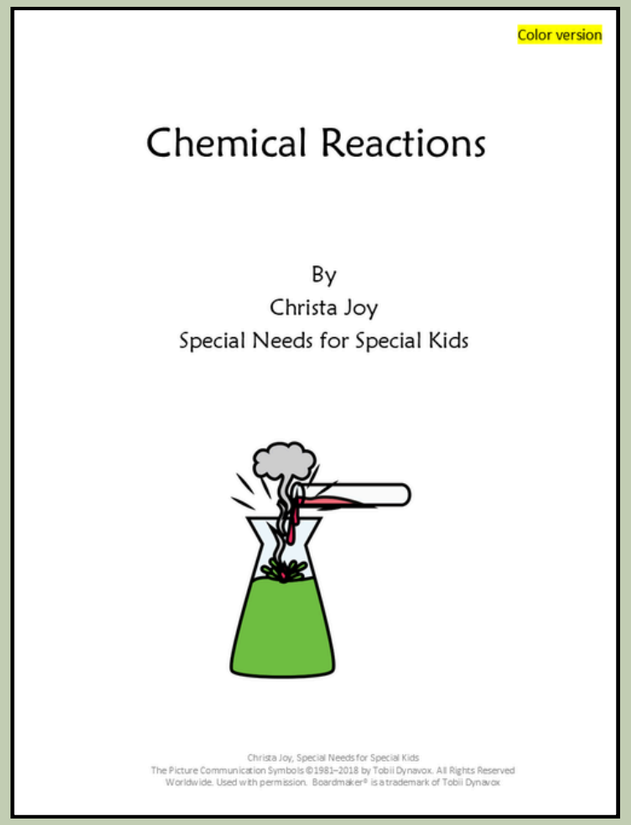
CHEMICAL REACTIONS

For Special Ed

ENGAGING, HANDS-ON CHEMISTY ACCESSIBLE TO ALL LEARNERS

For students who:

- are emerging or non-readers
- take alternate assessments
- are in special education
- short-attention span
- lack pre-requisite skills
- benefit from the use of pictures for support
- middle/high school


Color version

Chemical Reactions

By
Christa Joy
Special Needs for Special Kids

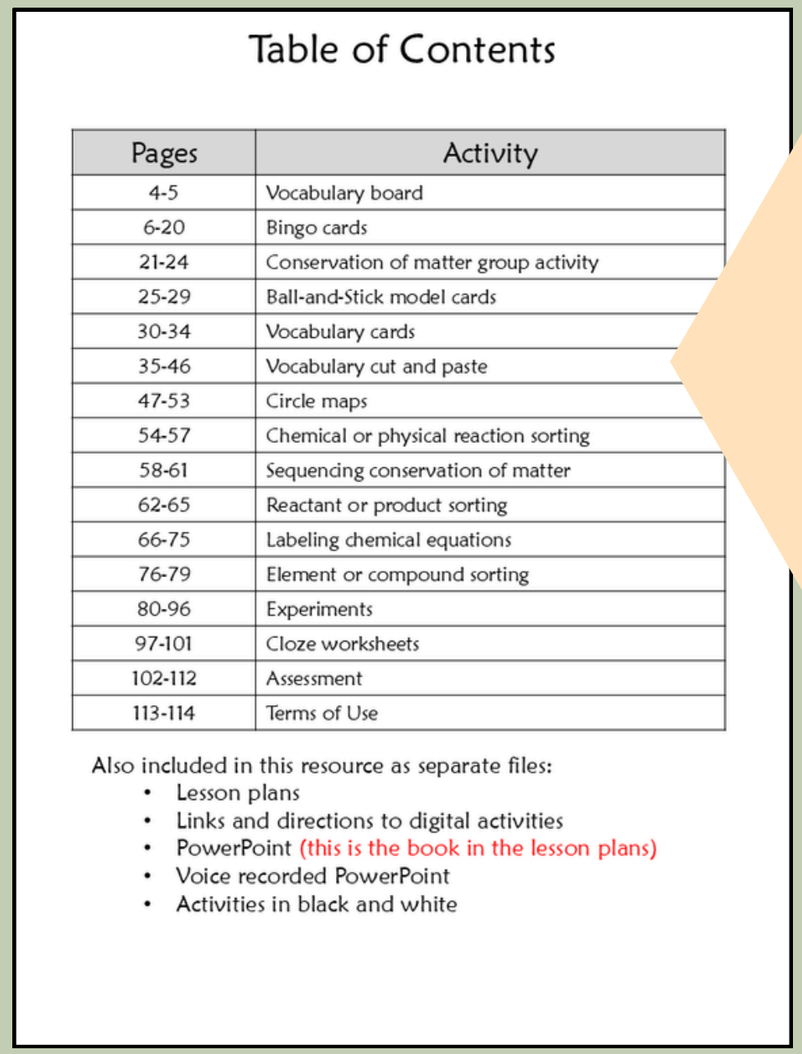


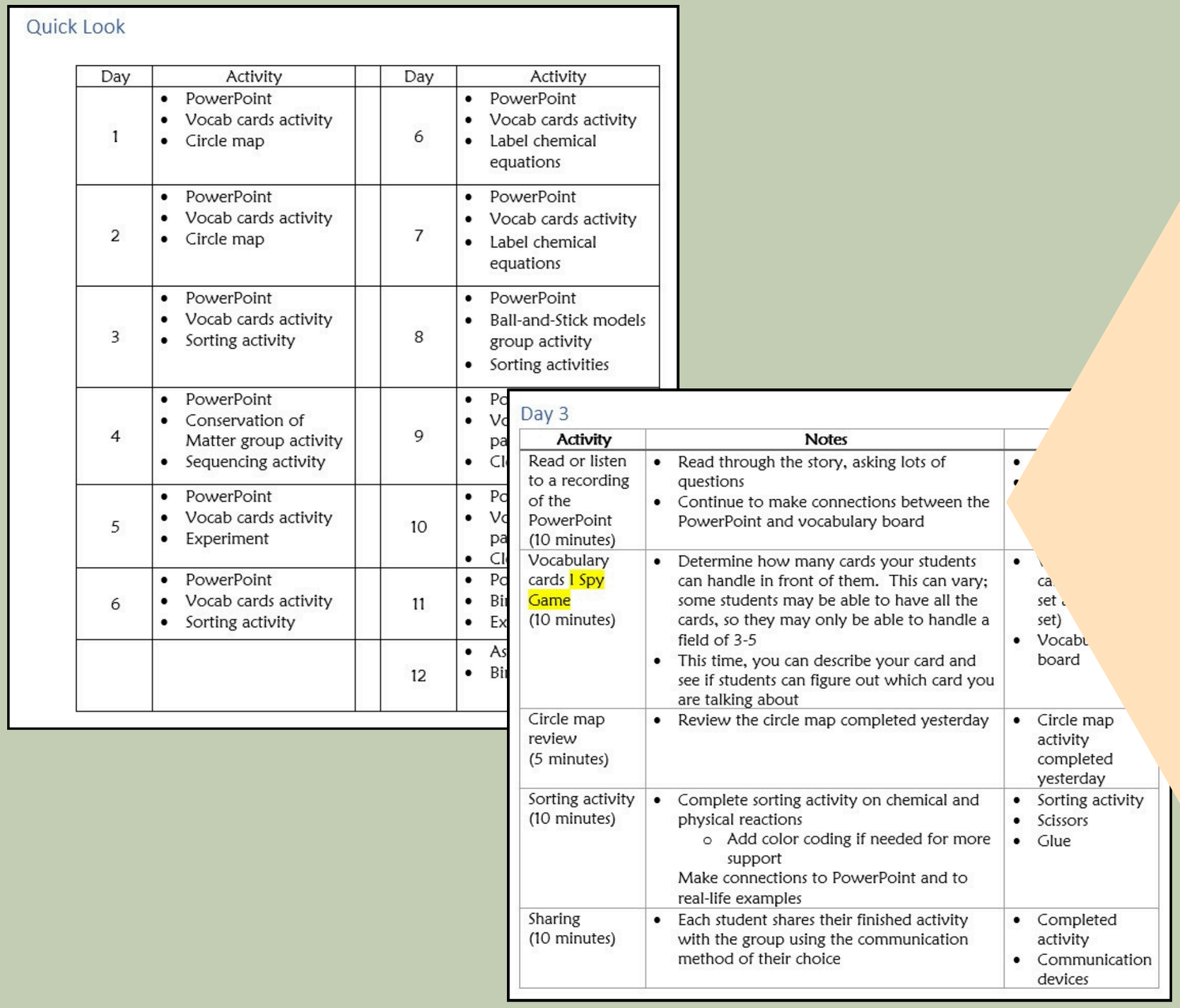
Table of Contents

Also included in this resource as separate files:

- Lesson plans
- Links and directions to digital activities
- PowerPoint (this is the book in the lesson plans)
- Voice recorded PowerPoint
- Activities in black and white

This unit contains 12 days of material. There is a detailed lesson plan to help you make the most of everything in this unit, including how to add some group activities.

It comes in 2 separate files. One in color and one in black and white.



