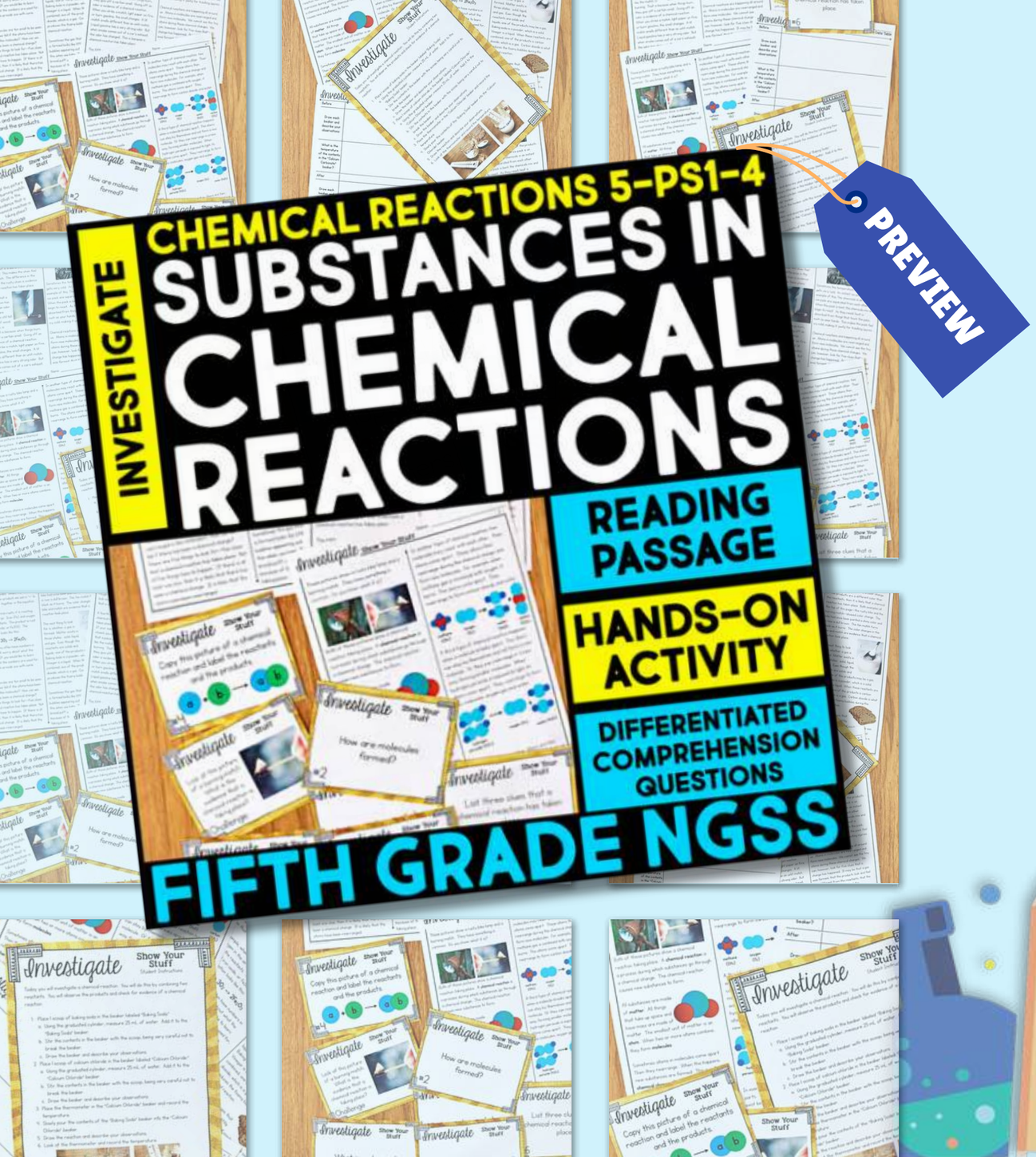


Bring Chemical Reactions to Life with a Real Experiment!

