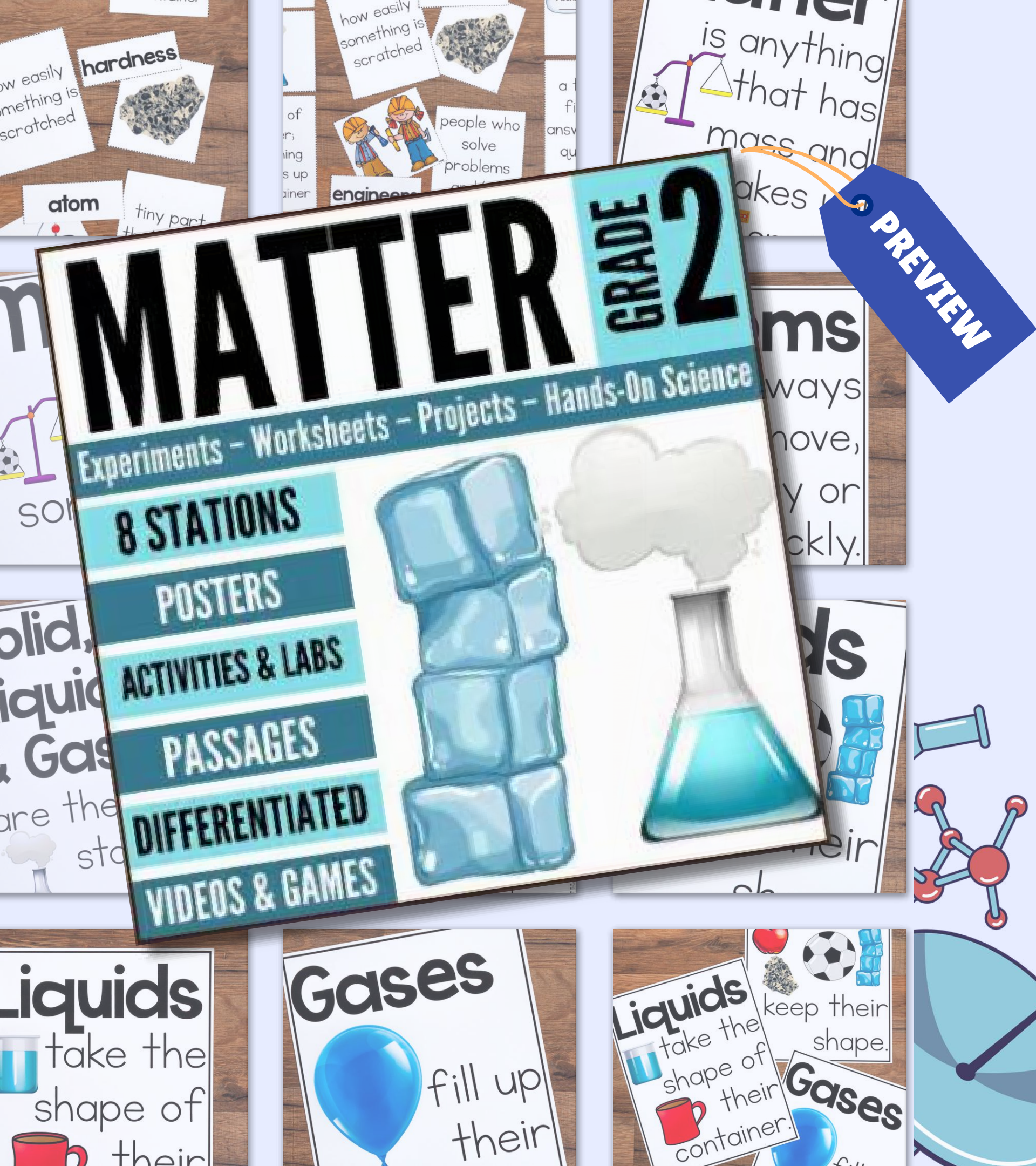


2ND GRADE

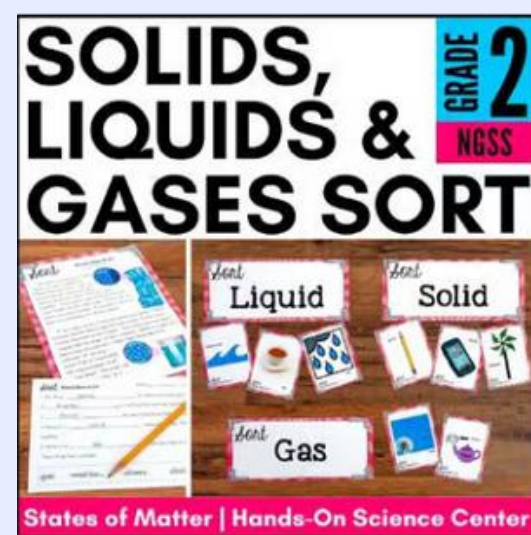
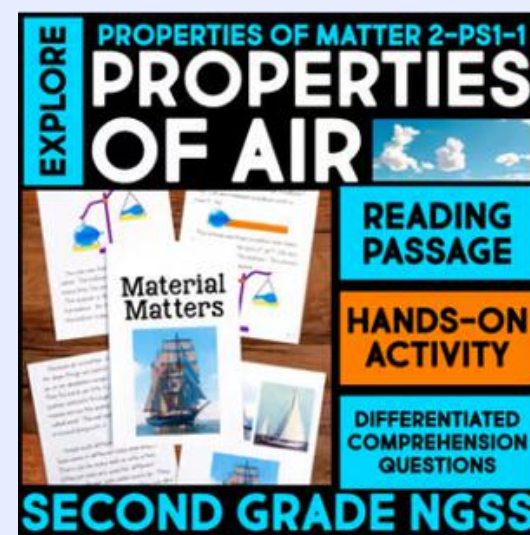
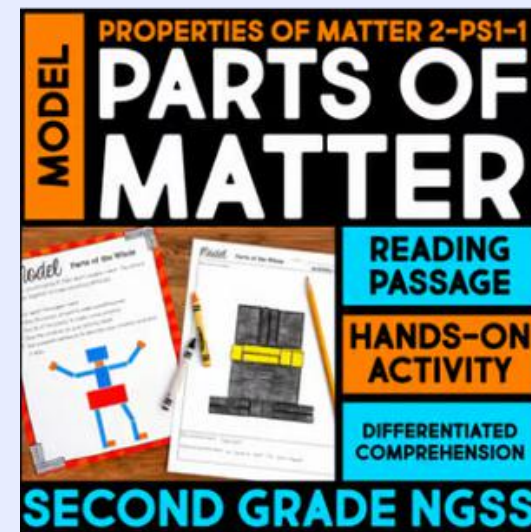
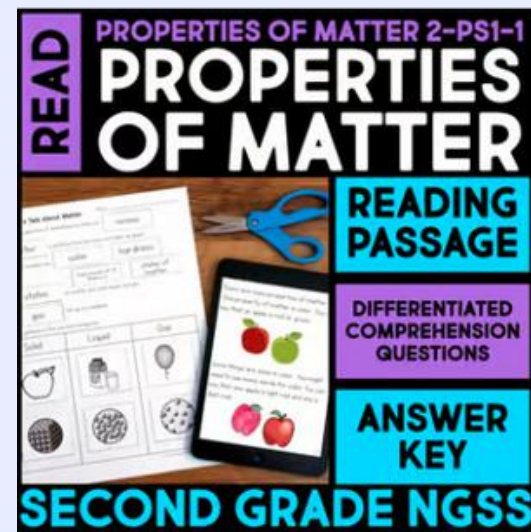
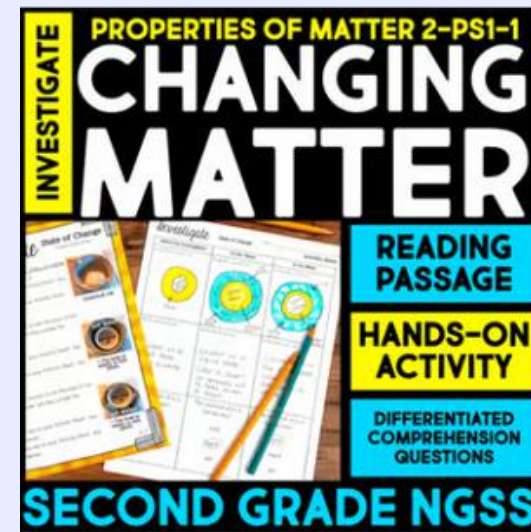