Quick Look

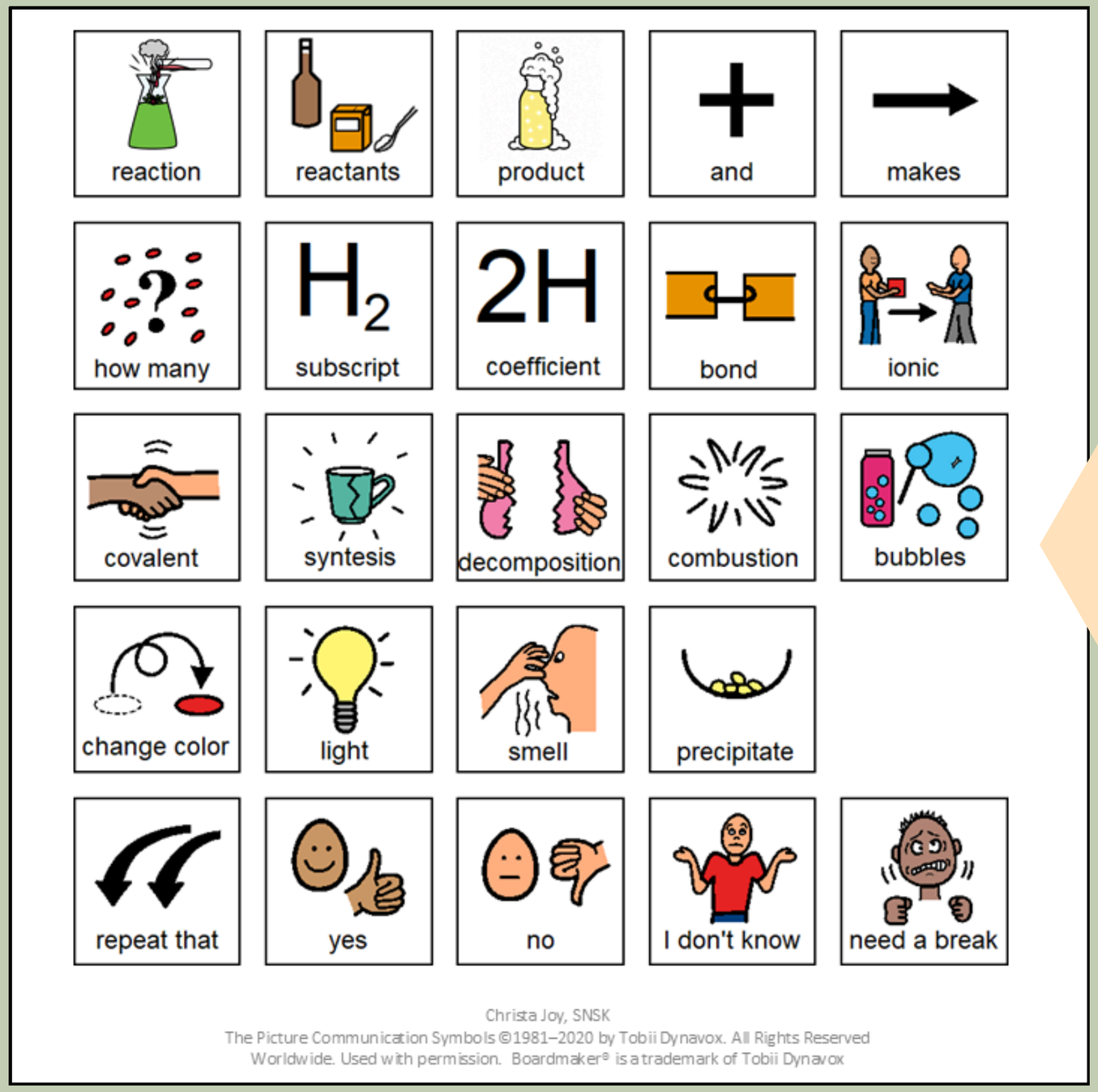
Day	Activity		Day	Activity
1	• PowerPoint • Vocab cards activity • Circle map		6	• PowerPoint • Vocab cards activity • Label chemical equations
2	• PowerPoint • Vocab cards activity • Circle map		7	• PowerPoint • Vocab cards activity • Label chemical equations
3	• PowerPoint • Vocab cards activity • Sorting activity		8	• PowerPoint • Ball-and-Stick models group activity • Sorting activities
4	• PowerPoint • Conservation of Matter group activity • Sequencing activity		9	• Po • Vo pa • Cl
5	• PowerPoint • Vocab cards activity • Experiment		10	• Po • Vo pa • Cl
6	• PowerPoint • Vocab cards activity • Sorting activity		11	• Po • Bi • Ex
			12	• As • Bi

Day 3

Activity	Notes	
Read or listen to a recording of the PowerPoint (10 minutes)	• Read through the story, asking lots of questions • Continue to make connections between the PowerPoint and vocabulary board	•
Vocabulary cards I Spy Game (10 minutes)	• Determine how many cards your students can handle in front of them. This can vary; some students may be able to have all the cards, so they may only be able to handle a field of 3-5 • This time, you can describe your card and see if students can figure out which card you are talking about	• ca set set) • Vocabu board
Circle map review (5 minutes)	• Review the circle map completed yesterday	• Circle map activity completed yesterday
Sorting activity (10 minutes)	• Complete sorting activity on chemical and physical reactions ○ Add color coding if needed for more support Make connections to PowerPoint and to real-life examples	• Sorting activity • Scissors • Glue
Sharing (10 minutes)	• Each student shares their finished activity with the group using the communication method of their choice	• Completed activity • Communication devices

The lesson plans contain:

- Overall tips for teaching students with significant needs
- A quick look at what you will do each day
- Detailed instructions on how that day's lesson should run



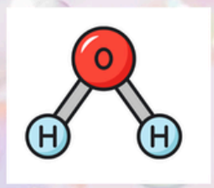
This unit comes with a vocabulary board.

Vocabulary boards are great for ALL students, helping with participation and engagement in group discussions.

Tips on how to use in the unit!!

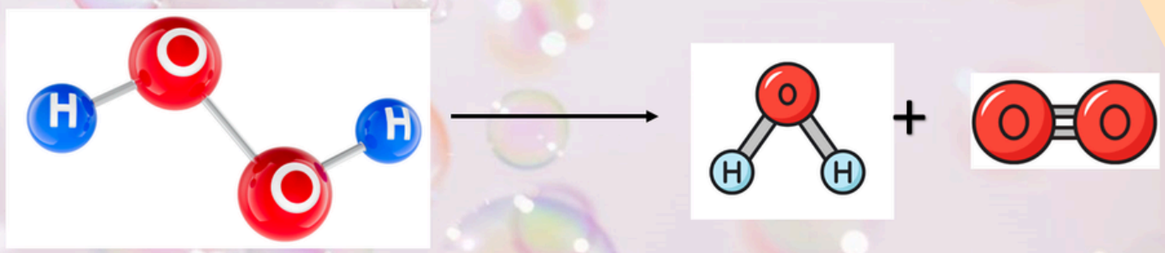
There are some other special symbols used as well. A subscript shows how many atoms there are in a molecule. This is the formula for a water molecule.

H_2O



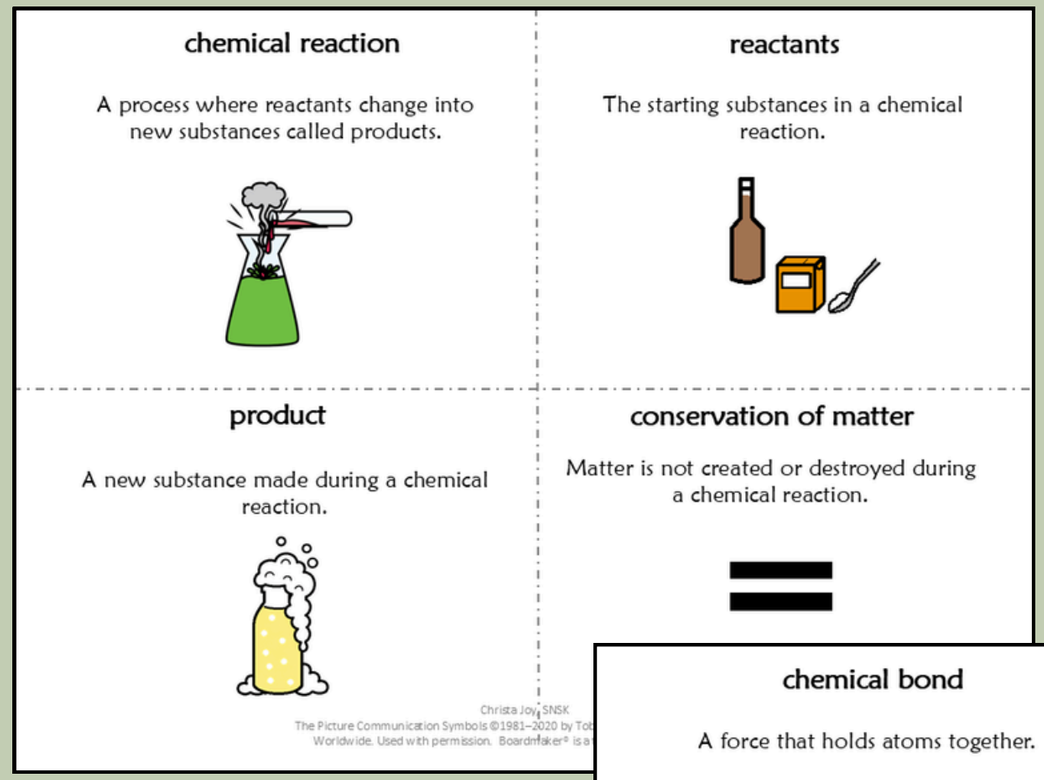
The subscript of 2 tells you there are 2 atoms of hydrogen in one water molecule. If there is no subscript written, you assume it is 1. So, there is one atom of oxygen in a water molecule.