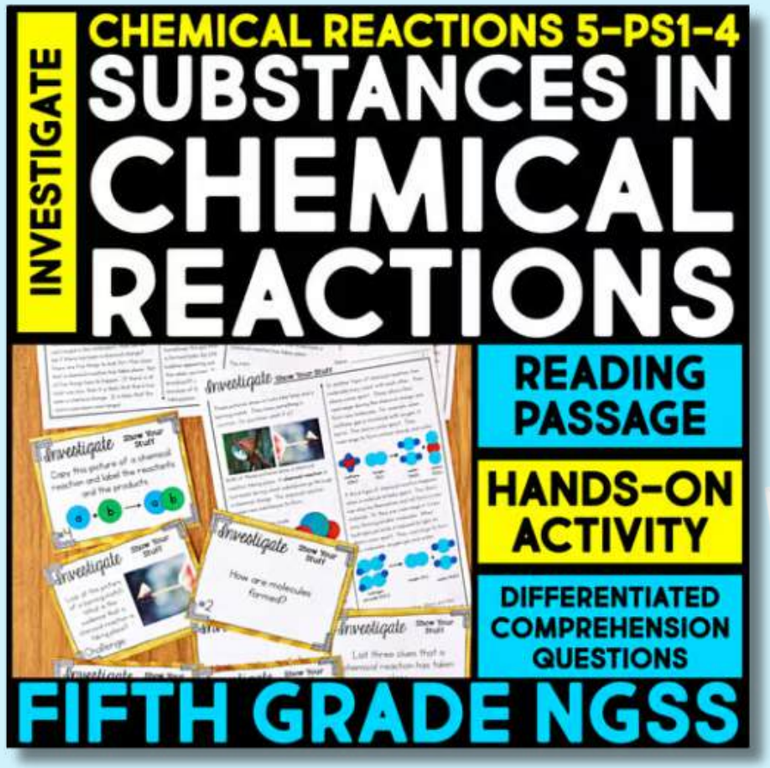
5TH GRADE

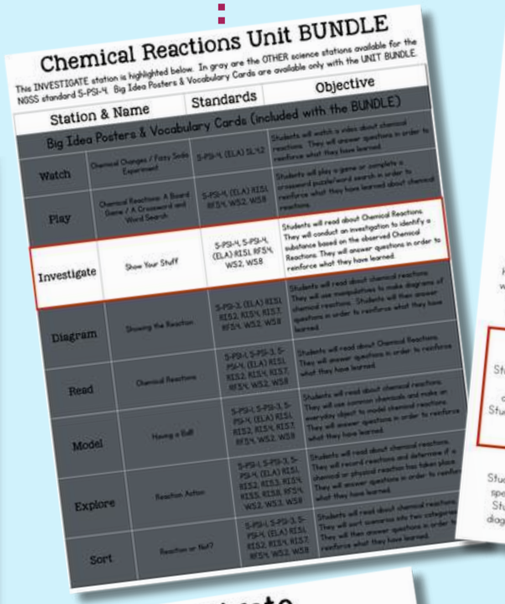
INVESTIGATE

SUBSTANCES IN CHEMICAL REACTIONS

KEEP SCROLLING TO SEE WHAT'S INSIDE!

ACTIVITY OVERVIEW

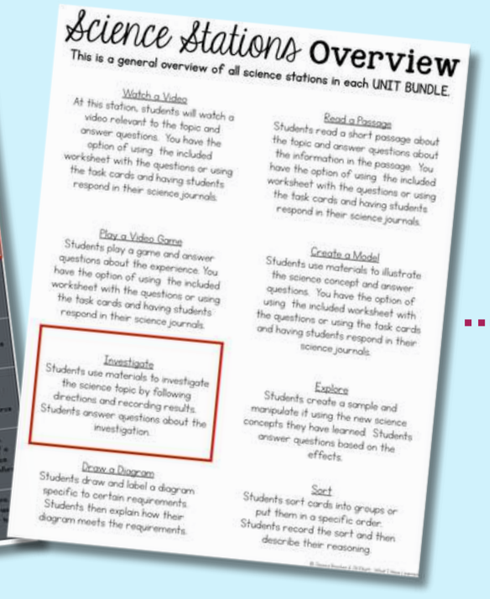




Chemical Reactions Unit BUNDLE

This INVESTIGATE station is highlighted below. In gray are the OTHER science stations available for the NGSS standard 5-PS1-4. Big Idea Posters & Vocabulary Cards are available only with the UNIT BUNDLE.

Station & Name		Standards	Objective
Big Idea Posters & Vocabulary Cards (included with the BUNDLE)			
Watch	Chemical Changes / Fizzy Soda Experiment	5-PS1-4, (ELA) SL.5.2	Students will watch a video about chemical reactions. They will answer questions in order to reinforce what they have learned.
Play	Chemical Reactions: A Board Game / A Crossword and Word Search	5-PS1-4, (ELA) RI.5.1, RF.5.4, WS.2, WS.8	Students will play a game or complete a crossword puzzle/word search in order to reinforce what they have learned about chemical reactions.
Investigate	Show Your Stuff	5-PS1-4, 5-PS3-4, (ELA) RI.5.1, RF.5.4, WS.2, WS.8	Students will read about Chemical Reactions. They will conduct an investigation to identify a substance based on the observed Chemical Reactions. They will answer questions in order to reinforce what they have learned.
Diagram	Showing the Reaction	5-PS3-3, (ELA) RI.5.1, RI.5.3, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about chemical reactions. They will use manipulatives to make diagrams of chemical reactions. Students will then answer questions in order to reinforce what they have learned.
Read	Chemical Reactions	5-PS1-4, 5-PS3-3, 5-PS3-4, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about Chemical Reactions. They will answer questions in order to reinforce what they have learned.
Model	Having a Ball	5-PS1-3, 5-PS3-3, 5-PS3-4, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about chemical reactions. They will use common chemicals and make an everyday object to model chemical reactions. They will answer questions in order to reinforce what they have learned.
Explore	Reaction Action	5-PS1-4, 5-PS3-3, 5-PS3-4, (ELA) RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.5, RI.5.8, RF.5.4, WS.2, WS.3, WS.8	Students will read about chemical reactions. They will record reactions and determine if a chemical or physical reaction has taken place. They will answer questions in order to reinforce what they have learned.
Sort	Reaction or Not?	5-PS1-4, 5-PS3-3, 5-PS3-4, (ELA) RI.5.1, RI.5.2, RI.5.4, RI.5.7, RF.5.4, WS.2, WS.8	Students will read about chemical reactions. They will sort scenarios into two categories. They will then answer questions in order to reinforce what they have learned.



