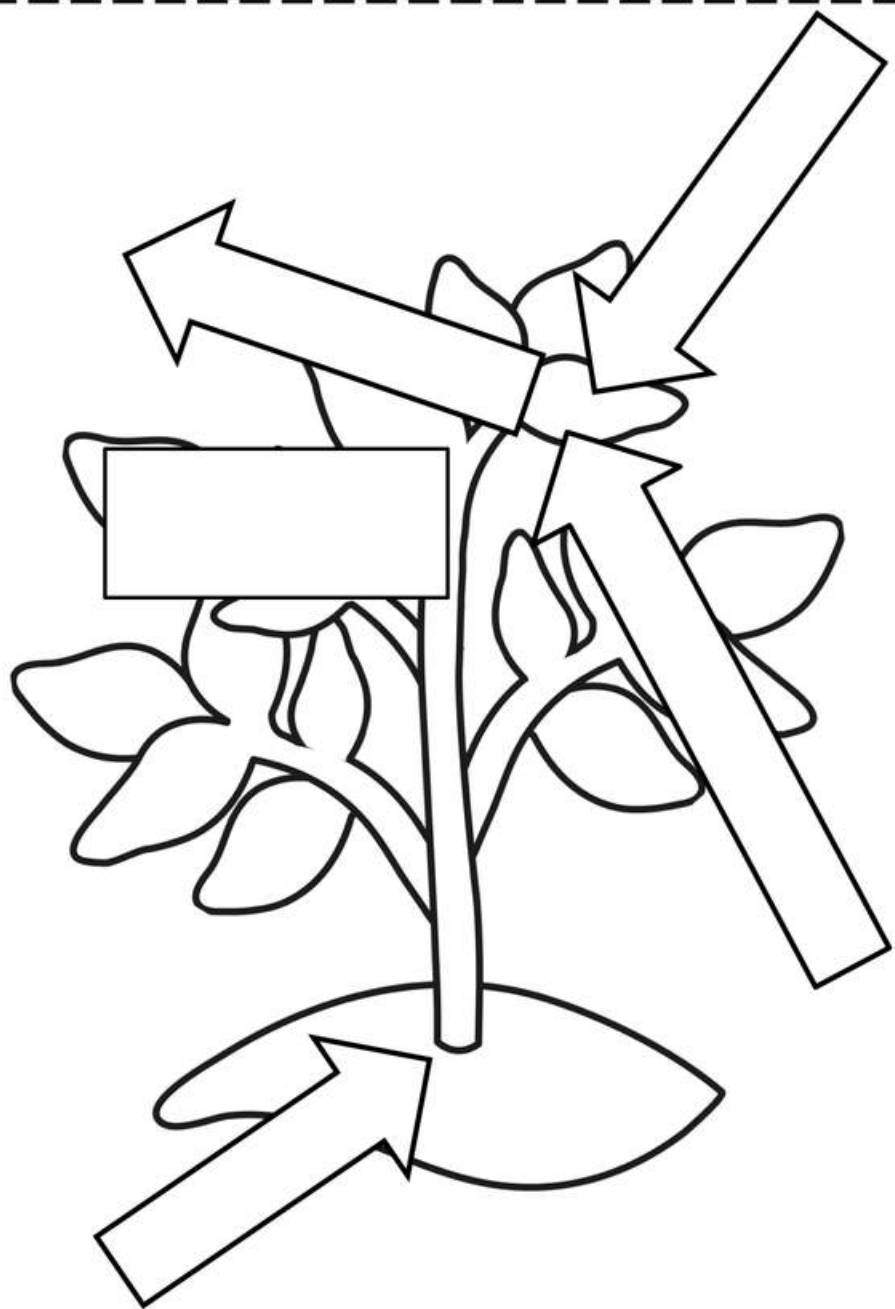
water

carbon dioxide

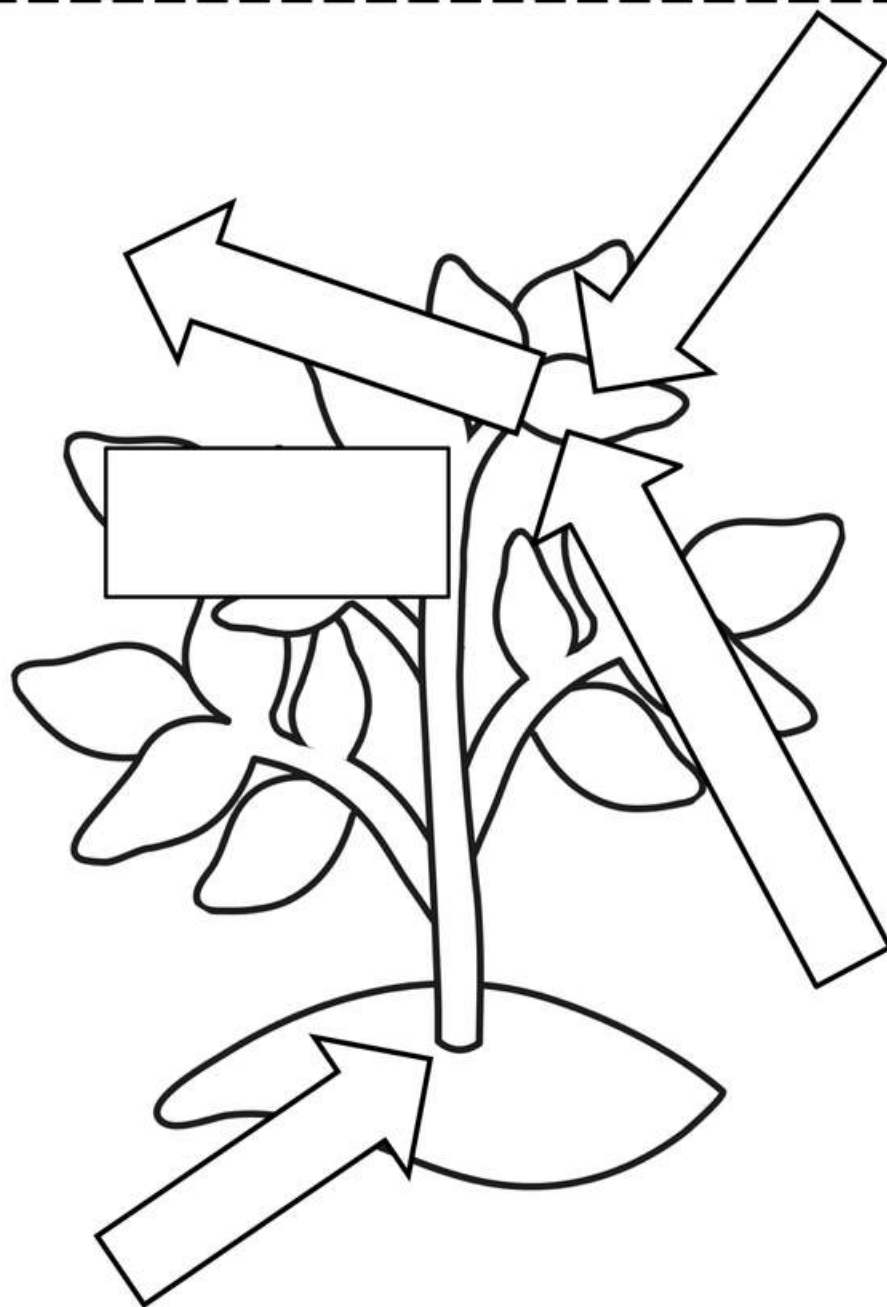
makes  
glucose

sunlight

# PHOTOSYNTHESIS



# PHOTOSYNTHESIS





# TYPES OF ORGANISMS

## IDEAS:

- Instead of using the fold-up, draw a T-chart
- Define the terms
- Identify the source of energy for each type of organism
- Color the cards
- Sort the optional cards
- Compare and contrast consumers and producers

Types of Organisms (living things) can be classified by how they obtain energy.