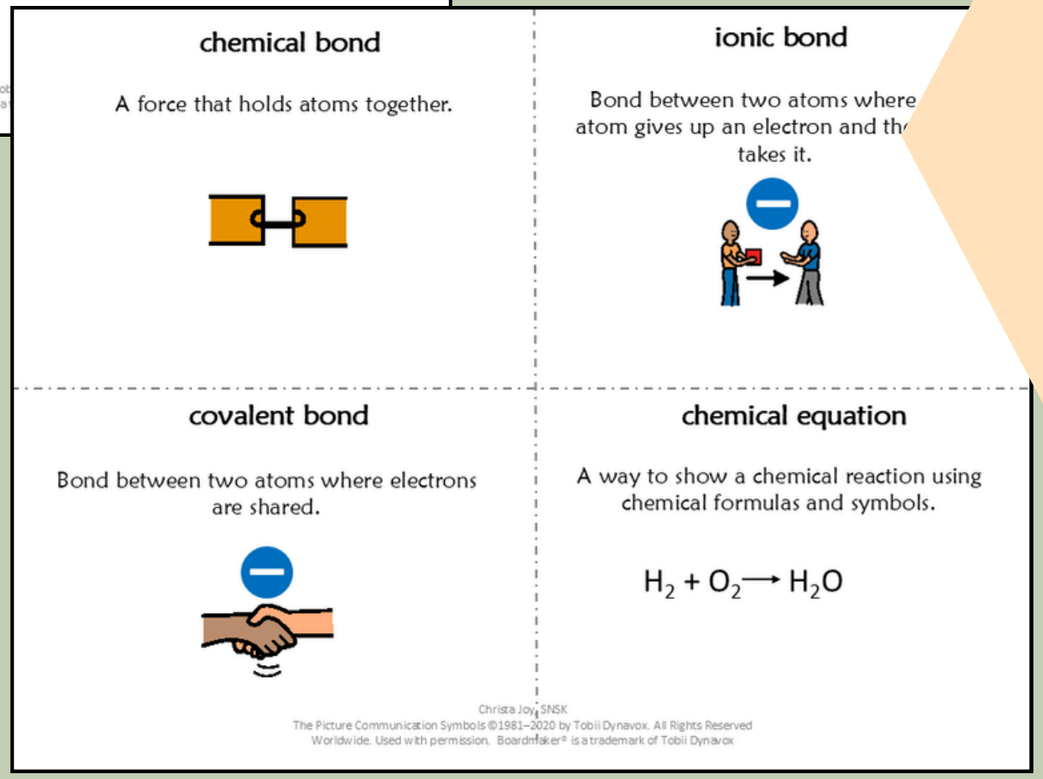
These are not as easily recognized as the rust example. For example, hydrogen peroxide breaks apart into water and oxyge



There is a 50-page PowerPoint for this unit using simple text and photos.

It is also available as Google Slides and a pre-recorded MP4 file.



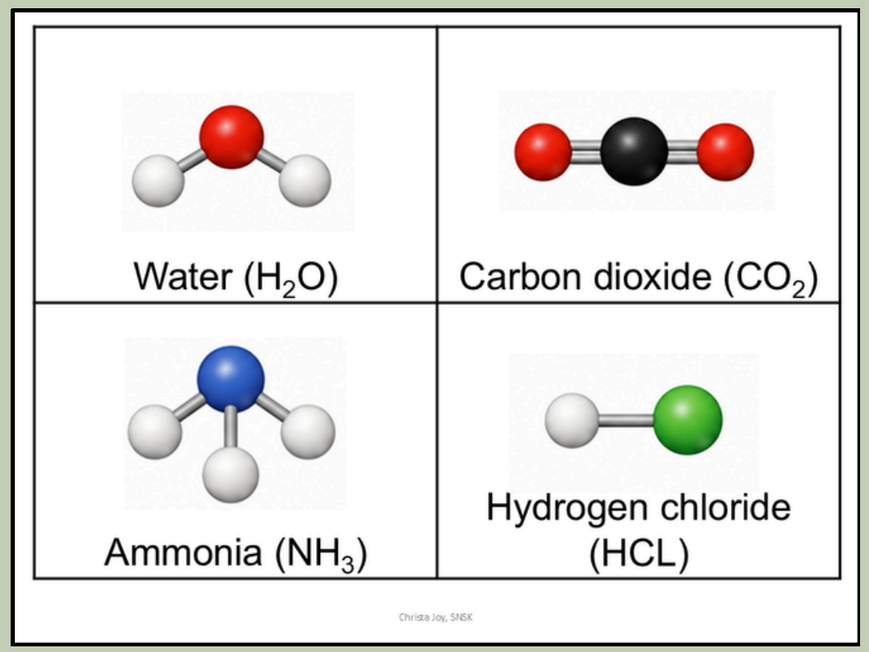


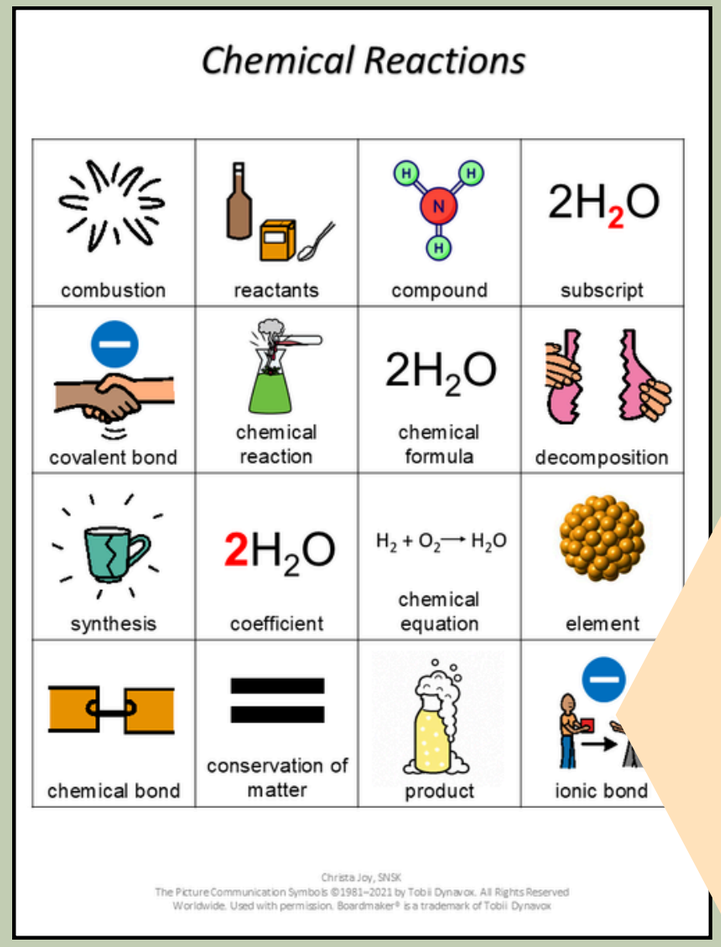
There are 16 vocabulary cards that come in color and black and white.

- Included are suggestions for group activities to do with these each day.
- There is also a cut-and-paste activity.

Conservation of Matter Group Activity

- Objective: Students work with manipulatives to identify reactants and products, demonstrating that the same number is present in both.
- Materials:
  - Counters (2 different colors)
  - Pom-poms (2 different colors)
  - Buttons (2 different colors)
  - 2 different types of small erasers
  - Lego blocks (2 different colors)
  - Chemical equation mats
- Directions:
  - Have students sort the manipulatives by color (or sameness) onto the two reactant mats.
  - Physically move the manipulatives so they are all on the product mat. Encourage students to arrange them in some sort of pattern. This will later reinforce that bonding is not random.