Science Stations Overview

This is a general overview of all science stations in each UNIT BUNDLE.

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

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 using the included worksheet with the questions or using the task cards and having students respond in their science journals.

Play a Video Game
Students play a game and answer questions about the experience. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

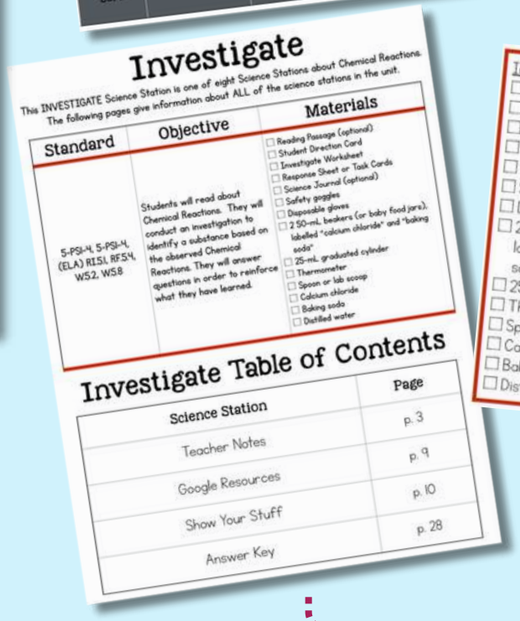
Create a Model
Students use materials to illustrate the science concept and answer questions. You have the option of using the included worksheet with the questions or using the task cards and having students respond in their science journals.

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

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

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

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



Investigate

This INVESTIGATE Science Station is one of eight Science Stations about Chemical Reactions. The following pages give information about ALL of the science stations in the unit.

Standard	Objective	Materials
5-PS1-4, 5-PS3-4, (ELA) RI.5.1, RF.5.4, WS.2, WS.8	Students will read about Chemical Reactions. They will conduct an investigation to identify a substance based on the observed Chemical Reactions. They will answer questions in order to reinforce what they have learned.	☐ Reading Passage (optional) ☐ Student Direction Card ☐ Investigate Worksheet ☐ Response Sheet or Task Cards ☐ Science Journal (optional) ☐ Safety goggles ☐ Disposable gloves ☐ 2 50-mL beakers (or baby food jars), labelled "calcium chloride" and "baking soda" ☐ 25-mL graduated cylinder ☐ Thermometer ☐ Spoon or lab scoop ☐ Calcium chloride ☐ Baking soda ☐ Distilled water

Investigate Table of Contents

Science Station	Page
Teacher Notes	p. 3
Google Resources	p. 9
Show Your Stuff	p. 10
Answer Key	p. 28



Investigate

- ☐ Reading Passage (optional)
- ☐ Student Direction Card
- ☐ Investigate Worksheet
- ☐ Response Sheet or Task Cards
- ☐ Science Journal (optional)
- ☐ Safety goggles
- ☐ Disposable gloves
- ☐ 2 50-mL beakers (or baby food jars), labelled "calcium chloride" and "baking soda"
- ☐ 25-mL graduated cylinder
- ☐ Thermometer
- ☐ Spoon or lab scoop
- ☐ Calcium chloride
- ☐ Baking soda
- ☐ Distilled water