TYPES OF ORGANISMS		
PRODUCERS	CONSUMERS	DECOMPOSERS
Energy Source: Sun	Energy Source: Organisms	Energy Source: Decaying organic matter

<p>Pine tree</p> 	<p>Bobcat</p> 	<p>Mushrooms</p> 
<p>Algae</p> 	<p>Caterpillar</p> 	<p>Earthworm</p> 
<p>Oak leaves</p> 	<p>Cactus wren</p> 	<p>Bacteria</p> 
Living things that make their own food during photosynthesis	Living things that eat other living things	Get nutrients by breaking down dead plants and animals

# TYPES OF ORGANISMS

TYPES OF ORGANISMS		
PRODUCERS	CONSUMERS	DECOMPOSERS

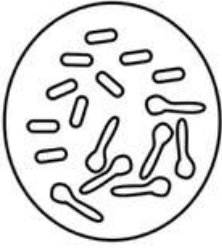
# TYPES OF ORGANISMS

TYPES OF ORGANISMS		
PRODUCERS	CONSUMERS	DECOMPOSERS



# ORGANISM CARDS

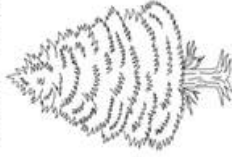
Bacteria



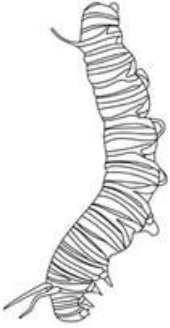
Oak leaves



Pine tree



Caterpillar



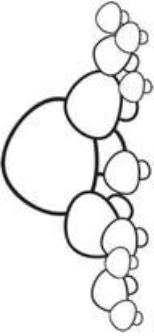
Earthworm



Bobcat



Mushrooms



Algae

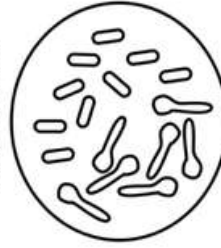


Cactus wren



# ORGANISM CARDS

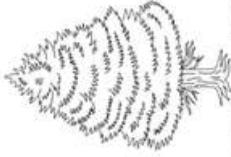
Bacteria



Oak leaves



Pine tree



Caterpillar



Earthworm



Bobcat



Mushrooms



Algae



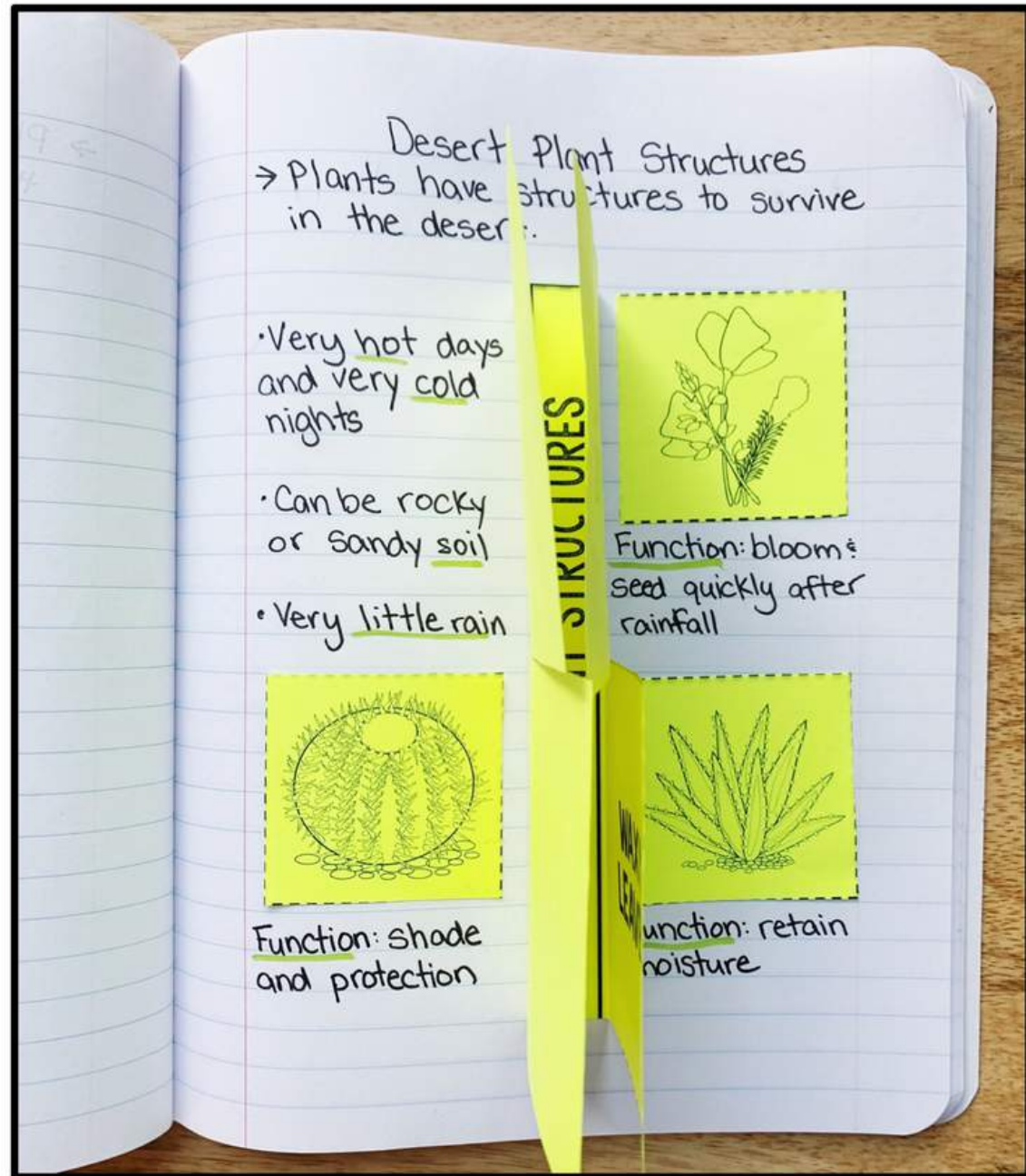
Cactus wren



# DESERT PLANT STRUCTURES

## IDEAS:

- Describe the desert environment
- Describe the function of each plant structure
- List adaptations found on cacti that help them survive a lack of rainfall (spines prevent animals from taking water, deep roots for groundwater, long, shallow roots to access surface water, dormancy, fleshy stems to store water, waxy leaves to prevent water loss)