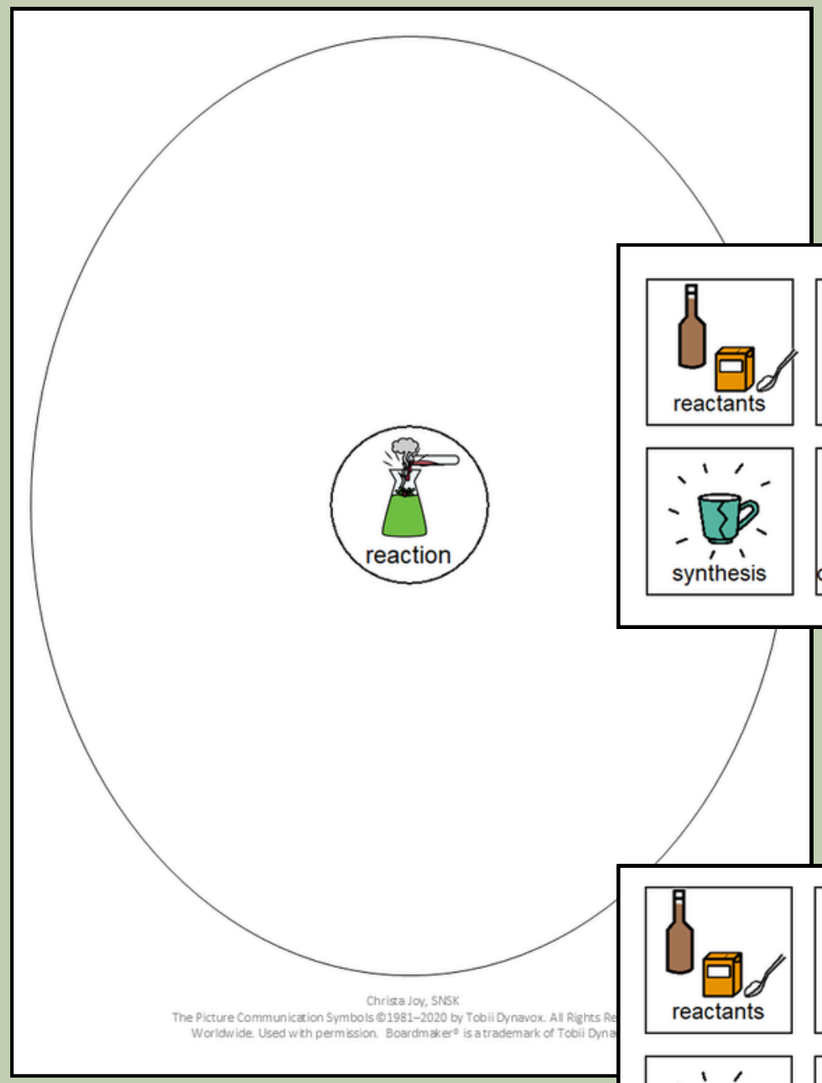


SUGGESTIONS FOR USE IN SMALL GROUPS

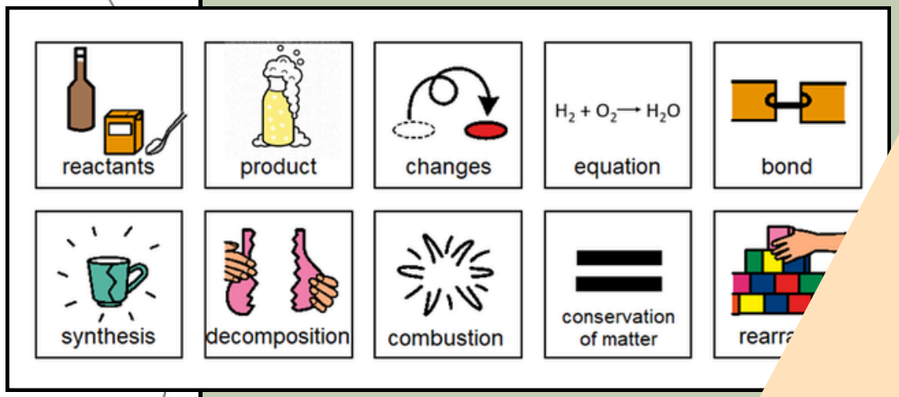
There are 3 group activities to review vocabulary.

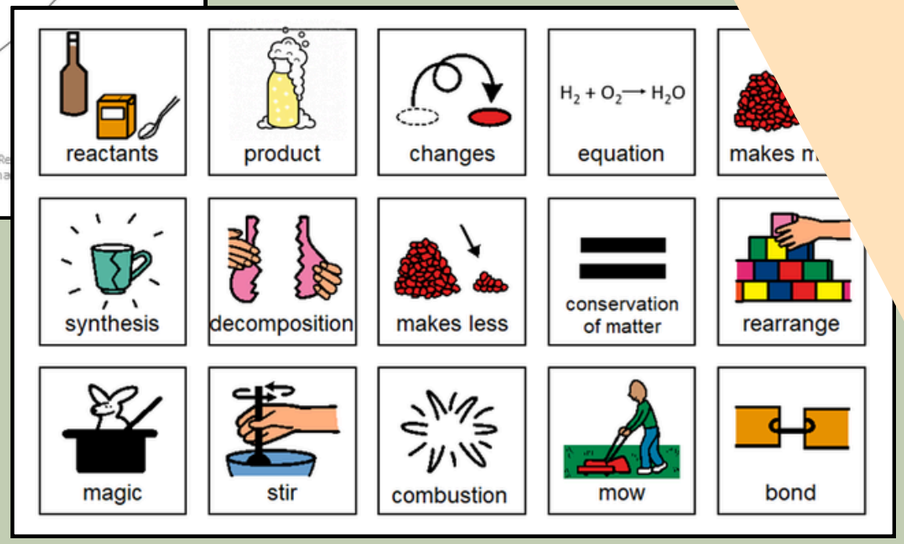
- Conservation of Matter mats (reactants & products)
- Ball-and-Stick Models
- Bingo cards

ALSO IN BLACK & WHITE



ERRORLESS





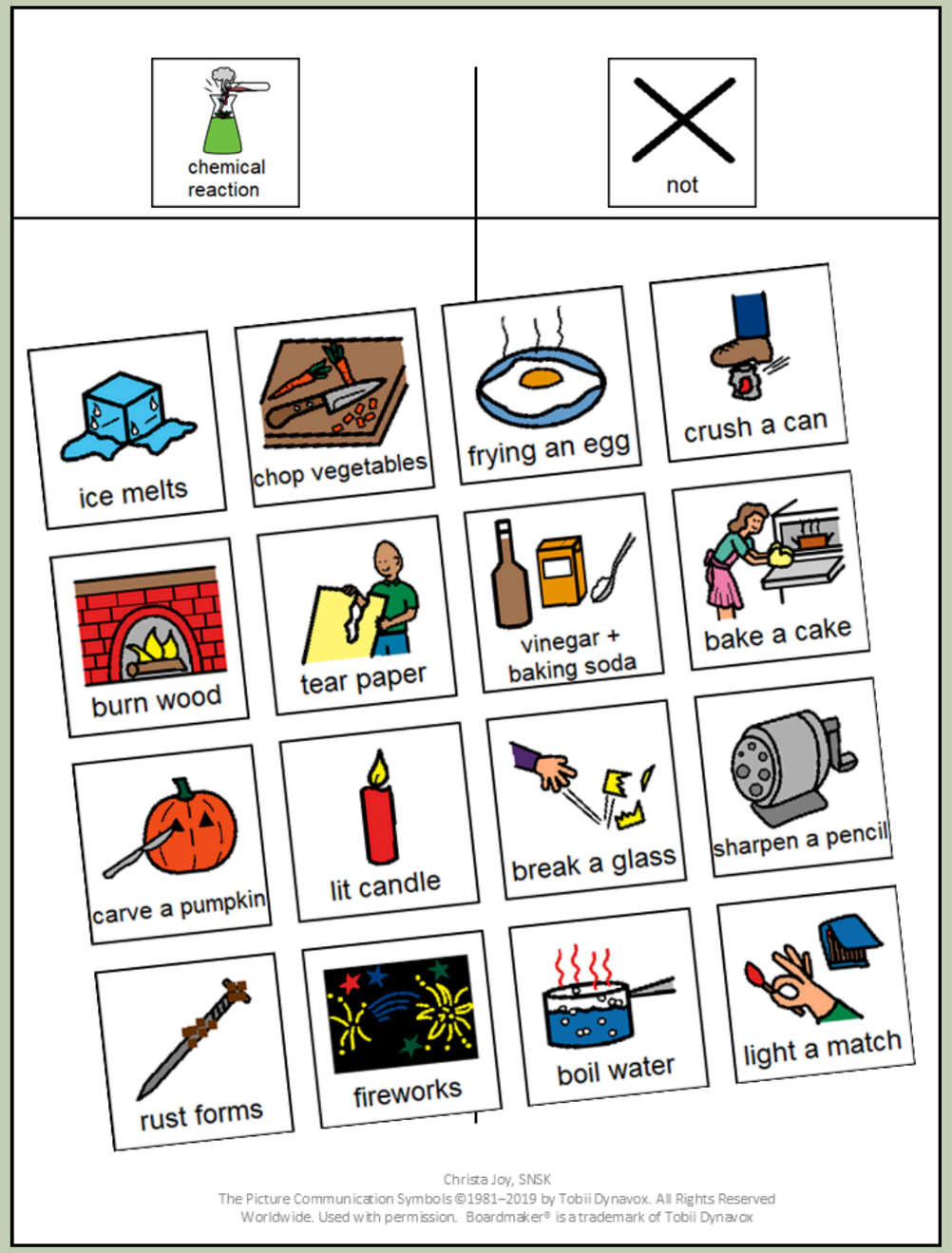
WRONG ANSWERS MIXED IN

There are 2 circle maps.

- Chemical reactions
- Signs of a chemical reaction

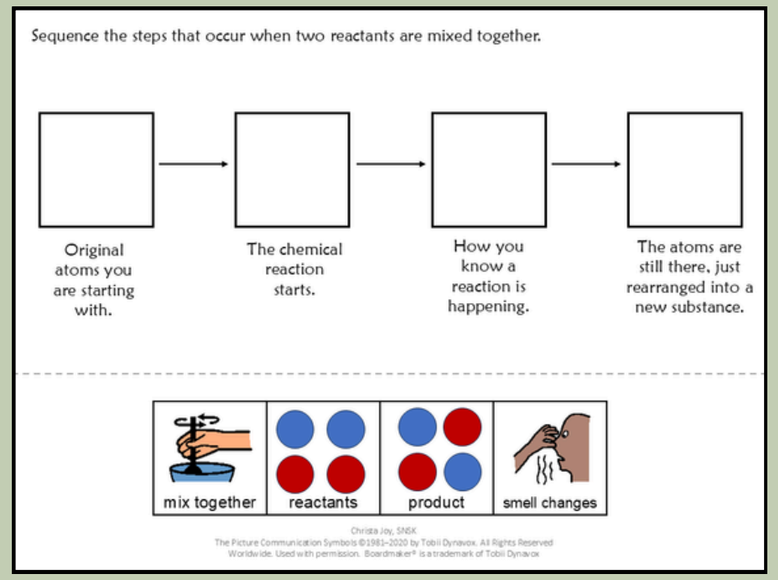
Circle maps are a great way for students to see the concept at a glance. There are 2 versions:

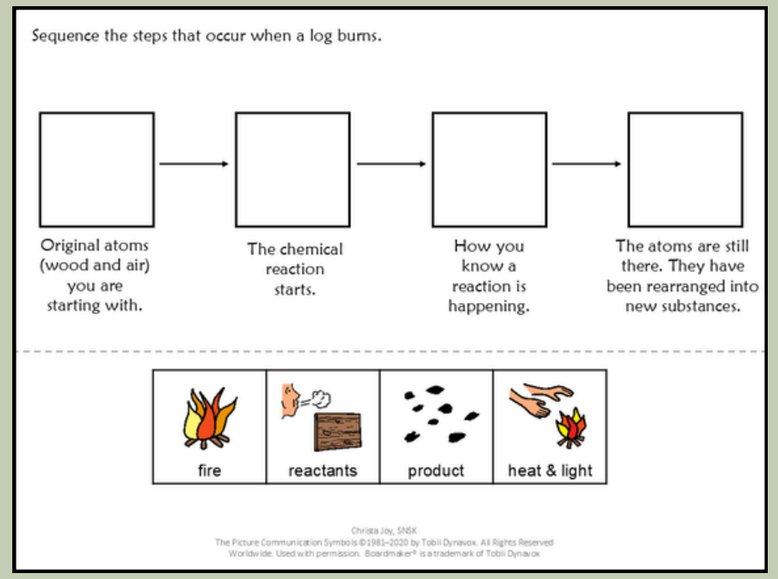
- Errorless
- Wrong answers mixed in

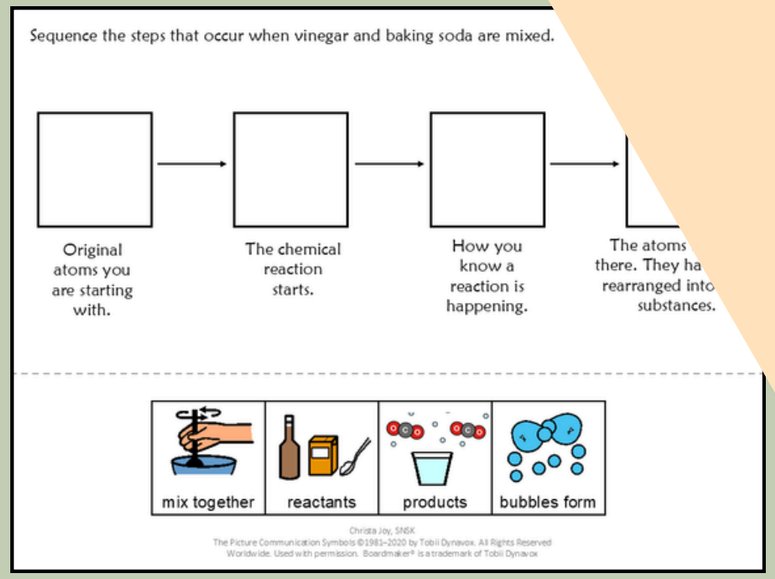


Students will sort examples of chemical reactions.

Suggestions for differentiation and an answer key are included.



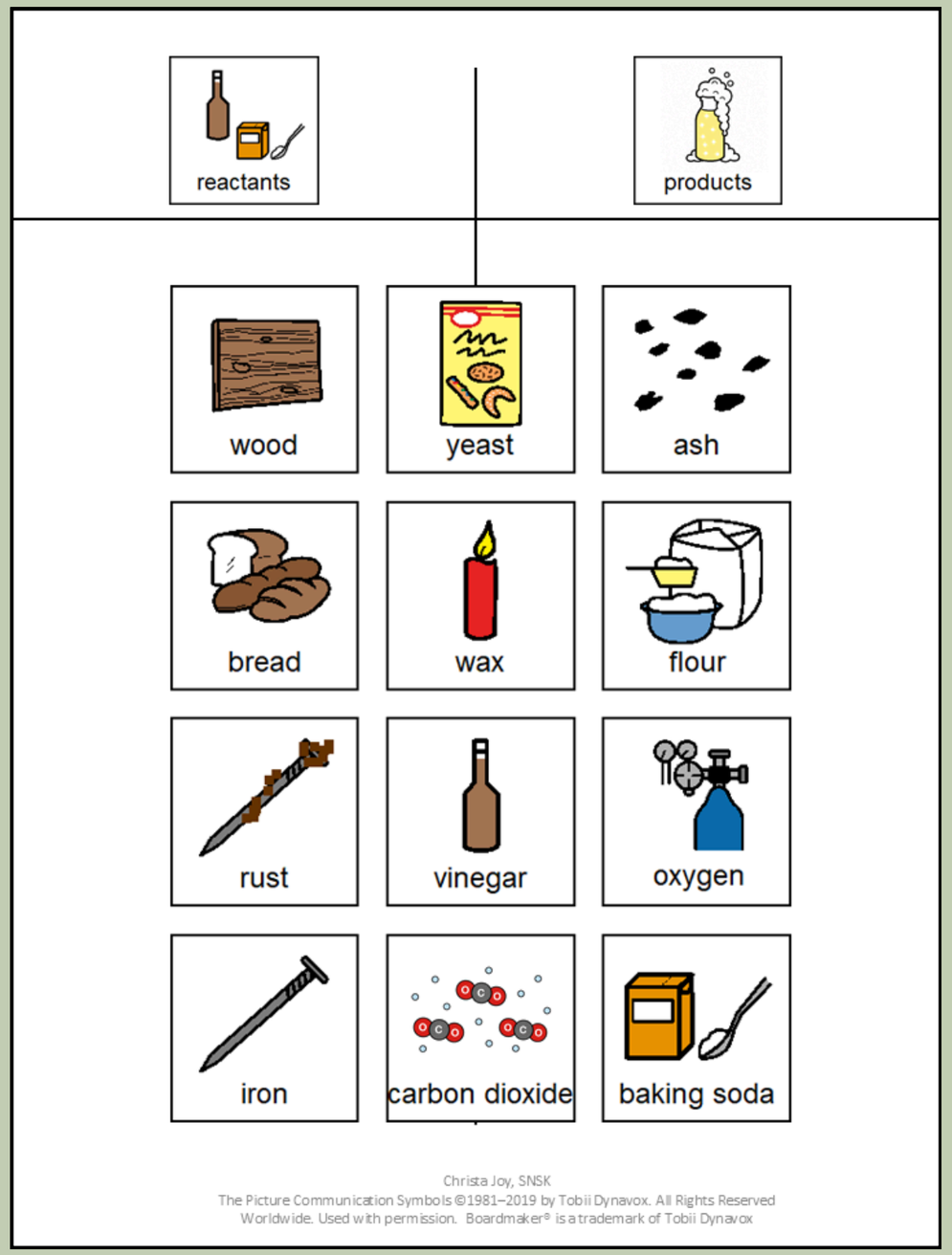




3 WORKSHEETS

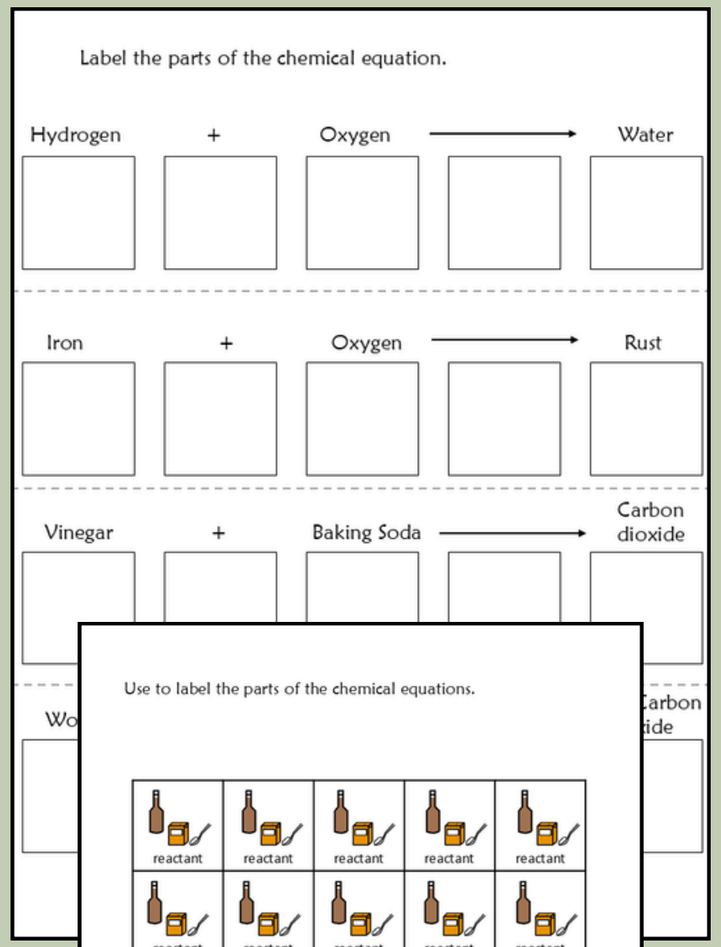
Students will sequence what happens in a chemical reaction. This is to demonstrate conservation of matter.