Table of Contents

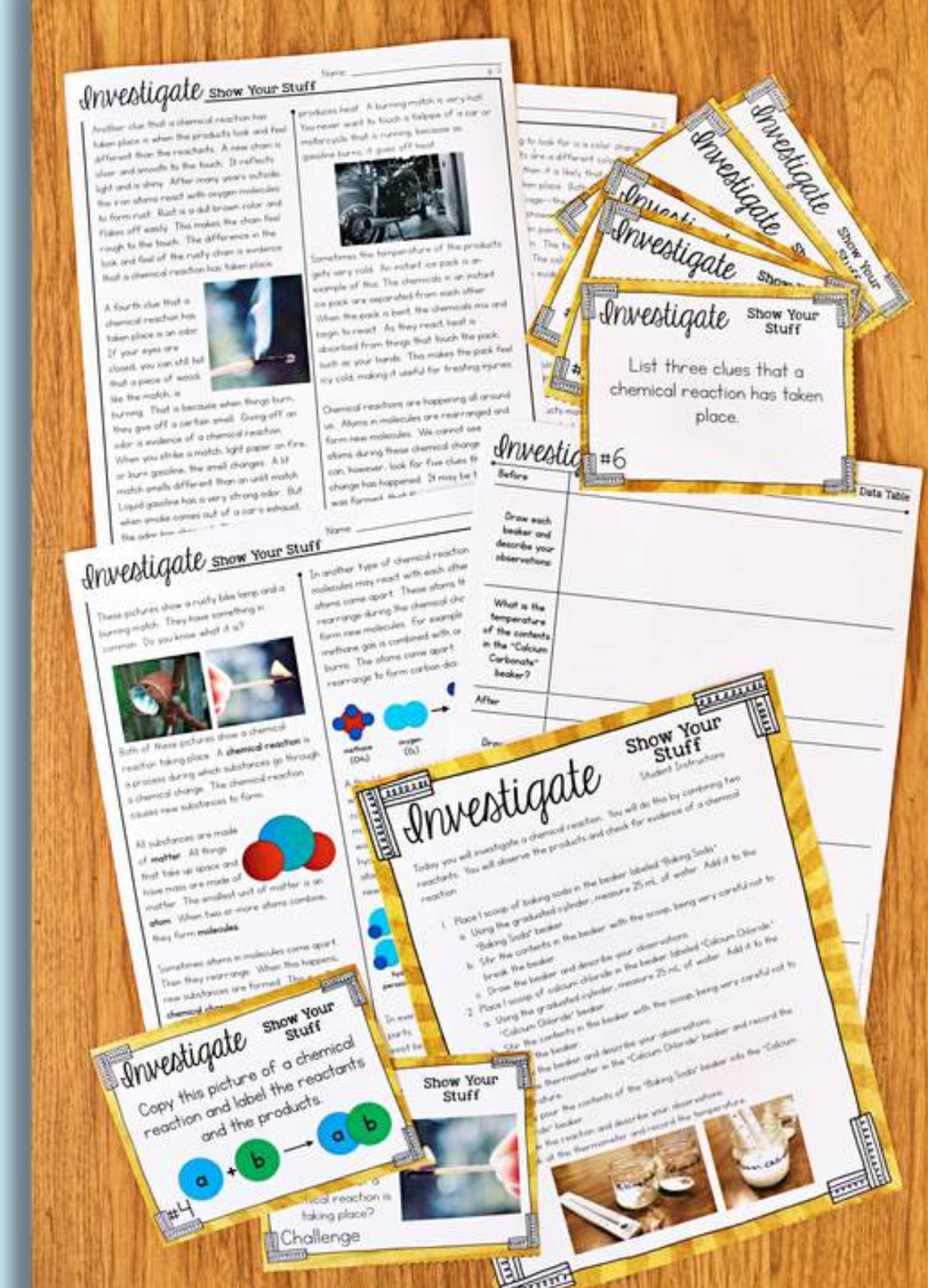
Science Station Overview

Materials Checklist

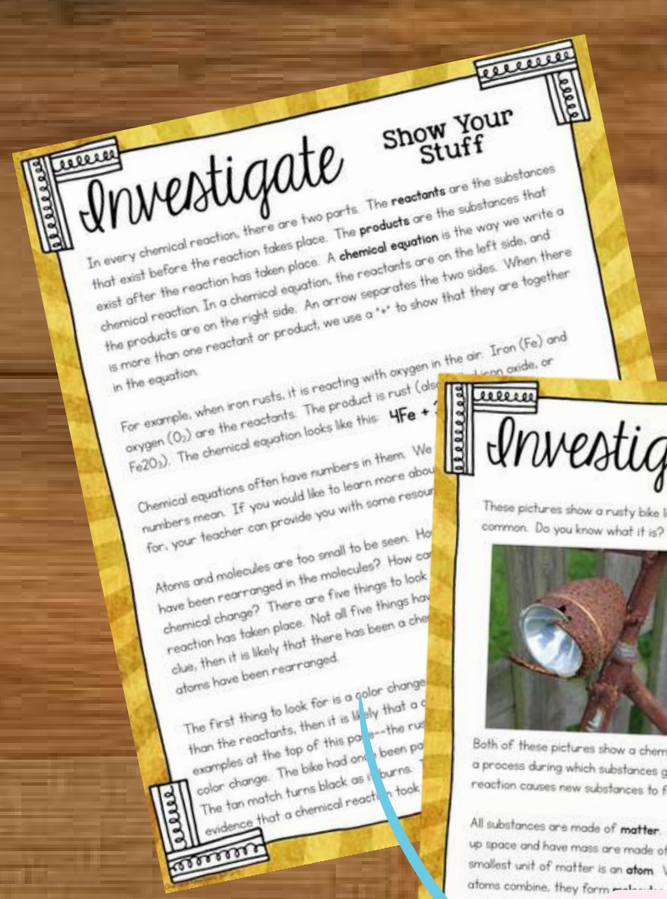
Teacher Notes & Table of Contents

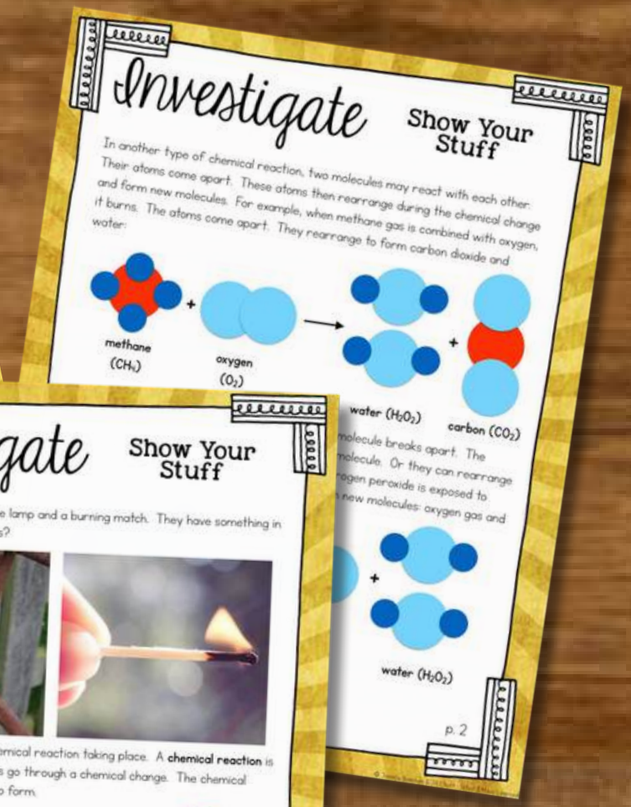
WHAT'S INCLUDED
INVESTIGATE SCIENCE STATION