# DESERT PLANT STRUCTURES & FUNCTIONS

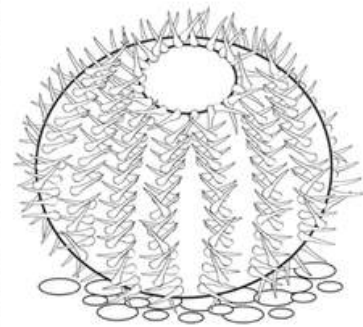
**ENVIRONMENT**

**DESERT PLANT STRUCTURES**

**ANNUAL  
FLOWERS**

**SPINES**

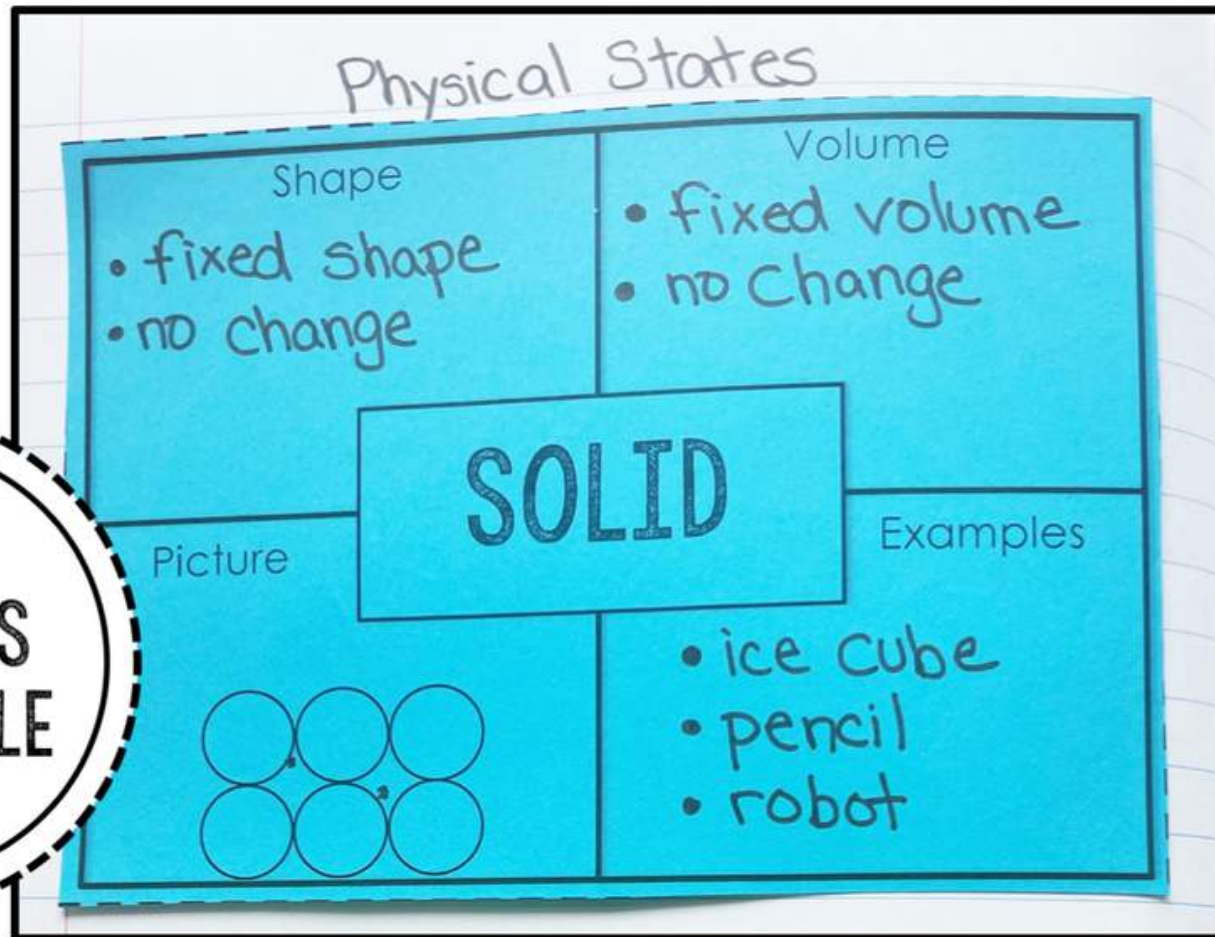
**WAXY  
LEAVES**



# SOLIDS

## IDEAS:

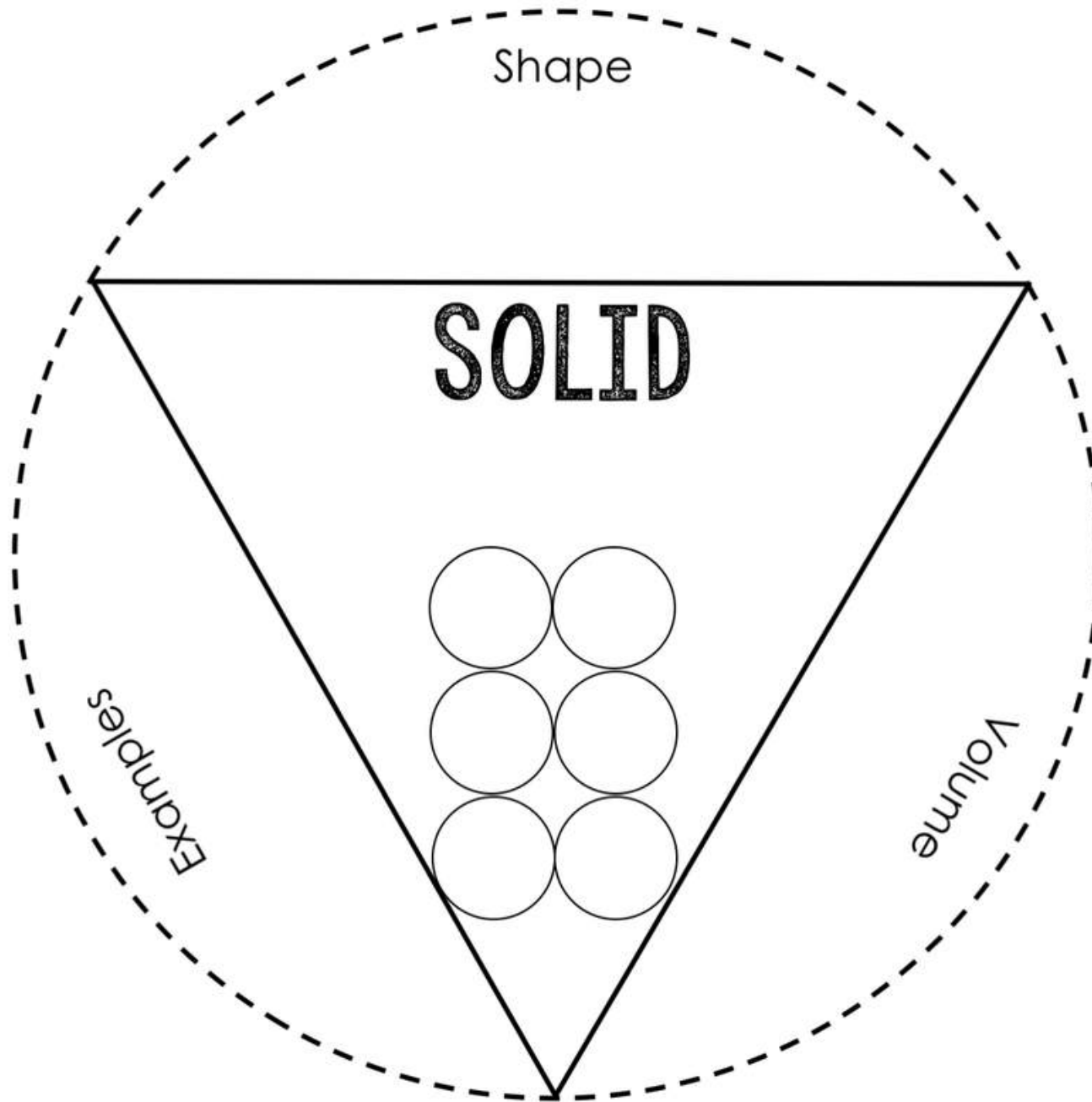
- Choose either the fold-up template or flat template
- Describe a solid's shape and volume
- List examples
- Draw arrows to show the movement of particles in a solid
- Explain why ice is a solid and liquid water is not a solid