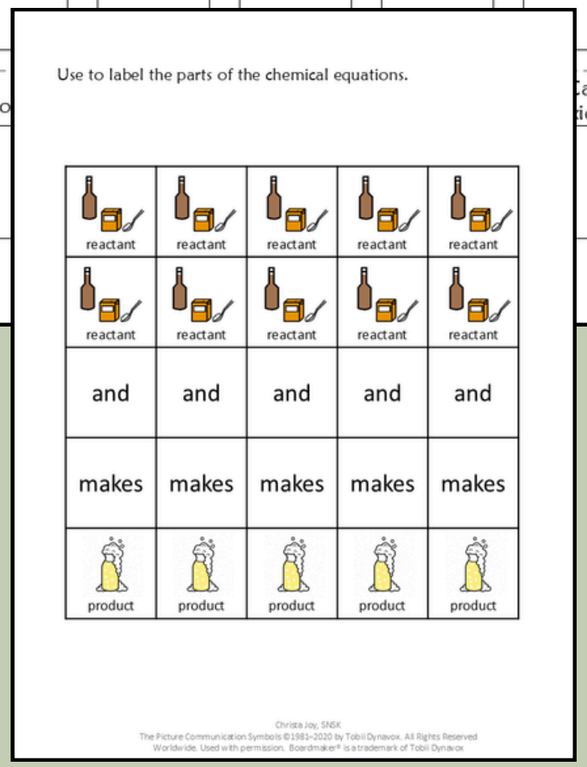
Suggestions for differentiation and an answer key are included.

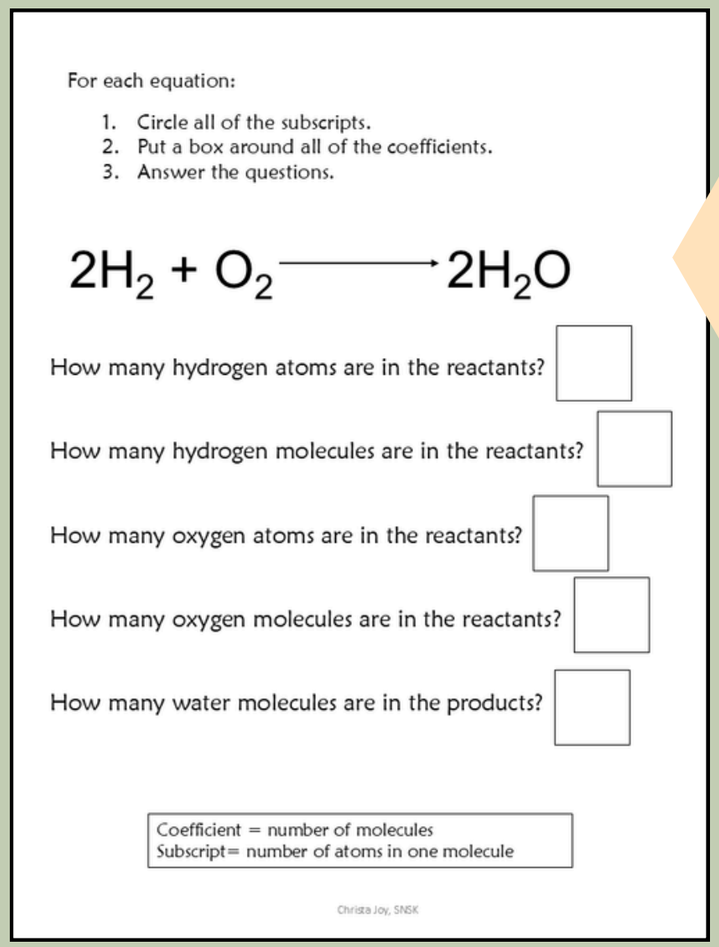


Students will sort common reactants and products.

Suggestions for differentiation and an answer key are included.

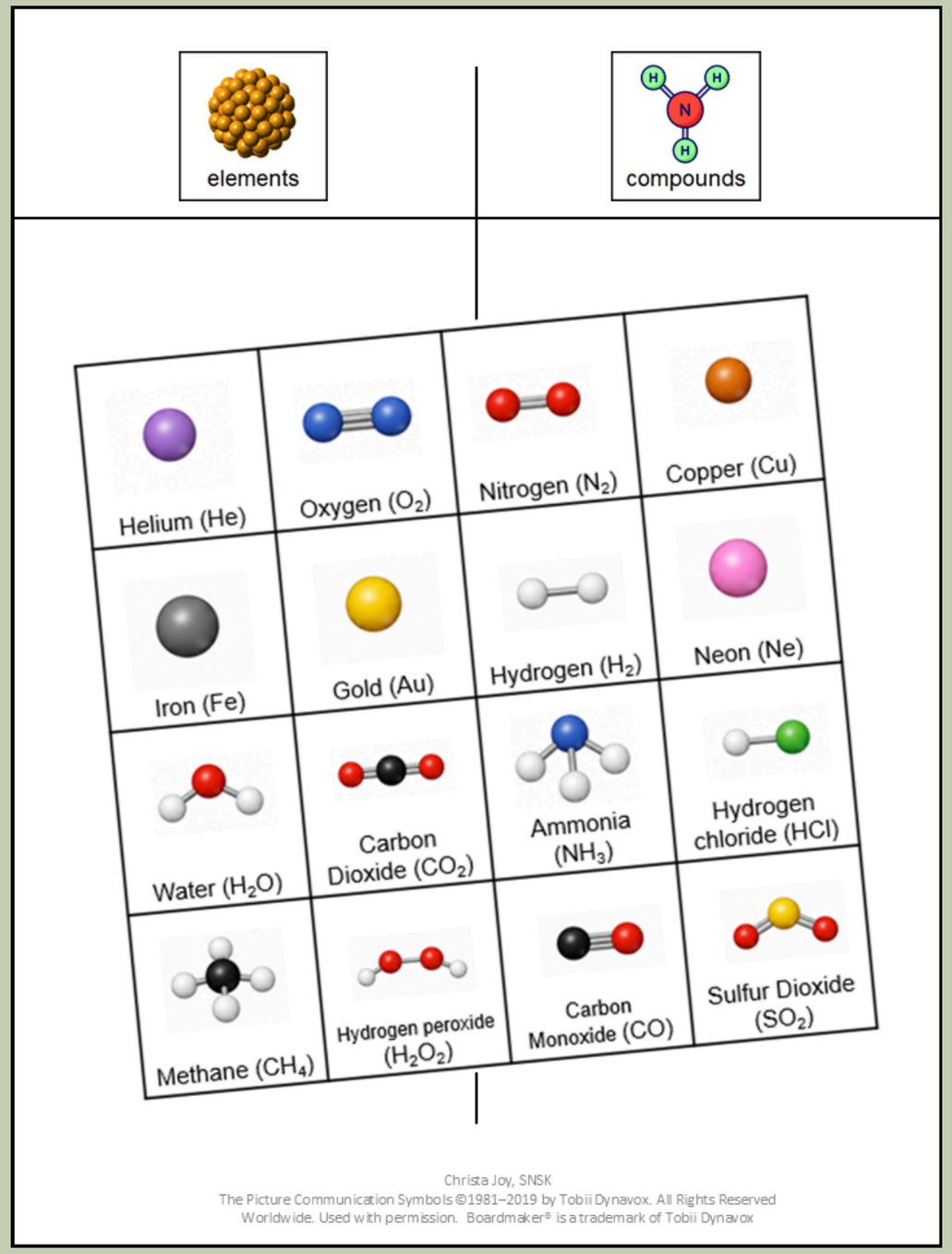






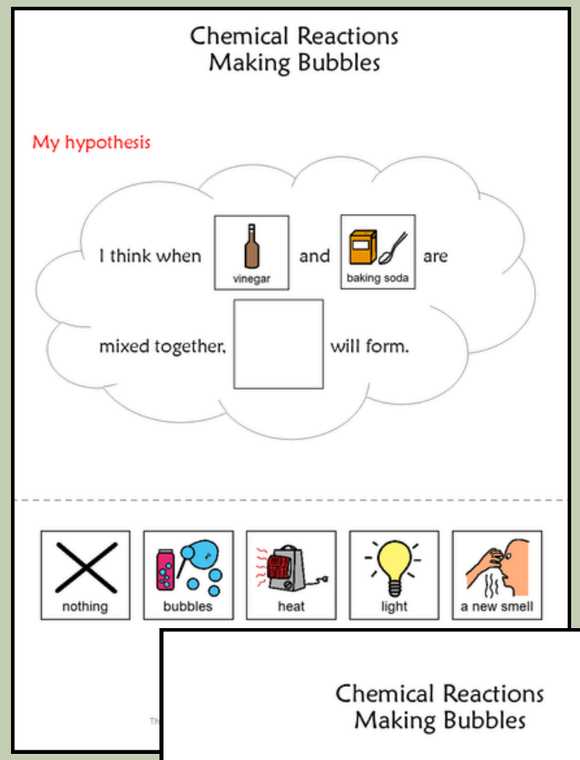
There are several activities where students practice labeling and reading chemical equations.