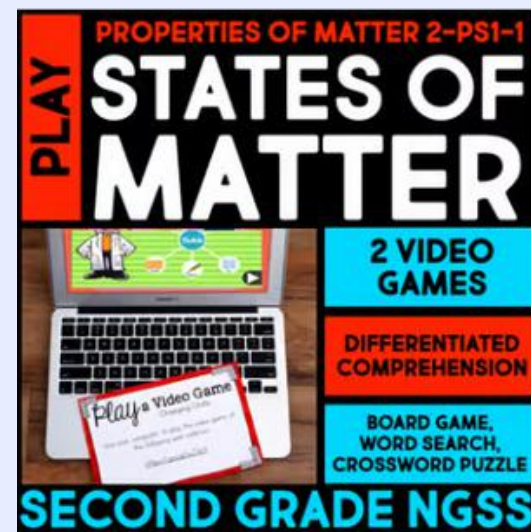
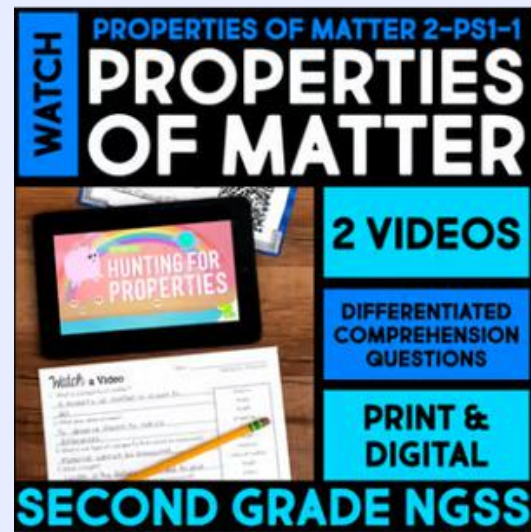
Step into the Matter Lab!

PROPERTIES OF MATTER

2nd Grade Lessons States of Matter Worksheets Cut & Paste



WHAT'S INCLUDED IN THE BUNDLE?