- Teacher Notes
- **Student Text** in two formats
- Student **Instructions**
- **Activity Sheets** for observation
- Differentiated **Questions**
- Answer Key
- Google Form™
- Google Slides™



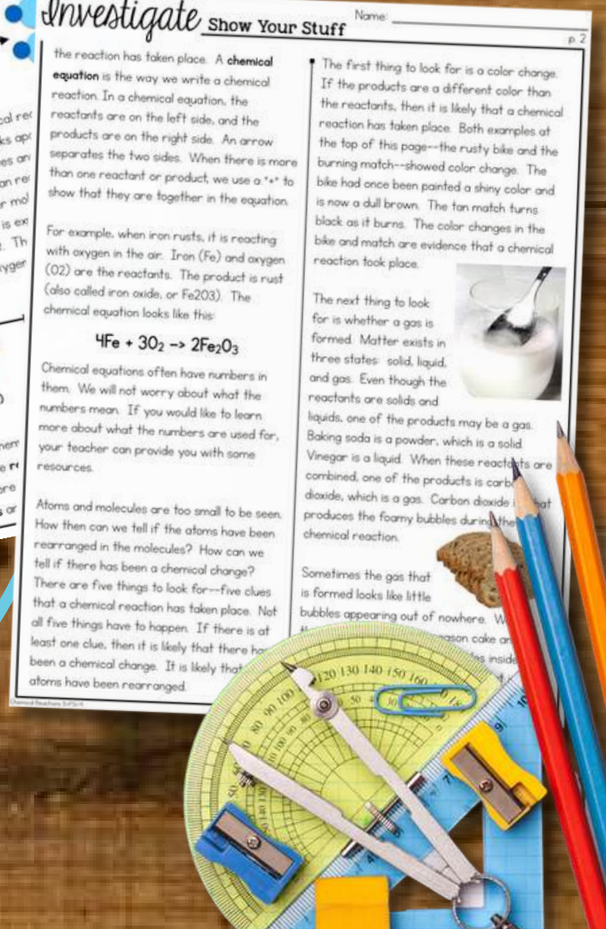
INVESTIGATE: READING PASSAGE











READING PASSAGE IN TWO FORMATS

ENGAGING ACTIVITY & WORKSKEETS

ENGAGING ACTIVITY & WORKSHEETS

Investigate

Show Your Stuff

Student Instructions

Today you will investigate a chemical reaction. You will do this by combining two reactants. You will observe the products and check for evidence of a chemical reaction.

1. Place I scoop of baking soda in the beaker labeled "Baking Soda."
   a. Using the graduated cylinder, measure 25 mL of water. Add it to the "Baking Soda" beaker.
   b. Stir the contents in the beaker with the scoop, being very careful not to break the beaker.
   c. Draw the
2. Place I sco
   a. Using t
   "Calciu
   b. Stir t
   break
   c. Draw the
3. Pla thermometer in the
   temperature.
4. Slowly pour the contents of the "Bak
   Chloride" beaker.
5. Draw the reaction and describe your
6. Look at the thermometer and record the temper