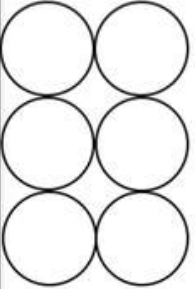
TWO  
OPTIONS  
AVAILABLE



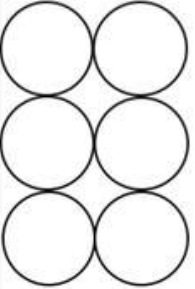
# SOLIDS



# SOLIDS

		<b>SOLID</b>	
Shape		Volume	
Picture		Examples	

# SOLIDS

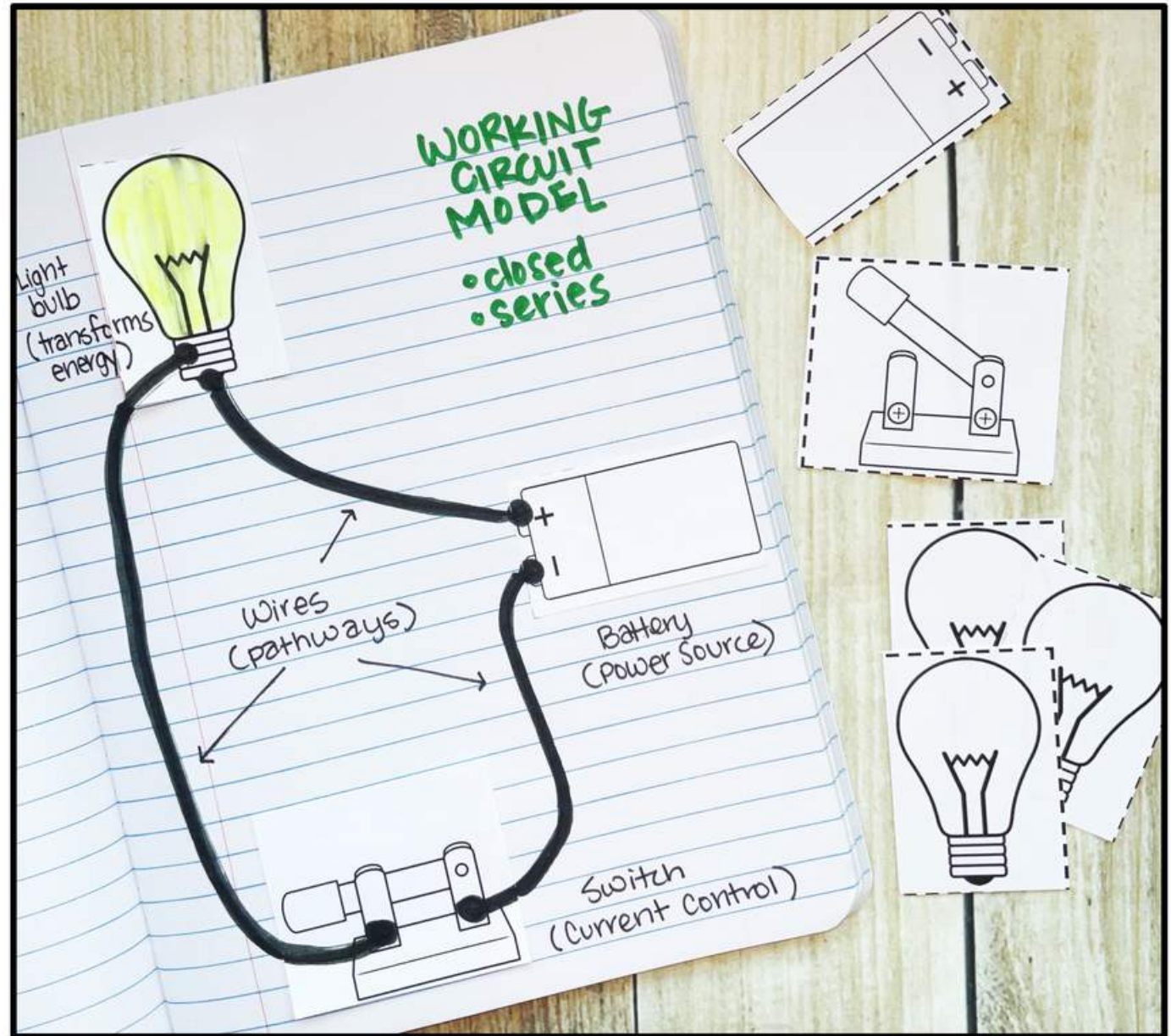
		<b>SOLID</b>	
Shape		Volume	
Picture		Examples	



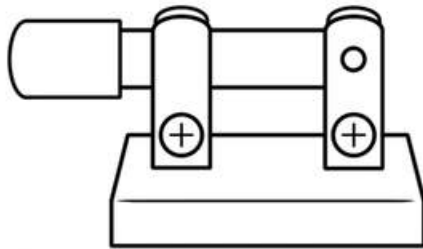
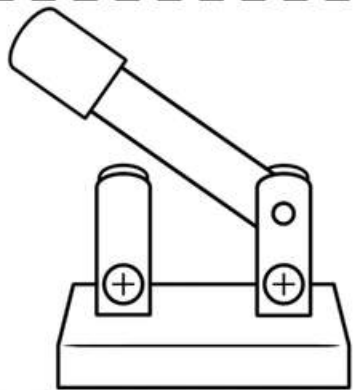
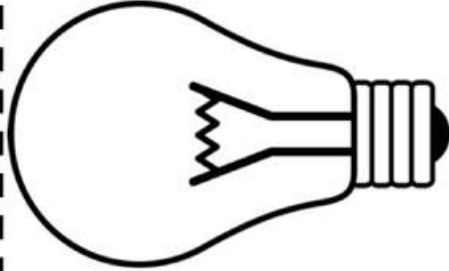
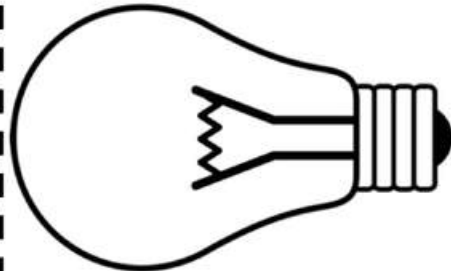
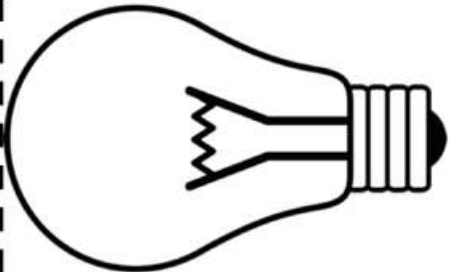
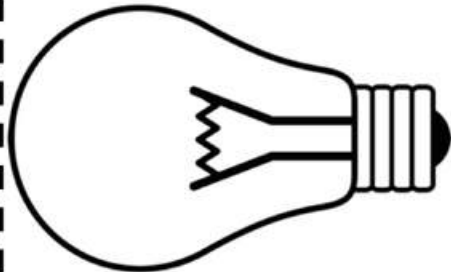
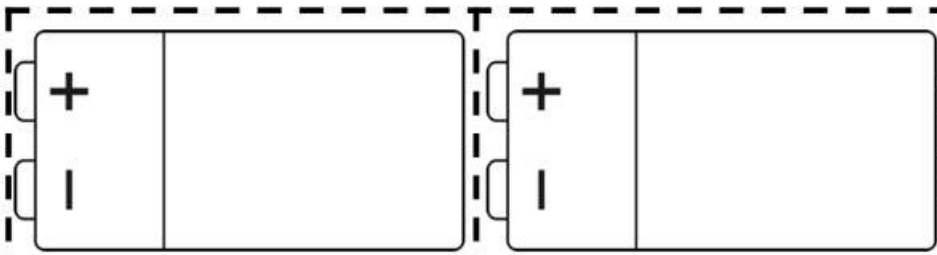
# BUILD YOUR OWN CIRCUIT MODEL

## IDEAS:

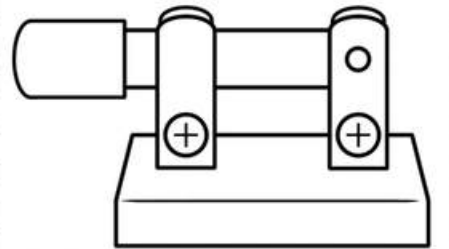
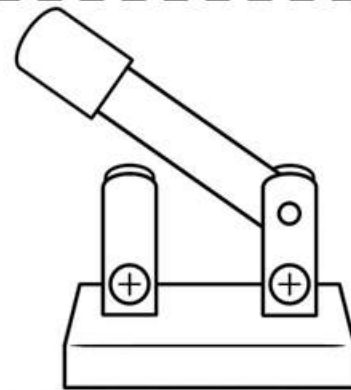
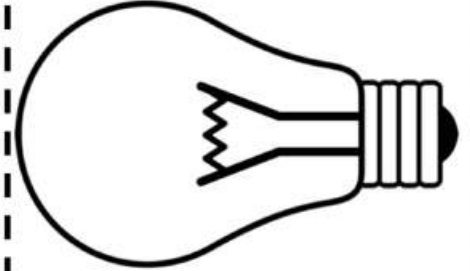
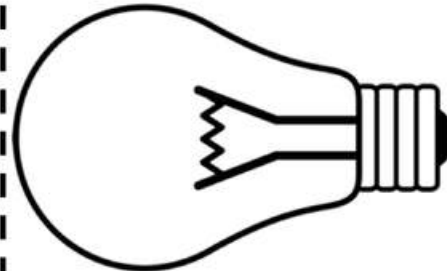
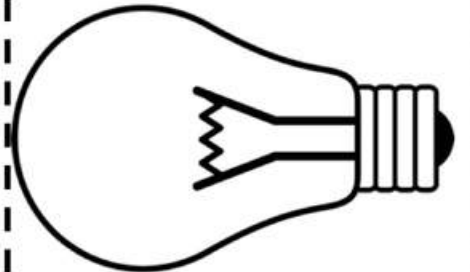
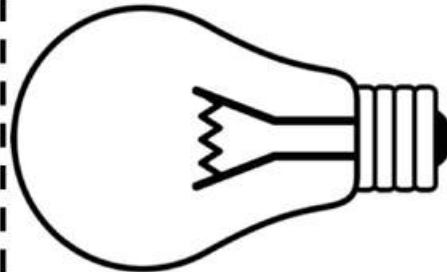
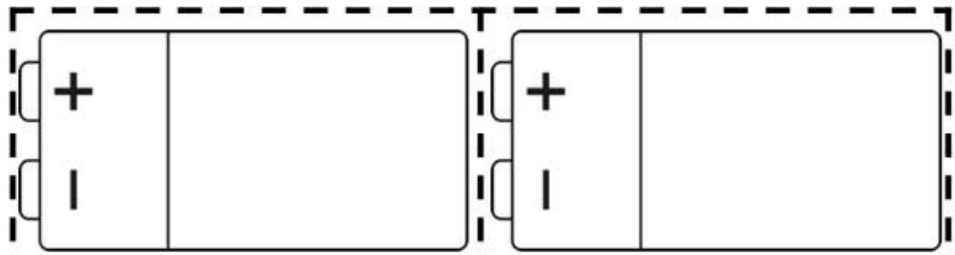
- Cut out the batteries, bulbs, and switches.
- Use pencil lines, yarn, string, or other materials to model the wire
- Try building the following circuits: open, closed, series, and parallel