- ✓ 8 Science Stations aligned with the NGSS for 2nd grade
- ✓ 6 Reading passages
- ✓ Hands-on activities
- ✓ Differentiated comprehension questions
- ✓ Digital Videos & Video Games
- ✓ Digital Google Slides & Forms

6 READING PASSAGE



6 Reading Passages that provide
all scientific background
knowledge for each station

Available in two
formats + Digital

Includes pictures and
visuals

PAGE OVERVIEW



Science Station	Standard	Objective	Materials	Page
Big Idea Posters & Vocabulary Cards				10
Watch What's Matter / Hunting Properties	2-PSA, 2-PSB, (ELA) SL.22, (Math) 2MDA	Students watch a video in order to learn about matter or the properties of matter. They answer questions in order to reinforce what they have learned.	Computer / Device Student Sheets Science Journal	37
Play Changing State	2-PSA, 2- PSB, (ELA) SL 22	Students play a game in order to learn what happens when matter changes state. They answer questions in order to reinforce what they have learned.	Computer Student Sheets Science Journal	76
Investigate State of Change	2-PSA, 2-PSB, ETSIA, (ELA) RI.21, RI.23, RI.24, RI.27, RI.28, SL.22	Students read about states of matter and changes of states of matter. They change the state of coconut oil (or butter) in order to investigate this. They answer questions in order to reinforce what they have learned.	See Materials List or Activity Directions Page	86
Diagram How Hard Can It Be?	2-PSA, ETSIA, (ELA) RI.21, RI 23, RI.24, RI 27, RI.28	Students read about properties of matter and hardness. They create a diagram in the form of a hardness chart and answer questions in order to reinforce what they have learned.	See Materials List or Activity Directions Page	117
Read Let's Talk About Matter	2-PSA, 2-PSB, (ELA) RI.21, RI.23, RI.24, RI.27, RI.28, (Math) 2MDA	Students read about properties and states of matter. They answer questions in order to reinforce what they have learned.	Student Sheets Science Journal	143
Model Parts of the Whole	2-PSA, ETSIA, (ELA) RI.21, RI 23, RI.24, RI.27, RI.28, (Math) 2MDA	Students read about how small pieces can be put together differently to make different things. They make a model of this by rearranging paper shapes to make a new figure. They answer questions in order to reinforce what they have learned.	See Materials List or Activity Directions Page	181
Explore Materials Matter	2-PSA, ETSIA, (ELA) RI.21, RI 23, RI.24, RI.27, RI.28, (Math) 2MDA	Students read about mass and matter. They explore the nature of matter by observing the properties of air. They answer questions in order to reinforce what they have learned.	See Materials List or Activity Directions Page	212
Sort Which State Is It?	2-PSA, (ELA) RI.21, RI.23, RI 24, RI.27, RI 28	Students read about the states of matter. They sort pictures into categories of states of matter. They then answer questions in order to reinforce what they have learned.	Student Sheets Scissors Glue	242
Answer Key				276

What's the Matter?

Science Stations

Next Generation Science Standards are written to be "Three Dimensional." The following section explains how this set of science stations addresses the three dimensions of Performance Expectation, Disciplinary Core Idea, and Science and Engineering Practices/Crosscutting Concepts.

In Second Grade, students are expected to **demonstrate understanding** in the following areas:

- 2-PSI-1. Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.
- 2-PSI-2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.
- 2-PSI-3. Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object.

This correlates with the DCI 2-PSIA, which states:

- Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.
- Different properties are suited to different purposes.
- A great variety of objects can be built up from a small set of pieces.

All stations in this set meet the DCI, helping students gain an understanding of the properties and states of matter, how states of matter can be changed, and how to classify objects based on their properties and states.

The Investigate, Diagram, and Explore stations correlate with the Engineering Design DCI ETSIA, which states:

- A situation that people want to change or create can be approached as a problem to be solved through engineering (K-2-ETS1-1)
- Asking questions, making observations, and gathering information are helpful in thinking about problems. (K-2-ETS1-1)
- Before beginning to design a solution, it is important to clearly understand the problem. (K-2-ETS1-1)

This station set integrates with 2-PSIB. It's a Matter of Change. This station set explores changes of states of matter as a physical property of matter. 2-PSIB explores changes of states of matter as it occurs in chemical reactions.

The Investigate, Diagram, and Explore stations meet the Science and Engineering Practices

- Planning and Carrying Out Investigations: Planning and carrying out investigations to answer questions or test solutions to problems in K-2 builds on prior experiences and progresses to simple investigations, based on fair tests, which provide data to support explanations or design solutions. Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question. (2-PSI-1)
- Analyzing and Interpreting Data: Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Analyze data from tests of an object or tool to determine if it works as intended. (2-PSI-2)
- Constructing Explanations and Designing Solutions: Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidence-based accounts of natural phenomena and designing solutions. Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena. (2-PSI-3)

Teacher Notes

Science Stations Overview

Watch a Video

At this station, students will watch a video relevant to the topic and answer questions. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Play a Video Game

Students play an online video game and answer questions about the experience. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Investigate

Students use materials to investigate the science topic by following directions and recording results. Students answer questions about the investigation.

Draw a Diagram

Students draw and label a diagram specific to certain requirements. Students then explain how their diagram meets the requirements.

Read a Passage

Students read a short passage about the topic and answer questions about the information in the passage. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Create a Model

Students use materials to illustrate the science concept and answer questions. You have the option of the included worksheet with the questions or use task cards and have students respond in their science journals.

Explore

Students create a sample and manipulate it using the new science concepts they have learned. Students answer questions based on the effects.

Sort

Students sort cards into groups or put them in a specific order. Students record the sort and then describe their reasoning.

Materials Checklist

What's the Matter?

Use the following checklist to make sure you have all the materials for your stations.