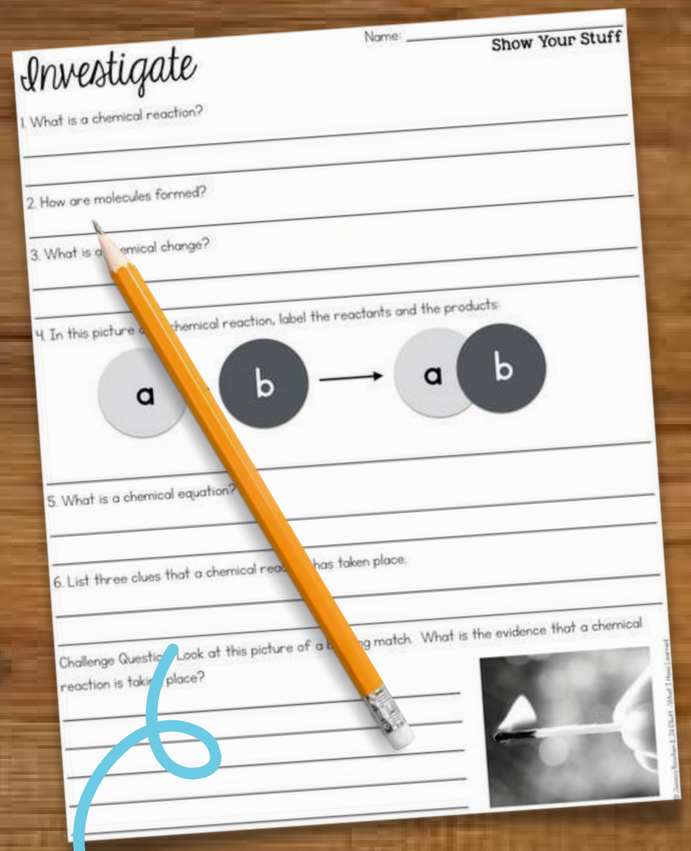
Investigate Show Your Stuff Data Table

Name: _____

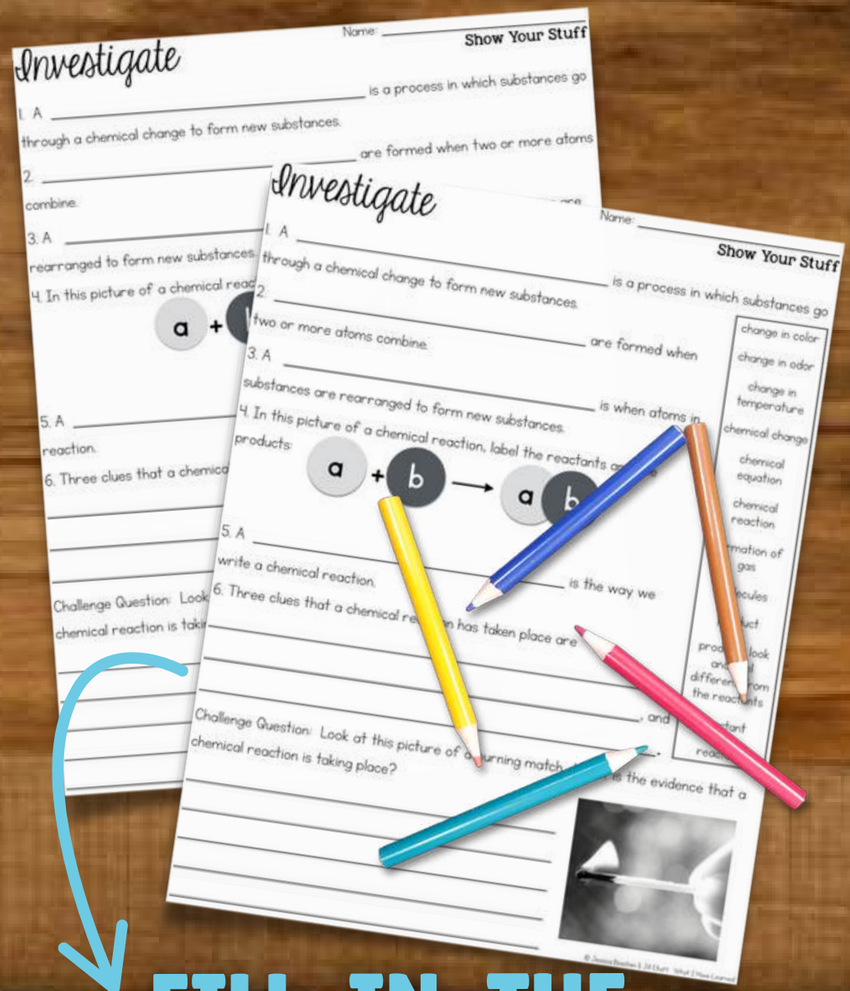
Before	
Draw each beaker and describe your observations:	
What is the temperature of the contents in the "Calcium Carbonate" beaker?	
of the contents in the "Calcium Carbonate" beaker?	

Consider what you learned in the reading section. Did a chemical reaction take place? What evidence do you have for your answer?