# BUILD A CIRCUIT



# BUILD A CIRCUIT

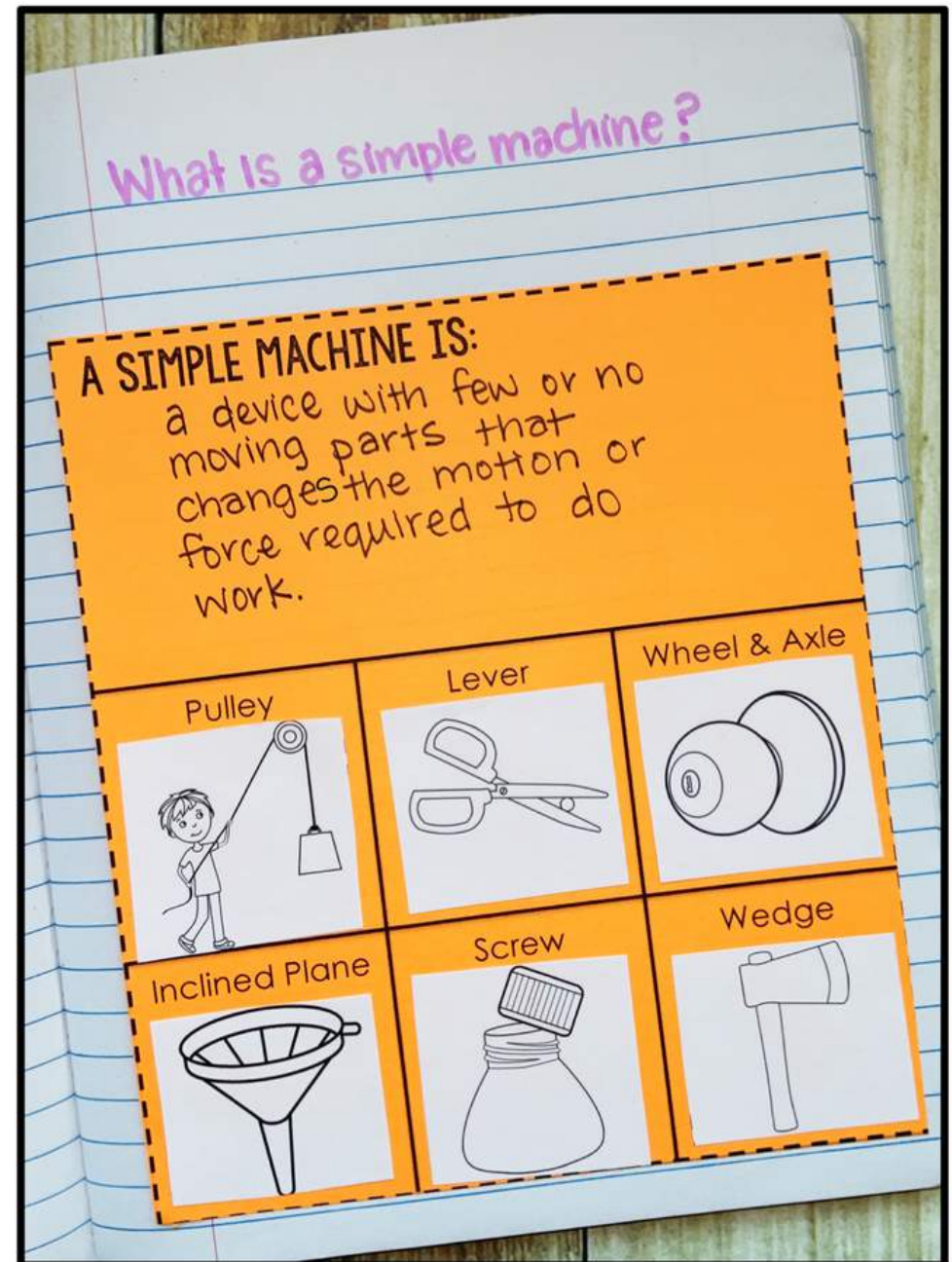




# WHAT IS A SIMPLE MACHINE?

## IDEAS:

- Define simple machine
- Match each image of a tool to the type of simple machine it represents
- Choose one simple machine and describe how it works in terms of force, distance, and work
- Explore your classroom or a space in your home- try to find 3 examples of each simple machine!



# WHAT IS A SIMPLE MACHINE?

A SIMPLE MACHINE IS:

Pulley

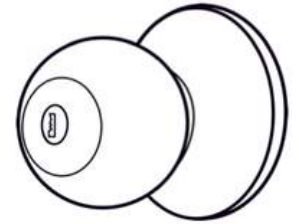
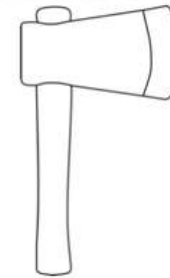
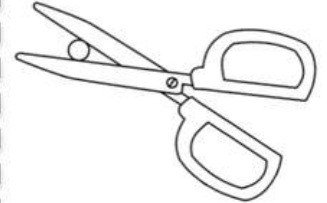
Lever

Wheel & Axle

Inclined Plane

Screw

Wedge

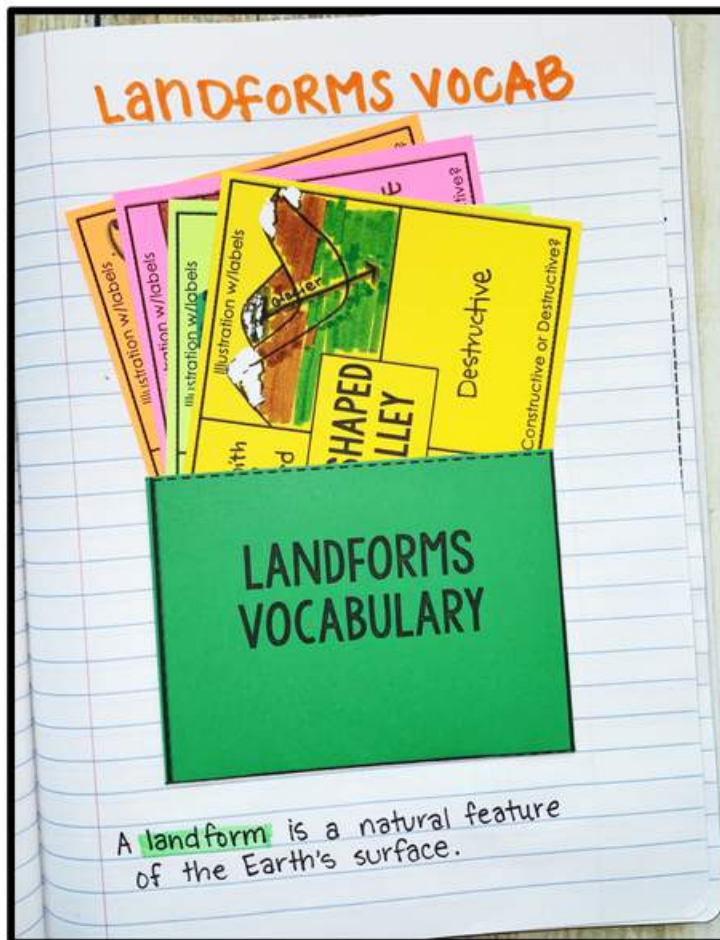




# LANDFORM VOCABULARY

## IDEAS:

- Complete each vocabulary card with a definition, an illustration, a description of its formation, and classify it as constructive or destructive
- On the back list other characteristics, names of well-known examples, and interesting facts