Watch a Video

- ☐ Computer / Device
- ☐ Directions Card
- ☐ Worksheet
- ☐ Task Cards
- ☐ Science Journal

Play a Video Game

- ☐ Computer
- ☐ Directions Card
- ☐ Worksheet
- ☐ Task Cards
- ☐ Science Journal

Investigate

- ☐ Student Instructions
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Small bowl (We found a black bowl to allow the change in state to really be visible, but any color is fine)
- ☐ Tablespoon of coconut oil
- ☐ 2 medium-sized bowls (size of cereal bowl, so that it isn't too much larger than the small bowl)
- ☐ Hot water (90F to 100F)
- ☐ Ice water
- ☐ Towels (for clean-up)

Draw a Diagram

- ☐ Student Instructions
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Grape
- ☐ Avocado
- ☐ Ping pong ball
- ☐ Golf ball
- ☐ Toothpick
- ☐ Paperclip (unbent)

Read a Passage

- ☐ Reading Passage
- ☐ Student Response Sheet
- ☐ Task Cards
- ☐ Science Journal

Create a Model

- ☐ Directions Cards
- ☐ Student Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Glue
- ☐ Scissors

Explore

- ☐ Directions Card
- ☐ Worksheet
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal
- ☐ Small sailboat (4-6 inches) with a mast (See Teacher Notes)
- ☐ Small sailboat (4-6 inches) with a mast (See Teacher Notes)
- ☐ Sails to fit on mast (see Teacher Notes): Make 1 from paper towel and 1 from cloth.
- ☐ Small handheld fan, similar to this <http://amzn.to/2uNoozi>
- ☐ Pan or tub (at least 6 inches deep and 18 inches long--though longer is better), filled halfway with water

Sort

- ☐ Directions Card
- ☐ Sort Cards
- ☐ Scissors
- ☐ Glue
- ☐ Response Sheet
- ☐ Task Cards
- ☐ Science Journal

Table of Contents

Science Station Overview

Materials Checklist

Science Stations

BIG IDEA POSTERS

Liquids



take the
shape of
their
containers.



Solids



keep their
shapes.

Gases



fill up
their
containers.

**BIG IDEA POSTERS THAT
EXPLAIN THE KEY CONCEPTS**

atom

tiny part that makes up
matter

how easily something is
scratched

hardness

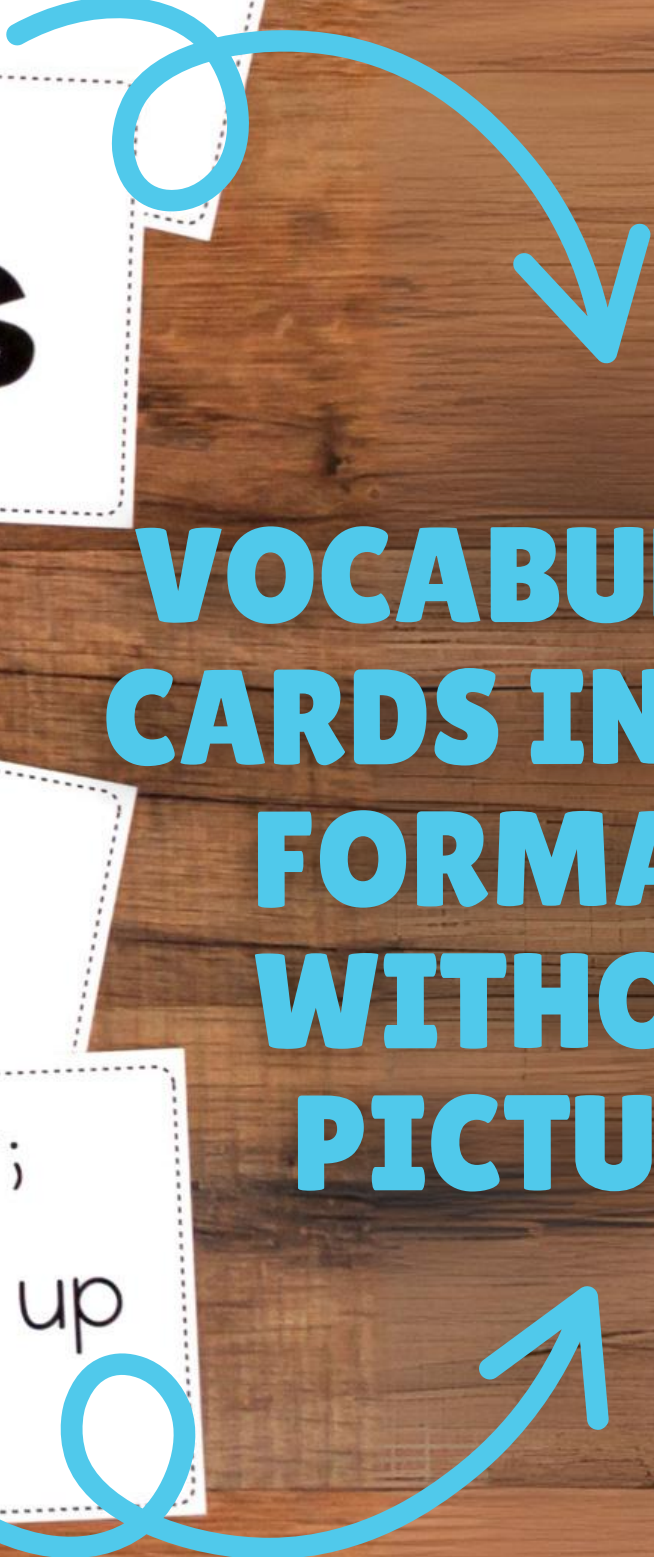
the ways to describe
matter using the five
senses

**properties
of matter**

gas

a state of matter;
something that fills up
its container

**VOCABULARY
CARDS IN TWO
FORMATS
WITHOUT
PICTURE**



gas



a state of
matter;
something
that fills up
its container

how easily
something is
scratched

hardness



I wonder
_____.



a test to
find an
answer to a
question

experiment



engineers

people who
solve
problems
and/or
make things

**VOCABULARY CARDS IN TWO
FORMATS WITH PICTURE**

WATCH STATION

STUDENTS WATCH ONE OF TWO VIDEOS AND THEN ANSWER QUESTIONS ABOUT THE VIDEOS. VIDEOS INCLUDE INFORMATION ABOUT MATTER AND ITS PROPERTIES.