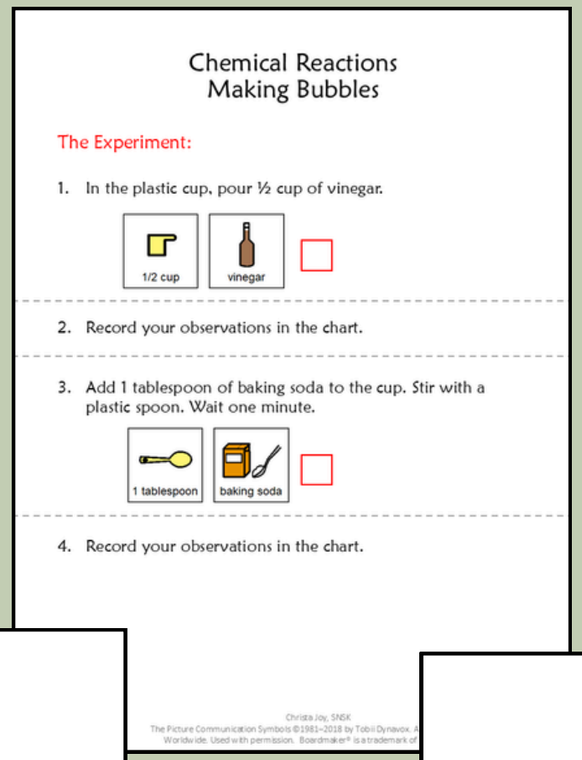
Suggestions for differentiation and an answer key are included.

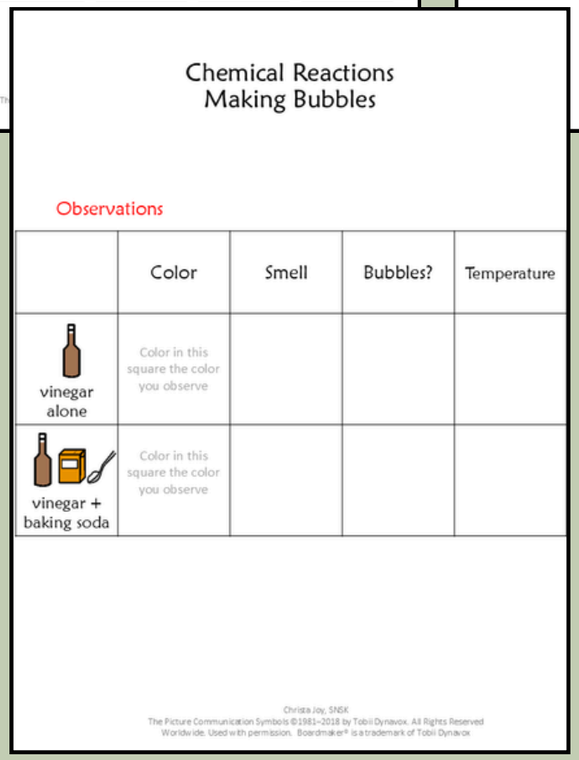


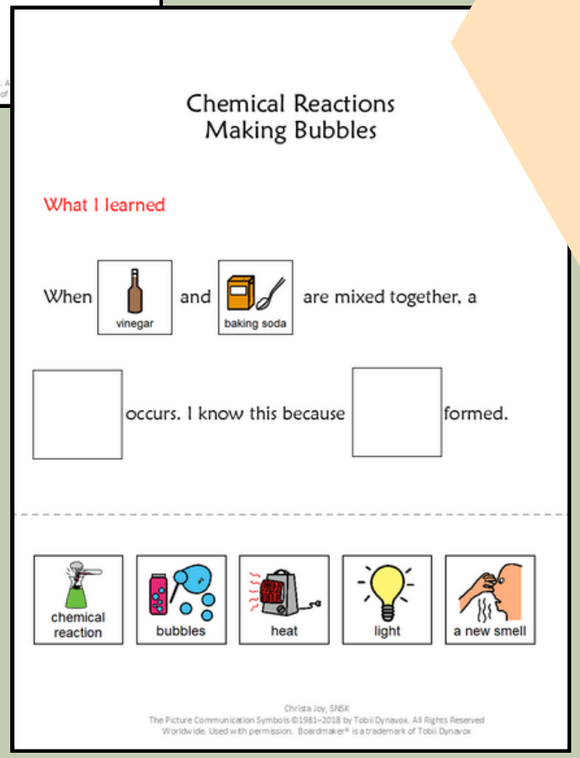
Using ball-and-stick models, students will sort elements and compounds.

Suggestions for differentiation and an answer key are included.









This unit includes 2 experiments. It guides students through the process of creating and testing a hypothesis.

1. Making Bubbles
2. Making Rust

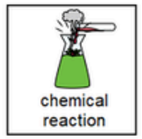
1. A [ ] is a process that changes one substance into a new one.

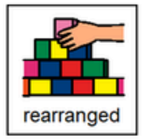
2. The substances you start with in a chemical reaction are [ ] .

3. The new substance created is the [ ] .

4. During a reaction, atoms are [ ] not created or destroyed.

5. [ ] means nothing is created or destroyed.





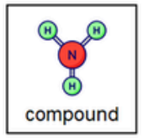
6. A [ ] equation uses symbols and formulas to show

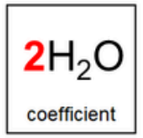
7. The [ ] tells how many molecules are in

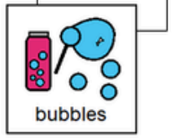
8. The [ ] tells how many atoms are in one

9. [ ] , color change and new smell are signs of a chem reaction.

10. When two or more different elements bond together, they form a [ ]

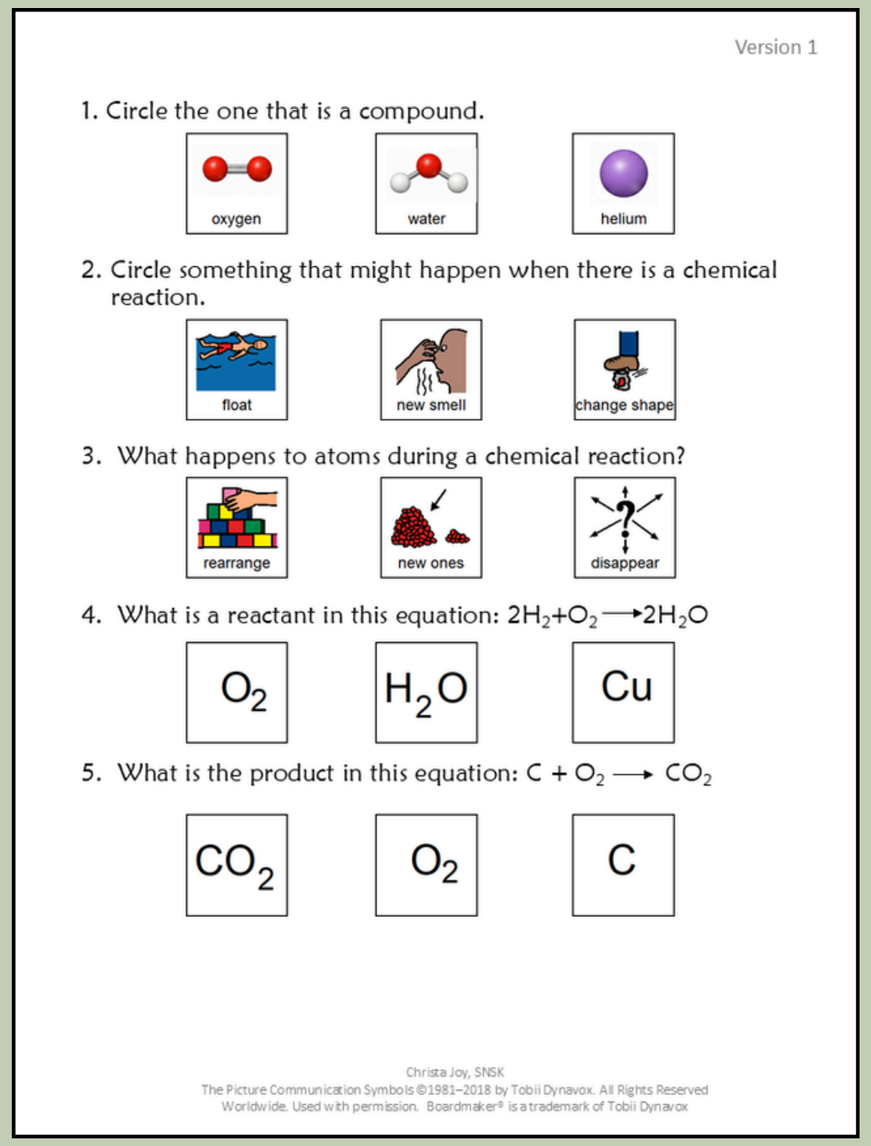






Close worksheets are a great informal assessment. This unit has 10 questions on chemical reactions.

Answer key included.