<b>Definition</b> A large area formed by the deposition of sediment in rivers. Found at the mouth of a river. ① Sediment eroded in river Water slows down as it nears the mouth ② Sediment is deposited over and over, building up over time. How do river deltas form?	<b>Illustration w/labels</b> 	<b>RIVER DELTA</b> Constructive Constructive or Destructive?
<b>Definition</b> A type of valley with a flat bottom and steep sides formed by glacial weathering & erosion 1. A glacier moves down a mountain, weathering rock as it moves 2. Rocks are eroded away leaving a trough How do U-shaped valleys form?	<b>Illustration w/labels</b> 	<b>U-SHAPED VALLEY</b> Destructive Constructive or Destructive?
<b>Definition</b> A hill or mound of sand formed by the erosion & deposition of sand by wind ① Sand is eroded by wind ② When the wind stops, sand is deposited How do sand dunes form?	<b>Illustration w/labels</b> 	<b>SAND DUNE</b> CONSTRUCTIVE Constructive or Destructive?
<b>Definition</b> A steep, narrow valley cut from the Earth by moving water (rivers, floods) ① Rock is weathered and eroded by rivers or frequent flash floods ② Over time, a v-shaped valley is cut into the Earth How do canyons form?	<b>Illustration w/labels</b> 	<b>CANYON</b> DESTRUCTIVE Constructive or Destructive?

Definition

Illustration w/labels

**CANYON**

How do canyons form?

Constructive or Destructive?

Definition

Illustration w/labels

**CANYON**

How do canyons form?

Constructive or Destructive?

Definition

Illustration w/labels

**CANYON**

How do canyons form?

Constructive or Destructive?

Definition

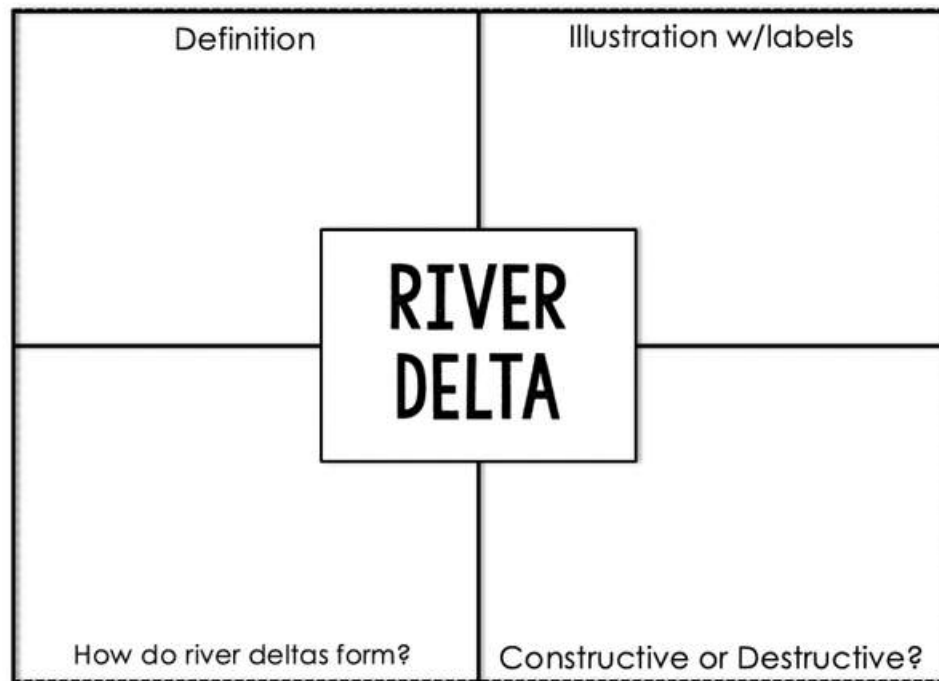
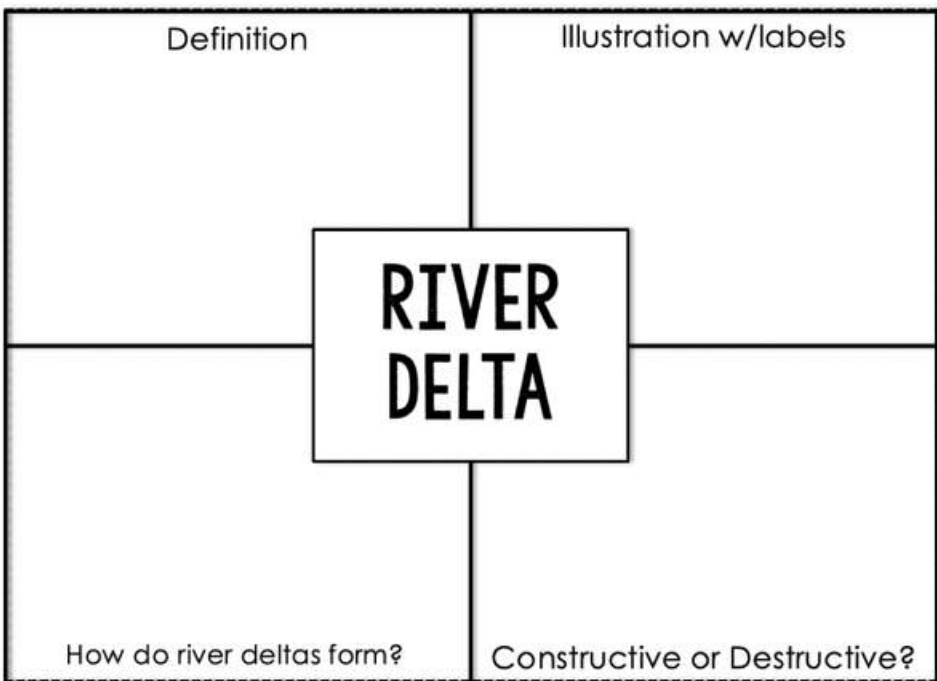
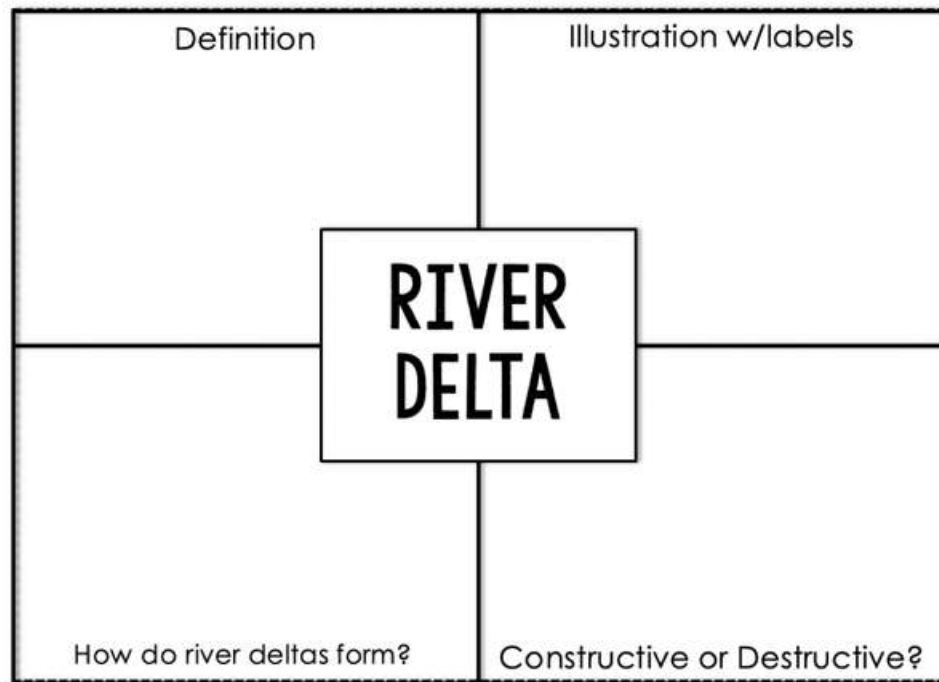
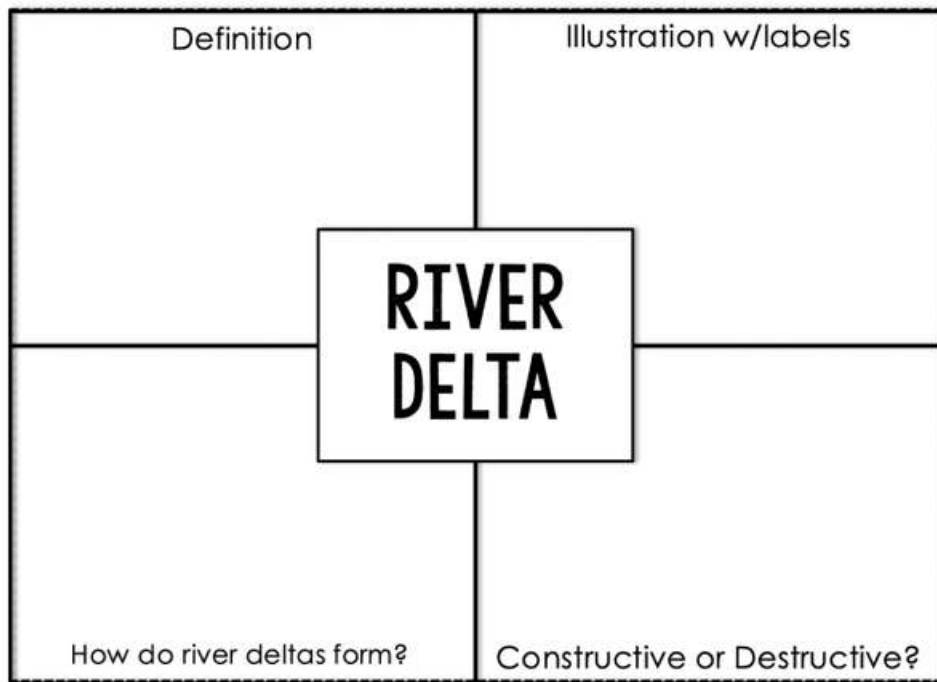
Illustration w/labels