“Great resource with properties of matter!
- Shannon G.”

Watch a Video

Use your device to watch
Hunting for Properties

EPISODE 9.1

HUNTING FOR PROPERTIES

KIDS

Watch a Video

1. What is a property of matter?

A property of matter is a way to
des

2. What does observe mean?

To observe means to notice
differences.

3. What is one type of a property that cannot be measured?

Material cannot be measured.

4. What is length?

Length is the distance from end to end.

5. What is one type of property that can be measured?

Height is one type of property that
can be measured.

Name: _____

Hunting for Properties

observe

shape

length

property

color

weight

material

state of matter

height

volume

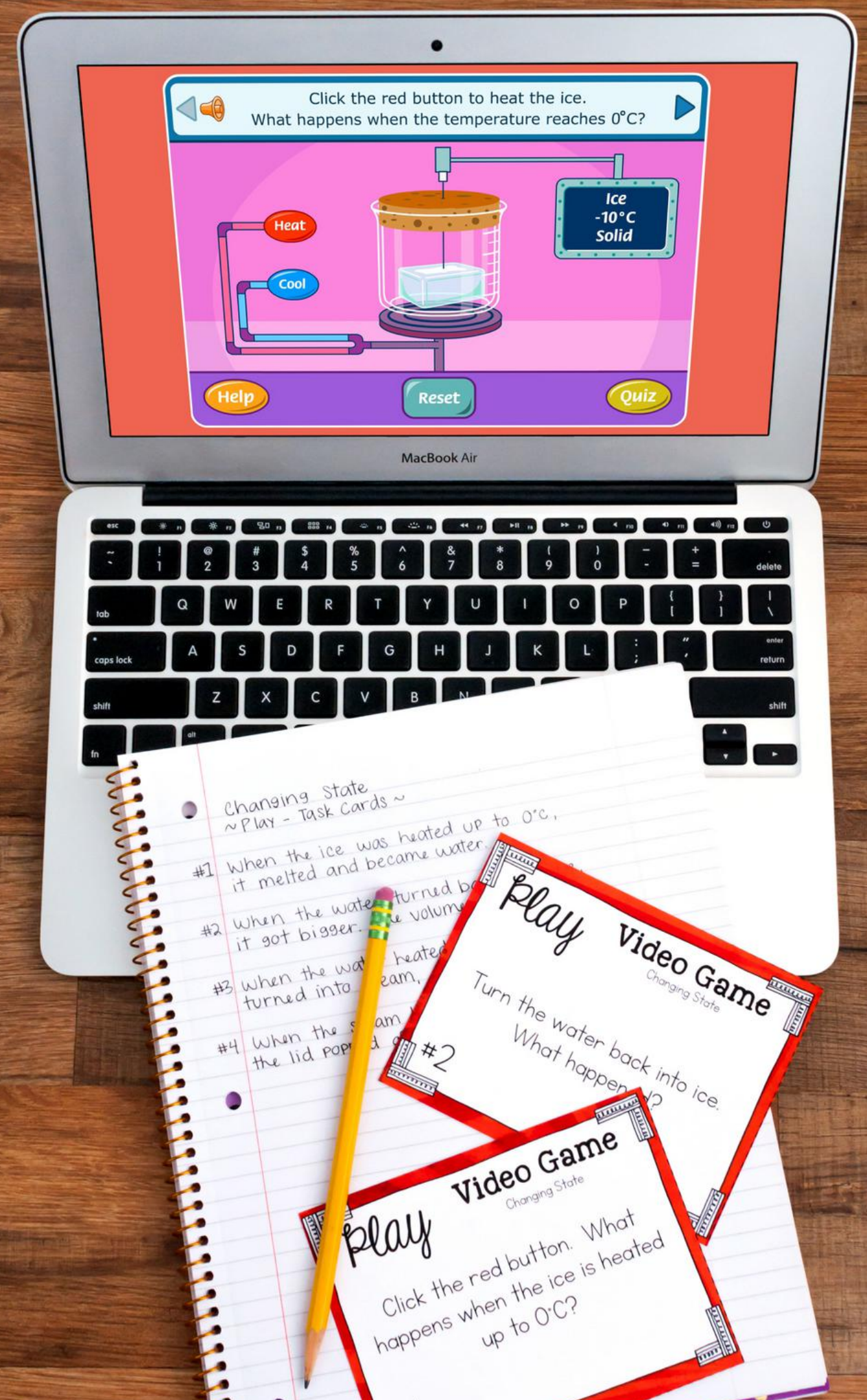
width

length

PLAY STATION

STUDENTS PLAY A VIDEO GAME, A BOARD GAME, A CROSSWORD PUZZLE, OR WORD SEARCH AND LEARN ABOUT MATTER AND ITS STATES. STUDENTS ANSWER QUESTIONS TO REINFORCE NEW LEARNING.

“ Fun activity for solids, liquids, and gases.
- Kimberly S. ”



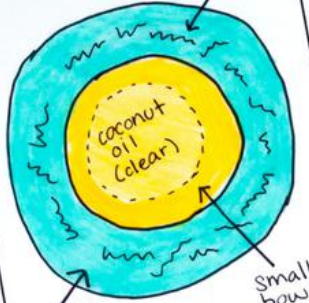
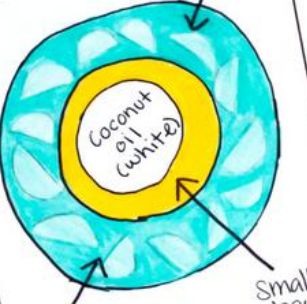


INVESTIGATE STATION

STUDENTS READ ABOUT STATES OF MATTER AND CHANGES IN STATES OF MATTER. THEY CHANGE THE STATE OF COCONUT OIL (OR BUTTER) IN ORDER TO INVESTIGATE THIS. STUDENTS THEN ANSWER QUESTIONS TO REINFORCE THE CONCEPTS LEARNED.