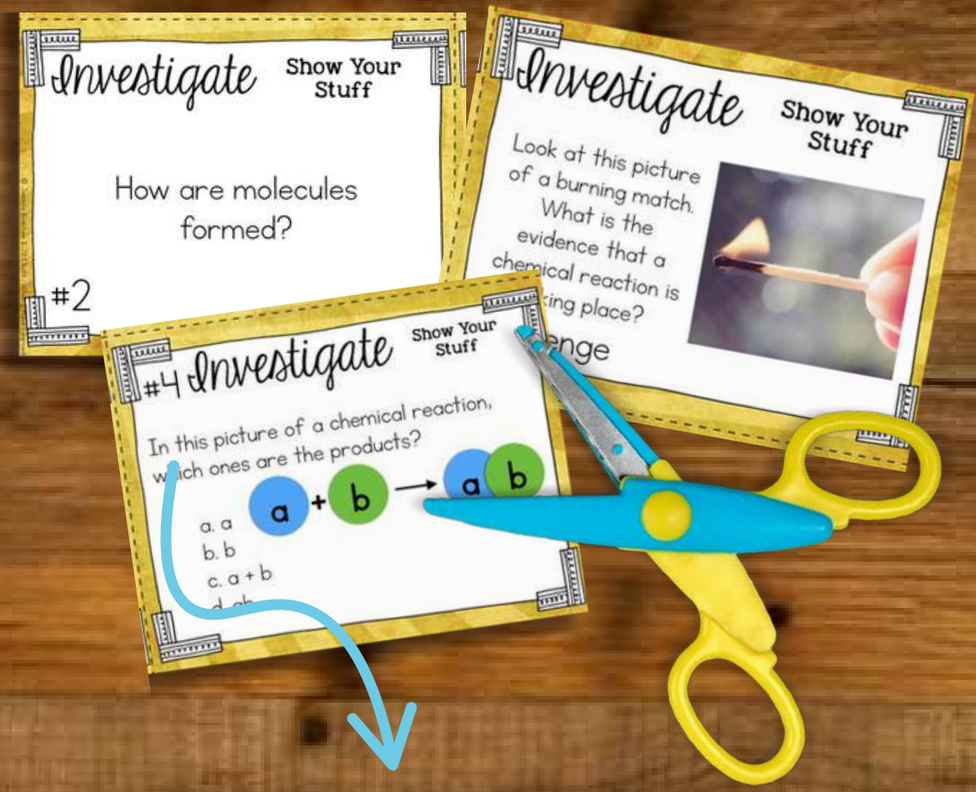
DIFFERENTIATED QUESTIONS



SHORT ANSWER



FILL-IN-THE BLANK



TASK CARDS: SHORT ANSWER & MULTIPLE CHOICE

Investigate

Show Your Stuff

These pictures show a rusty bike lamp and a burning match. They have something in common. Do you know what it is?





Both of these pictures show a chemical reaction taking place. A **chemical reaction** is a process during which subst... reaction causes new substa...

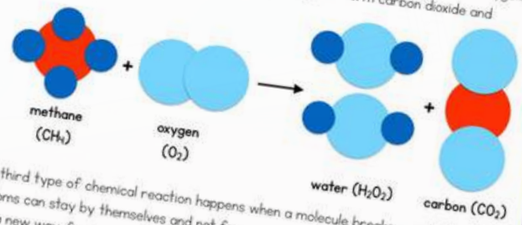
All substances are made ... up space and have mass. ... smallest unit of matter ... atoms combine, they ...

Sometimes atoms ... happens; new subs... that two atoms ... two oxygen ato...

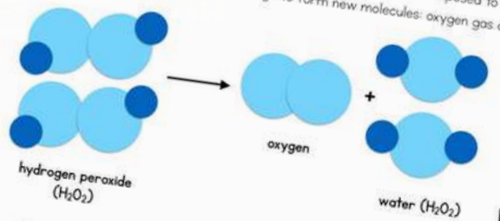
Investigate

Show Your Stuff

In another type of chemical reaction, two molecules may react with each other. Their atoms come apart. These atoms then rearrange during the chemical change and form new molecules. For example, when methane gas is combined with oxygen, it burns. The atoms come apart. They rearrange to form carbon dioxide and water:



A third type of chemical reaction happens when a molecule breaks apart. The atoms can stay by themselves and not form a new molecule. Or they can rearrange in a new way, forming smaller molecules. When hydrogen peroxide is exposed to light, its atoms come apart. They rearrange to form new molecules: oxygen gas and water:



Investigate

Name: _____

Show Your Stuff

1. What is a chemical reaction?
A chemical reaction is a process in which substances go through a chemical change to form new substances.

2. How are molecules formed?
Molecules are formed when two or more atoms combine.

3. What is a chemical change?
A chemical change is when atoms in substances are rearranged to form new substances.

4. In this picture of a chemi... label the reactants and the products:



5. What is a chemical equa...
A chemical equation is th... reaction.

6. List three clues that a chemical r...
Choose three: change in color, chan... change in odor, products look and feel different from the reactants, and ...

Challenge Question: Look at this picture of a ... at is the evidence that a chemical reaction is taking place?



There are 5 clues that a chemical reaction... the burning match. It is changing color, ... looking very different from the unburnt ma... odor, and giving off heat.

© Teresa Bonner | 2nd Chick - What I Have Learned

How are molecules formed?

#2

Investigate

Show Your Stuff

Look at this picture of a burning match. What is the evidence that a chemical reaction is taking place?