**CANYON**

How do canyons form?

Constructive or Destructive?





Definition	Illustration w/labels
<b>U-SHAPED VALLEY</b>	
How do U-shaped valleys form?	Constructive or Destructive?

Definition	Illustration w/labels
<b>U-SHAPED VALLEY</b>	
How do U-shaped valleys form?	Constructive or Destructive?

Definition	Illustration w/labels
<b>U-SHAPED VALLEY</b>	
How do U-shaped valleys form?	Constructive or Destructive?

Definition	Illustration w/labels
<b>U-SHAPED VALLEY</b>	
How do U-shaped valleys form?	Constructive or Destructive?



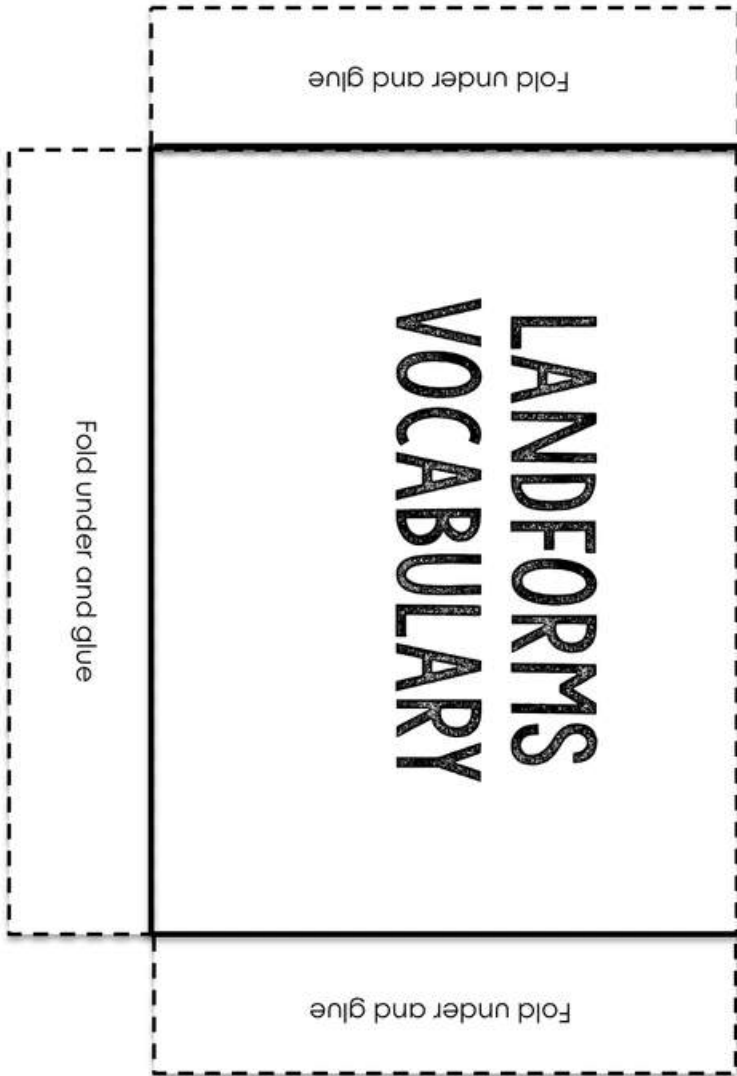
Definition	Illustration w/labels
<b>SAND DUNE</b>	
How do sand dunes form?	Constructive or Destructive?

Definition	Illustration w/labels
<b>SAND DUNE</b>	
How do sand dunes form?	Constructive or Destructive?

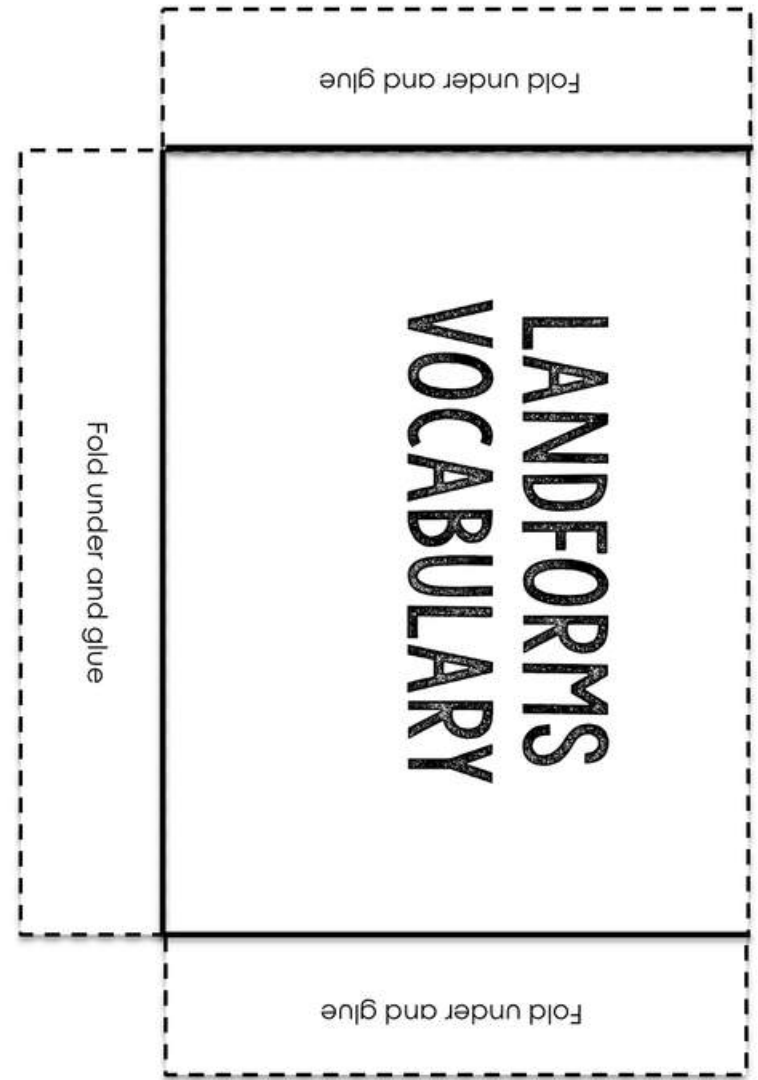
Definition	Illustration w/labels
<b>SAND DUNE</b>	
How do sand dunes form?	Constructive or Destructive?

Definition	Illustration w/labels
<b>SAND DUNE</b>	
How do sand dunes form?	Constructive or Destructive?