Investigate State of Change Activity Sheet

Name: _____

Before the Investigation	In Hot Water	In Ice Water
Draw the coconut oil: 	Draw the coconut oil: 	Draw the coconut oil: 
Write what you see: Coconut oil in solid state. Color is white.	Write what you see: Coconut oil in liquid state. Color is clear! oil spreads out to take shape of bowl.	Write what you see: Coconut oil in the solid state. Color has gone back to white.
The coconut oil is a (circle one) ☐ solid ☐ liquid ☐ gas	The coconut oil is a (circle one) ☐ solid ☒ liquid ☐ gas	The coconut oil is a (circle one) ☐ solid ☐ liquid ☐ gas

“Use this every year to support the Unit on matter.”
- Jeri D.

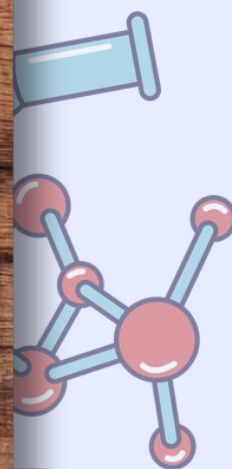


DIAGRAM STATION

STUDENTS READ ABOUT THE PROPERTIES OF MATTER AND HARDNESS. THEY CREATE A DIAGRAM IN THE FORM OF A HARDNESS CHART AND ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

“Very thorough and content-rich! I love the article and the activities!”
- Second Grade Style



READ STATION

STUDENTS READ ABOUT PROPERTIES AND STATES OF MATTER. THEY ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

“ Absolutely loved this resource! I highly recommend! ”
- Shelby L.

Read Let's Talk About Matter

1. We learn the properties of something by using our

senses

2. **matter** is anything that has mass and takes up space.

3. Properties of matter are

color

hardness

how much of it there is

states of matter

4. The

states

of matter are solid, liquid, and gas.

5. A

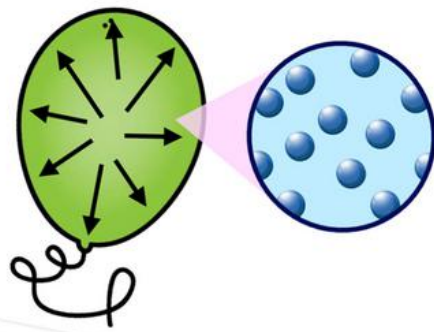
gas

fills up its container.

6. Sort the pictures in the correct categories:

Solid	Liquid	Gas
		
		

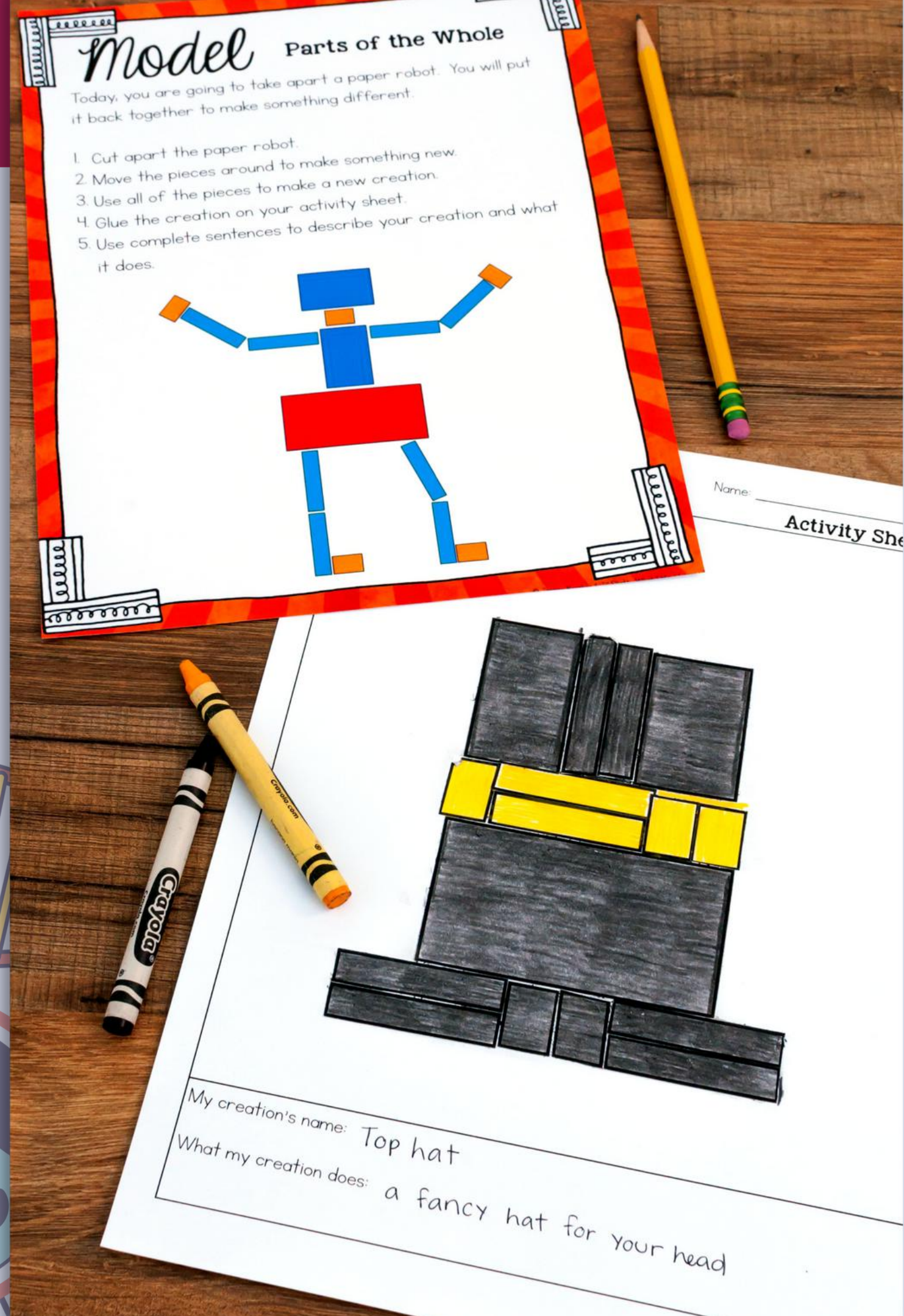
Atoms may move around a lot. This makes them spread as far apart as possible. They are in the gas phase. Air is a gas. Gas takes the shape of its container. It fills it all the way up. You may pour a little water in a balloon. It will only fill up the bottom of the balloon. If you put a little air in the balloon, it will spread out in the balloon. All sides of the balloon have the same amount of air pushing on it.