Version 1

1. Circle the one that is a compound.

oxygen | water | helium

2. Circle something that might happen when there is a chemical reaction.

float | new smell | change shape

3. What happens to atoms during a chemical reaction?

rearrange | new ones | disappear

4. What is a reactant in this equation: $2H_2+O_2 \longrightarrow 2H_2O$

O_2 | H_2O | Cu

5. What is the product in this equation: $C + O_2 \longrightarrow CO_2$

CO_2 | O_2 | C

Christa Joy, SNSK
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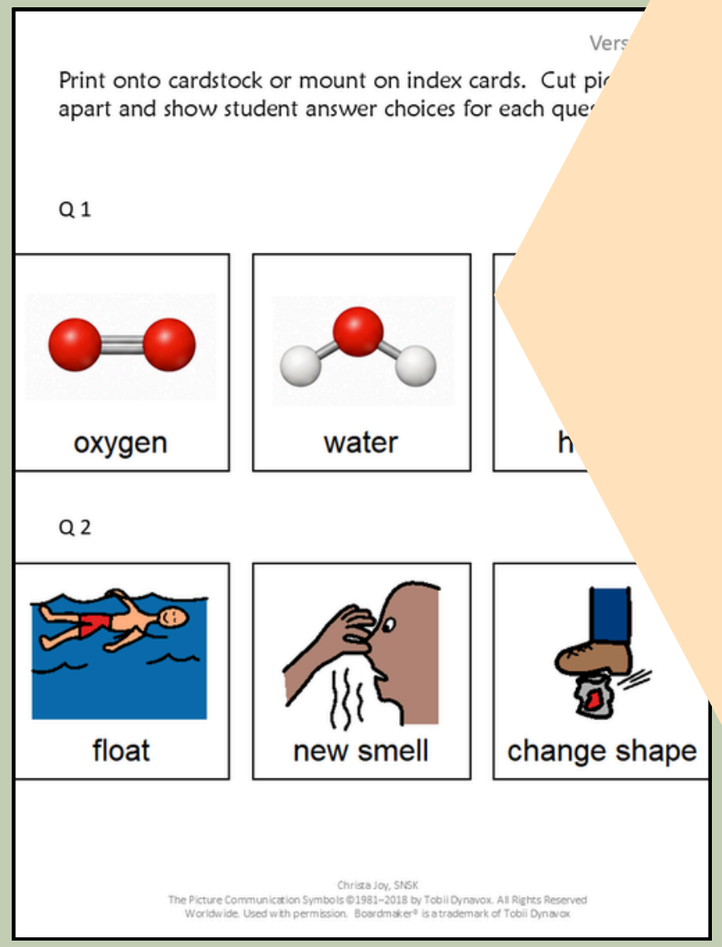
Vers

Print onto cardstock or mount on index cards. Cut pi
apart and show student answer choices for each que

Q 1

oxygen | water | h

Q 2

float | new smell | change shape

Christa Joy, SNSK
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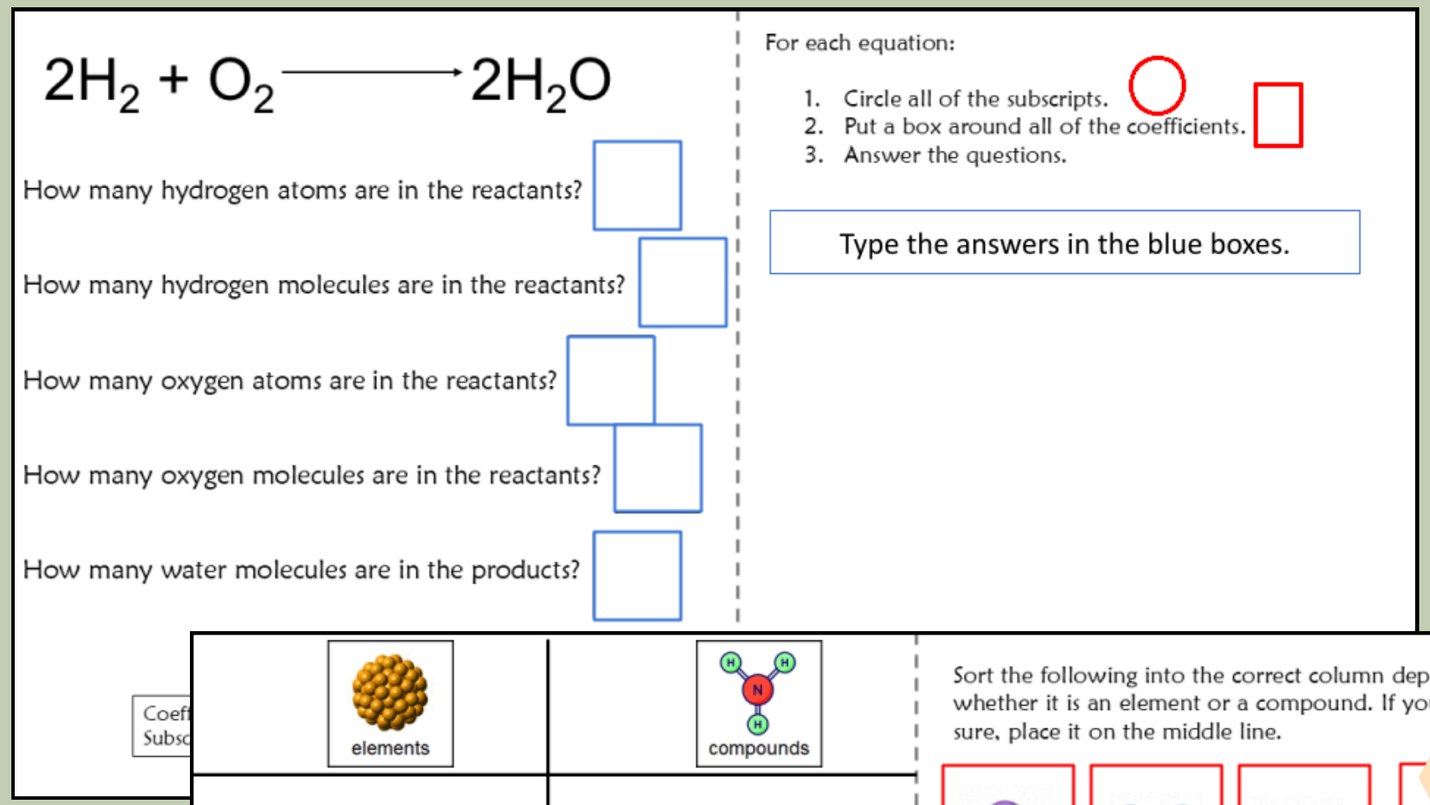
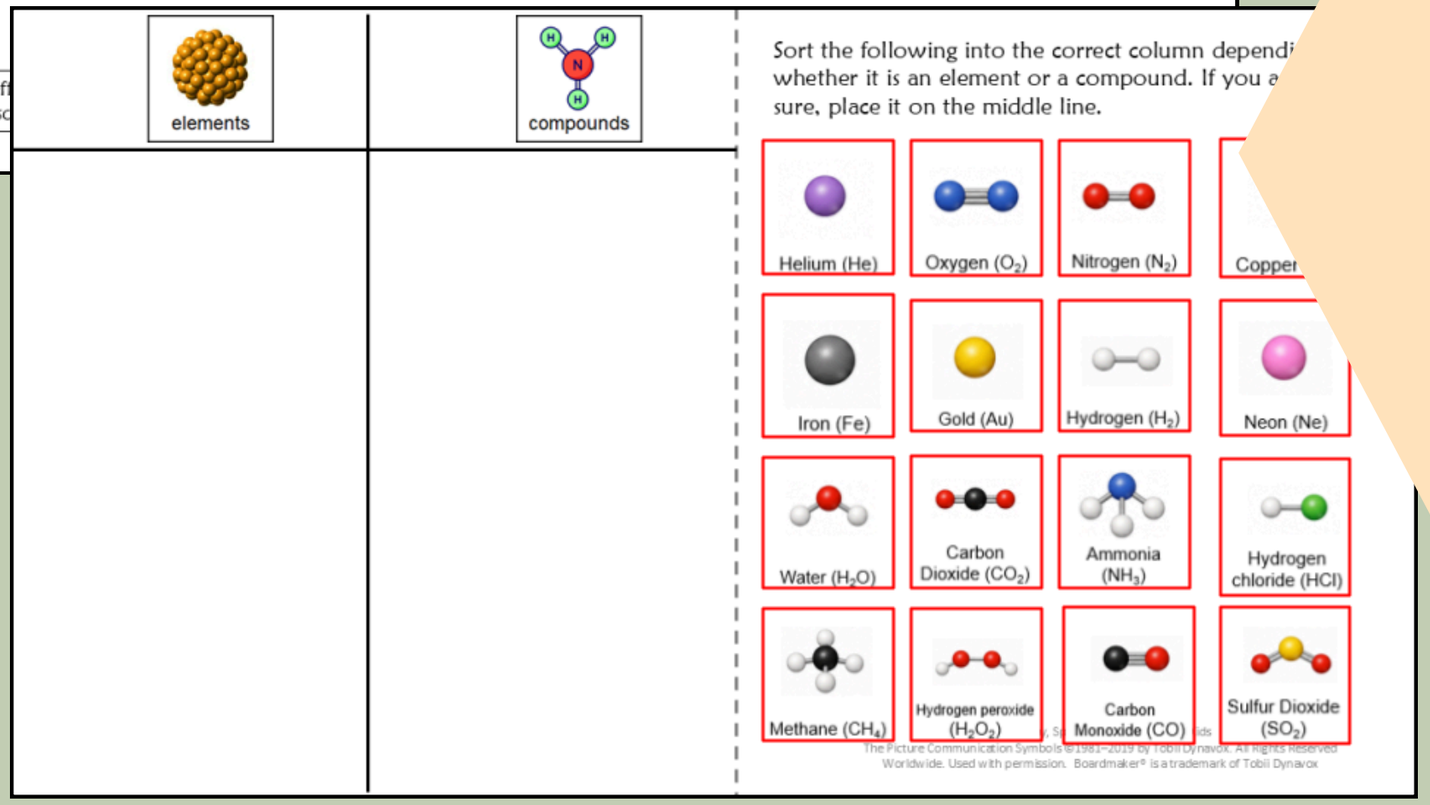
FINALLY the assessment!!

There are 3 versions.

- 10 questions with 3 picture choices for each question
- cut out the answer choices and glue them on index cards
- traditional multiple choice

Answer key included.





The digital activities have students click and drag their answers.

Includes a differentiated set of slides.

SAVE MONEY AND GET THIS AS PART OF THE CHEMISTRY CURRICULUM.

CLICK HERE

Christa Joy, M.Ed., DVM