Challenge

#2 Investigate

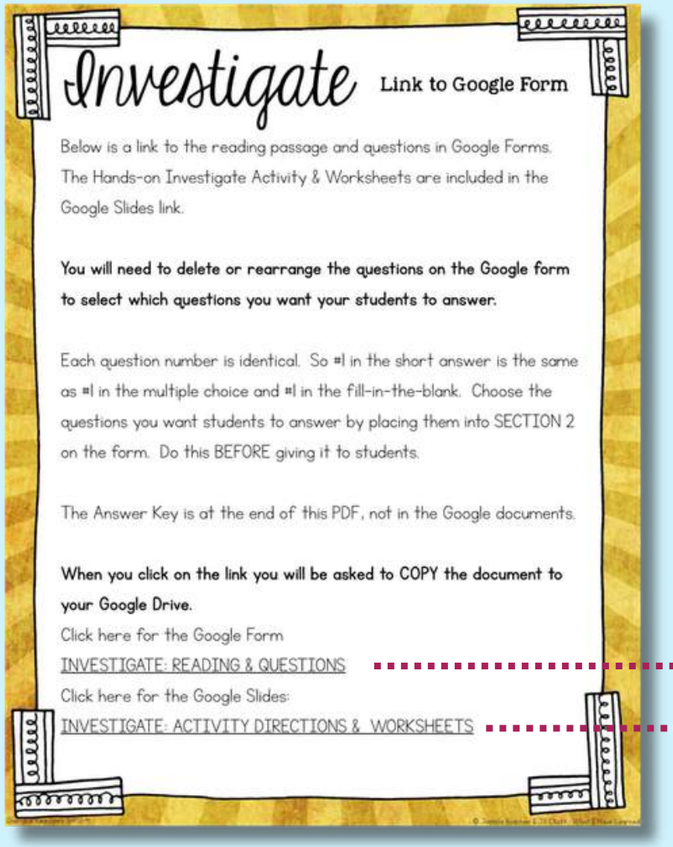
Show Your Stuff

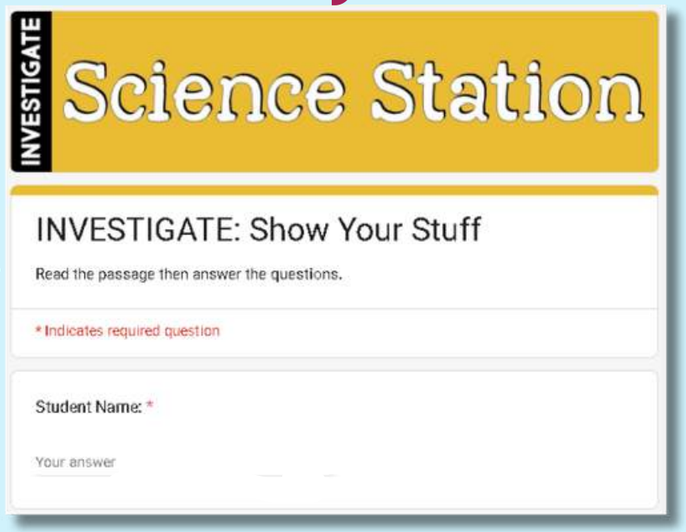
How are molecules formed?

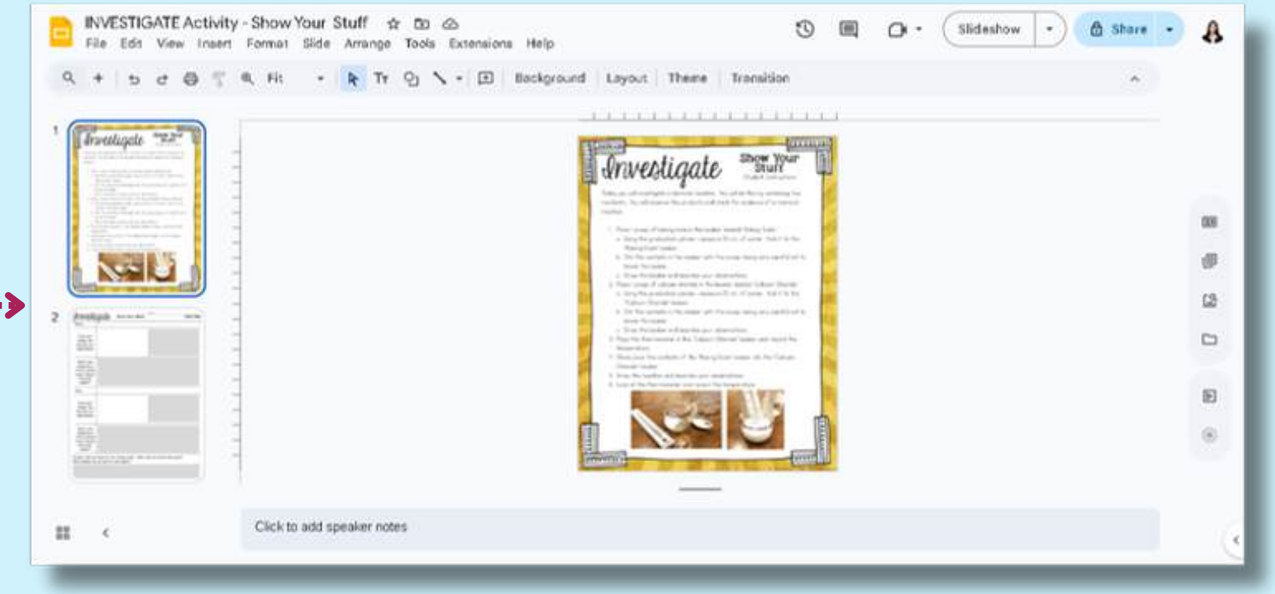
a. When two or more atoms combine
b. When water changes from a liquid to a solid
c. When rocks are broken apart by a hammer
d. When atoms split into smaller pieces



DIGITAL VERSIONS







DIGITAL VERSIONS

- ✔ Google Sheet with Activity & Directions
- ✔ Google Form with Reading & Questions

Answer keys provided

YOU WILL LOVE THIS BECAUSE



Hands-On Discovery

Students actively measure and test instead of just reading about the concept.



Multiple Response Formats

Differentiated questions (short answer, blanks, task cards, multiple-choice) ensure every student can access and demonstrate understanding effectively.



Teacher-Friendly Design

Includes teacher notes, answer keys, and ready-to-use materials—minimizing prep time while maximizing instructional impact in your classroom.

TEACHERS LOVE IT!

★★★★★

Love it!

Lighting the Embers

★★★★★

A great resource to use with my fifth graders as we learned about changes to substances!

Eileen N.

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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.



teach MATH | teach SCIENCE | teach READING | teach WRITING

What I have LEARNED