# LANDFORMS VOCABULARY CARDS POCKET



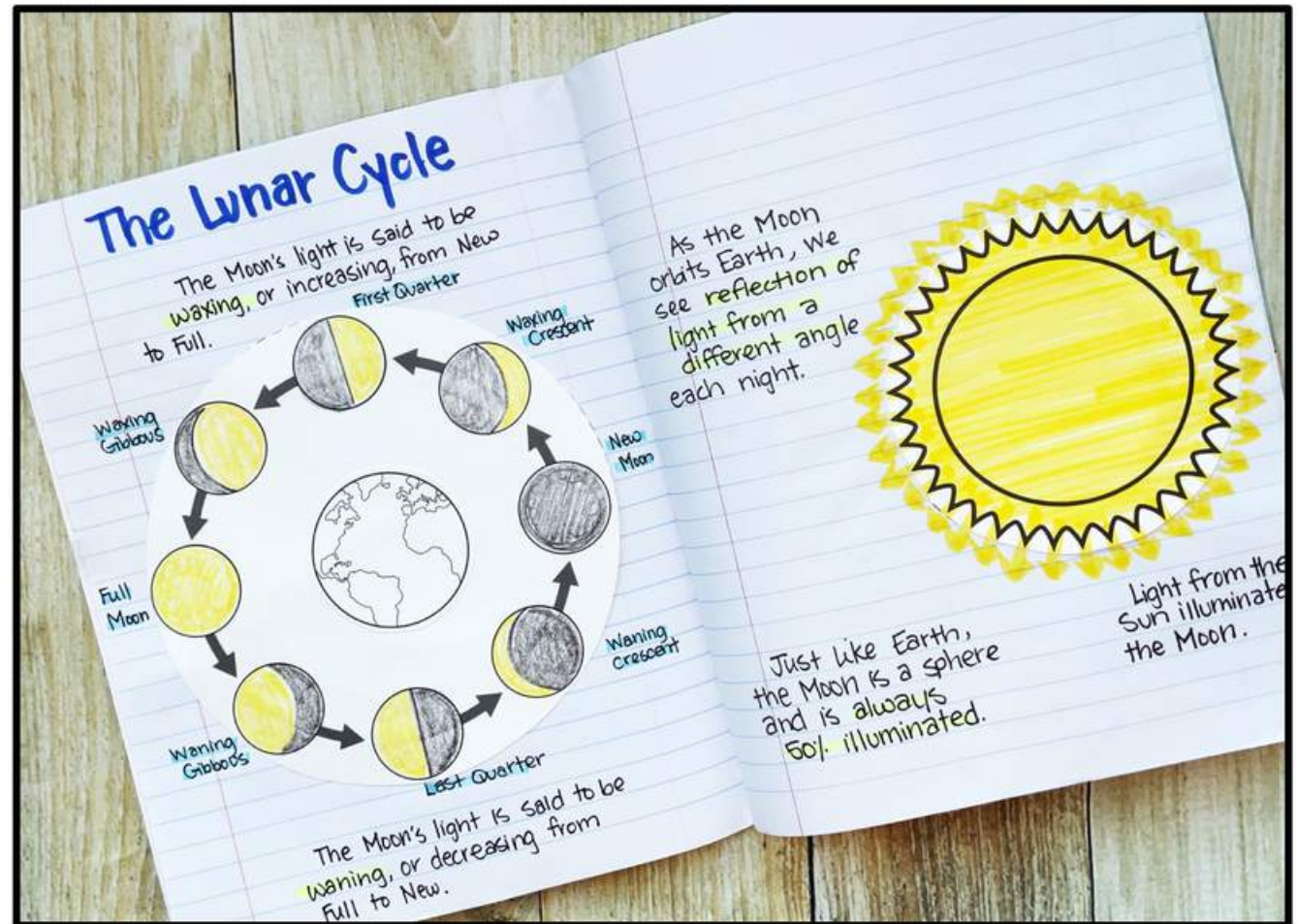
# LANDFORMS VOCABULARY CARDS POCKET



# LUNAR CYCLE

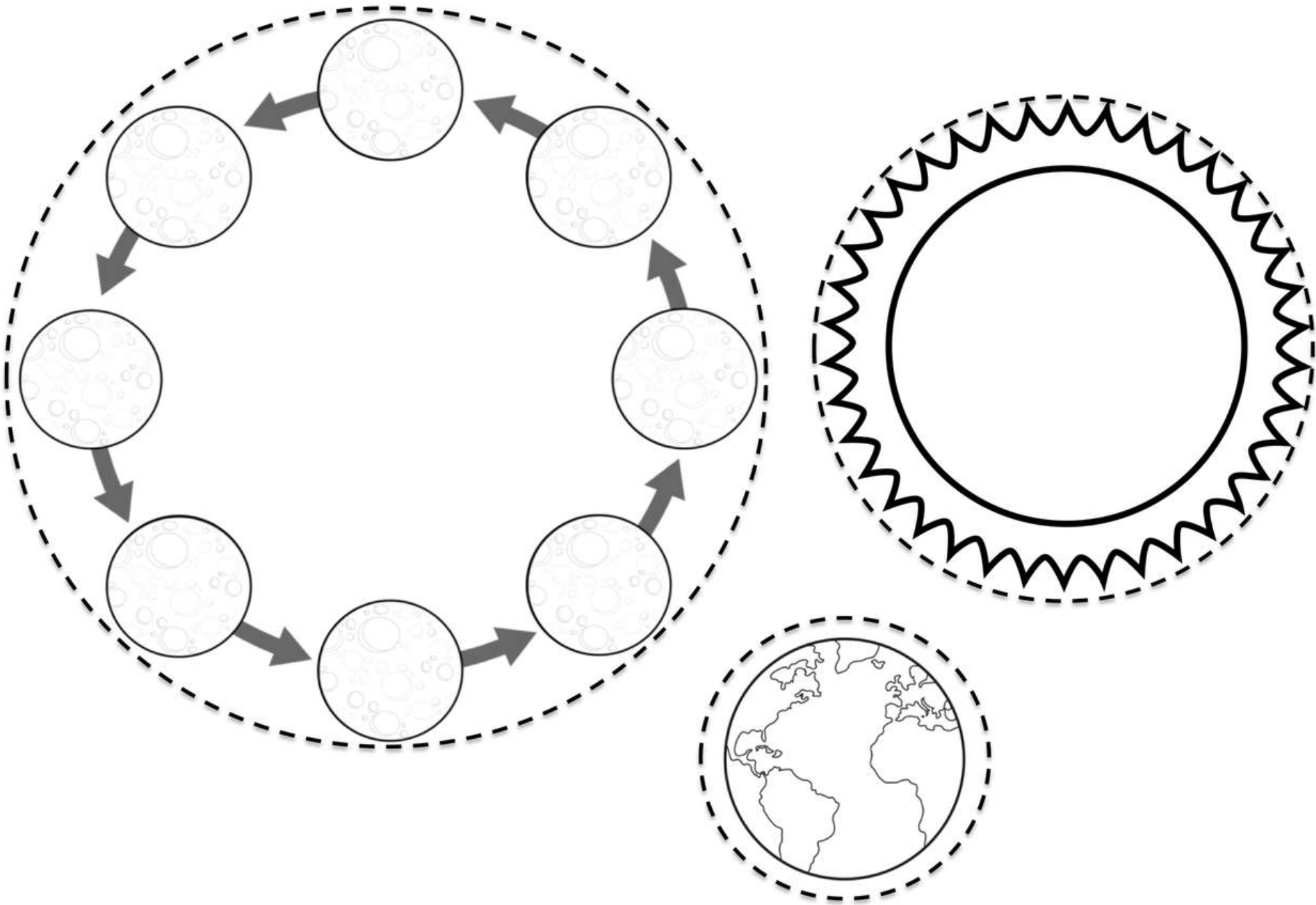
## IDEAS:

- Use a two-page spread to build a model of the lunar cycle
- Make notes about the Moon's light, the changing angle, the name of each phase, and the difference between waxing and waning
- Shade each Moon with the appropriate amount of light and dark to represent the view we see from Earth
- The Moon takes 27.3 days to orbit Earth, but the lunar cycle is 29.5 days. Explain why these two cycles are different.





# LUNAR CYCLE



# CREDITS