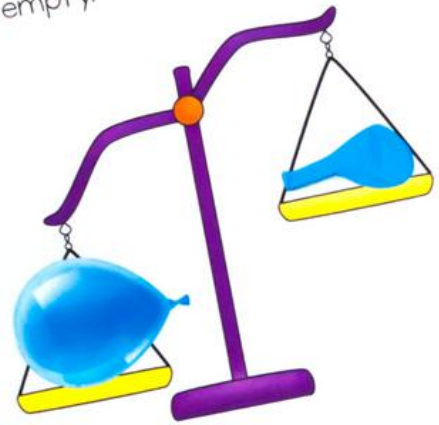
MODEL STATION

**STUDENTS LEARN HOW TO
REARRANGE SMALL PAPER SHAPES
TO CREATE NEW FIGURES AND
ANSWER QUESTIONS TO REINFORCE
THEIR UNDERSTANDING.**

“ This was so
much fun for
my class!
- Alicia P. ”



Does a full balloon weigh more than an empty balloon? Or do they weigh the same? To test this, you could put two balloons on a balance. One balloon is full and one is empty.



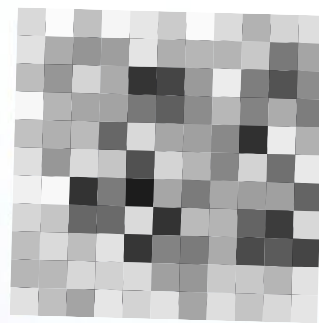
You can see that they do not weigh the same. The balloon with the air in it weighs more than the empty balloon. Why is this? The answer is that there is air inside the full balloon. Air has mass. The air inside the balloon makes the balloon weigh more.

Explore

Material Matters

MP3 QR Code

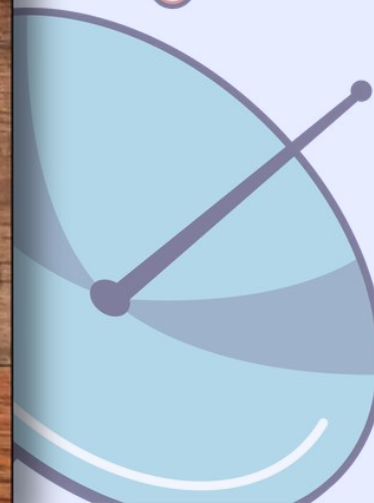
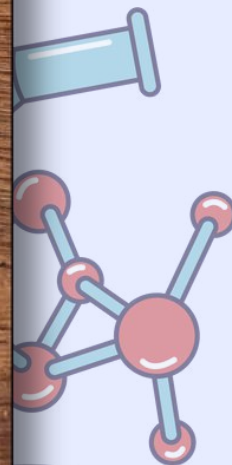
Use your device and scan the QR Code or enter the web address below. Listen to the audio while you follow along and read the text.



EXPLORE STATION

STUDENTS READ ABOUT MASS AND MATTER. THEY EXPLORE THE NATURE OF MATTER BY OBSERVING THE PROPERTIES OF AIR. THEY ANSWER QUESTIONS IN ORDER TO REINFORCE WHAT THEY HAVE LEARNED.

“ Great resource!
Thank you!
- Kyra H. ”



SORT STATION

STUDENTS READ ABOUT THE STATES OF MATTER. THEY SORT PICTURES INTO CATEGORIES OF STATES OF MATTER. THEY THEN ANSWER QUESTIONS TO REINFORCE WHAT THEY HAVE LEARNED.

“Used to supplement my matter unit. Very helpful for review.”
- Olivia S.

Sort
Liquid

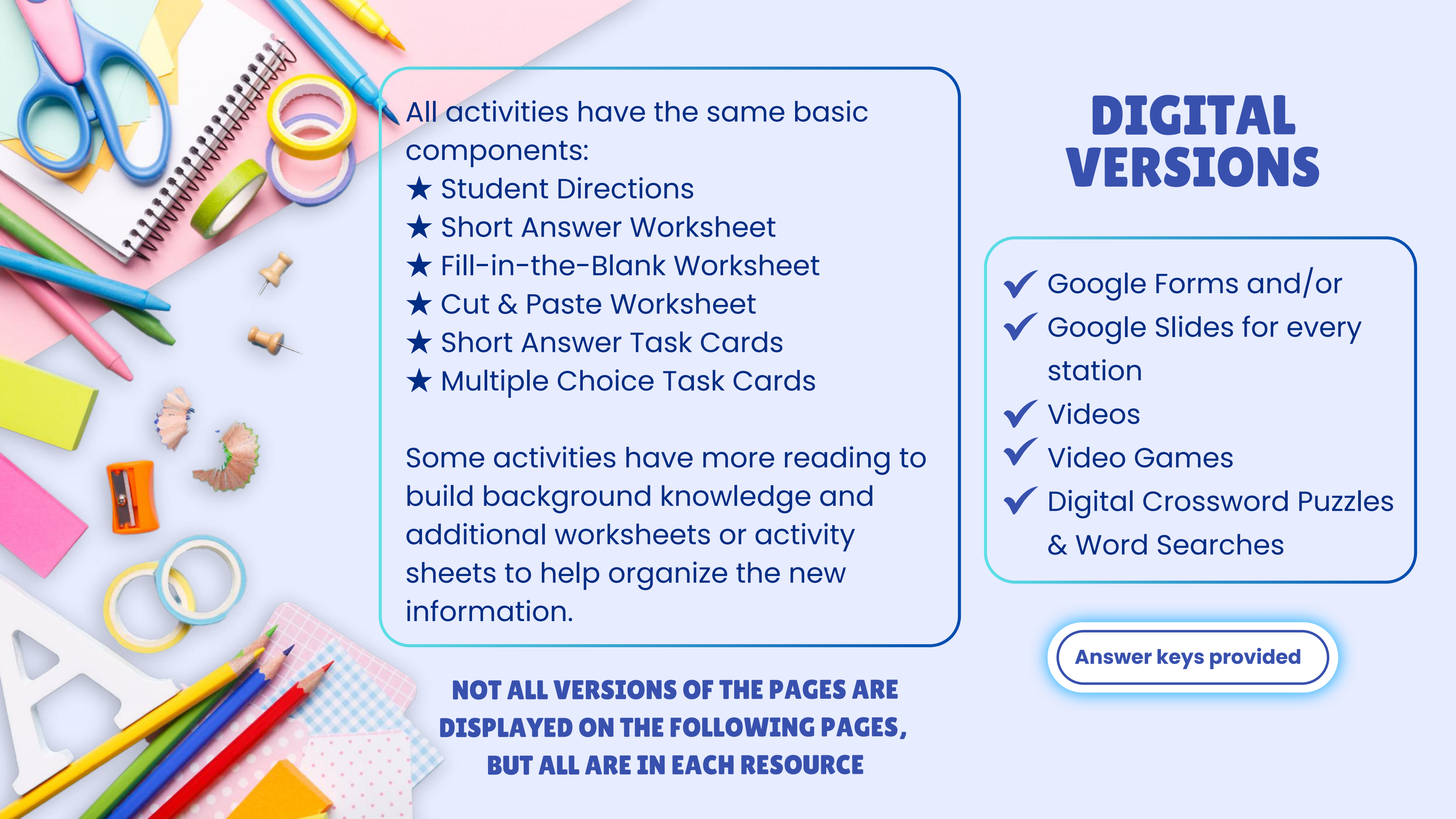


Sort
Gas



Sort
Solid





DIGITAL VERSIONS

All activities have the same basic components:

- ★ Student Directions
- ★ Short Answer Worksheet
- ★ Fill-in-the-Blank Worksheet
- ★ Cut & Paste Worksheet
- ★ Short Answer Task Cards
- ★ Multiple Choice Task Cards

Some activities have more reading to build background knowledge and additional worksheets or activity sheets to help organize the new information.

- ✓ Google Forms and/or
- ✓ Google Slides for every station
- ✓ Videos
- ✓ Video Games
- ✓ Digital Crossword Puzzles & Word Searches

Answer keys provided

**NOT ALL VERSIONS OF THE PAGES ARE
DISPLAYED ON THE FOLLOWING PAGES,
BUT ALL ARE IN EACH RESOURCE**

PROPERTIES OF MATTER ACTIVITIES

SUGGESTED USES

Learning Stations

Use all eight stations or just a few as learning stations that students complete at their own pace.

Science Centers

Set up a rotation where students visit each center to complete the activities.

Whole Class

Use the activities in a whole class format.

Small Group

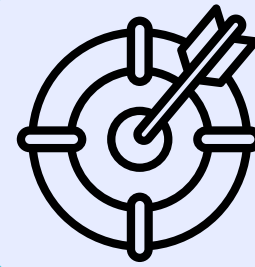
Use the activities with a small group who need extra help.

YOU WILL LOVE THIS BECAUSE



Hands-On Exploration

Each science center is a mini laboratory. Students touch, mix, and observe. Teachers witness those “aha” moments.



Covers All 2nd Grade Matter Standards

Everything needed to teach 2-PS1-1, 2-PS1-2, and 2-PS1-3 in one easy-to-use bundle.



Flexible Classroom Implementation

Teachers guide students through classifying objects based on properties. It's like teaching them the secret language of matter.

TEACHERS LOVE IT!



An excellent compendium of resources that match the standards well. Constant reinforcement of key principles to help students remember what's important.

Francisco G.



My students loved this resource. For third grade, they loved how there was an experiment, or hands-on portion, that went with their readings. They were able to complete the readings and some of the hands-on sections on their own, which built confidence in completing such tasks without an adult helping with every step.

Jessica B.



My passion is making learning accessible to all students.
I love scaffolding learning, breaking down the concepts and
building them up so that students can see the connections.
I love figuring out the small components that build up to
the big ideas and helping students see it all.



What I have **LEARNED**