

SPECIAL ED

PHYSICAL & CHEMICAL CHANGES

BOOK

ACTIVITIES

EXPERIMENTS

ASSESSMENT

INCLUDES GOOGLE SLIDES



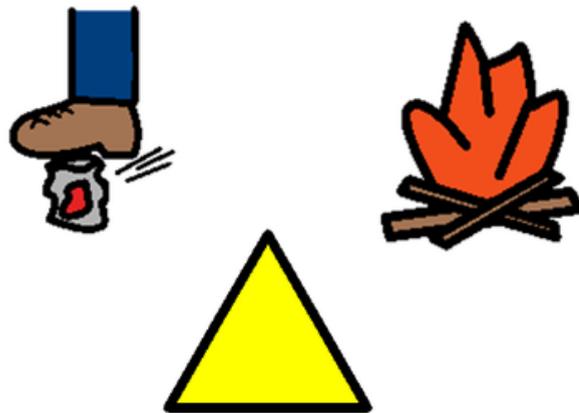
This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader, has a very short attention span, and has a few foundational math skills. With some support, he is able to do this unit and enjoys the challenge. He is my tester!!



Physical and Chemical Changes

By
Christa Joy

Special Needs for Special Kids



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Also included in this resource as separate files:

- Lesson plans
- Links and directions to digital activities
- PowerPoints (these are the books in the lesson plans)
- Activities in black and white

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This unit contains over 100 pages of material. I have included a detailed lesson plan to help you make the most of everything in this unit including how to add some group activities.

The activities come in 2 separate files, one in color and one in black and white.

Physical and Chemical Changes

Lesson Plan

Preparation

- Print out a vocabulary board for each student to use throughout unit
 - Laminate or place in page protector
- Book
 - Print out, laminate, and bind
 - OR your students can listen to the pre-recorded version
- Vocabulary cards
 - Print out a set of cards onto cardstock and laminate
 - Make one set for each student and also one for the teacher to use in I Spy games

Preassessment (do day 1 before starting lesson)

- Choose the form of the assessment that best fits the learning level of your students
- Give the assessment to assess what your students may already know
- I cannot emphasize enough how important this step is. If you want to see growth, this preassessment is so important!!

Teaching Tips

1. *Color Coding:* this is a really easy way to add more structure to a matching activity. Outline or color in an empty box or sorting label. Outline or color in the corresponding picture symbols the same colors. Becomes a color matching task.
 - a. For more info, read more here:
<https://specialneedsforspecialkids.org/2015/09/05/using-color-coding-for-differentiation/>
 - b. I also have a blog post on differentiating one activity 3 ways:
<https://specialneedsforspecialkids.org/2018/10/22/differentiating-1-activity-3-ways-easily-and-effectively/>
2. *Make you own copies of the activities:* Every day I review the activity we did yesterday. For that reason:
 - a. I often complete the activity myself and often laminated it for easy review that I could use year after year.
 - b. My copies were also helpful as either a model for students who needed more support or as a way for more advanced students to self-check their work.



The lesson plans contain:

Overall tips for teaching students with significant needs

Quick Look

Day	Activity	Day	Activity
1	<ul style="list-style-type: none">• Book• Vocab cards activity• Circle map	8	<ul style="list-style-type: none">• Book• Experiment #2
2	<ul style="list-style-type: none">• Book• Vocab cards activity• Circle map	9	<ul style="list-style-type: none">• Book• Vocab cards or flash cards activity• Close worksheet
3	<ul style="list-style-type: none">• Book• Vocab cards activity• Sorting activity	10	<ul style="list-style-type: none">• Book• Vocab cards or flash cards activity• Close worksheet
4	<ul style="list-style-type: none">• Book• Vocab cards activity• Sorting activity	11	<ul style="list-style-type: none">• Book• Vocab cards or flash cards activity• Close worksheet
5	<ul style="list-style-type: none">• Book• Vocab cards activity• Flash card activity	12	<ul style="list-style-type: none">• Book• Vocab cards informal assessment• Close worksheet
6	<ul style="list-style-type: none">• Book• Vocab cards activity• Flash card activity	13-14	<ul style="list-style-type: none">• Assessment and reteaching
7	<ul style="list-style-type: none">• Book• Experiment #1		



The lesson plans contain:

A quick look at what you will do each day

Day 4

Activity	Notes	Materials
Read or listen to a recording of the book (10 minutes)	<ul style="list-style-type: none">• Read through the story, asking lots of questions• Continue to make connections between book and vocabulary board	<ul style="list-style-type: none">• Book• Vocabulary board
Vocabulary cards cut and paste (15 minutes)	<ul style="list-style-type: none">• This is the first time you are doing the activity, so I would choose the easier option of having students find the matching picture that goes with the definition• Great way to assess if your students are connecting the content to your visual supports, like the vocabulary board• Use color coding if needed	<ul style="list-style-type: none">• Vocabulary cut and paste worksheets• Scissors• Glue• Vocabulary board
Review (5 minutes)	<ul style="list-style-type: none">• Review the sorting activity from yesterday	<ul style="list-style-type: none">• Finished sorting activity
Sorting Activity (10 minutes)	<ul style="list-style-type: none">• Complete the sorting activity using the symbols• Use color coding as needed	<ul style="list-style-type: none">• Sorting activity• Scissors• Glue
Sharing (10 minutes)	<ul style="list-style-type: none">• Each student shares their finished sorting activity	<ul style="list-style-type: none">• Completed activity• Communication devices
Essential Questions	<ul style="list-style-type: none">• You can ask lots of questions about the pictures you are sorting.• How can you tell by looking at the picture what type of change is occurring?	

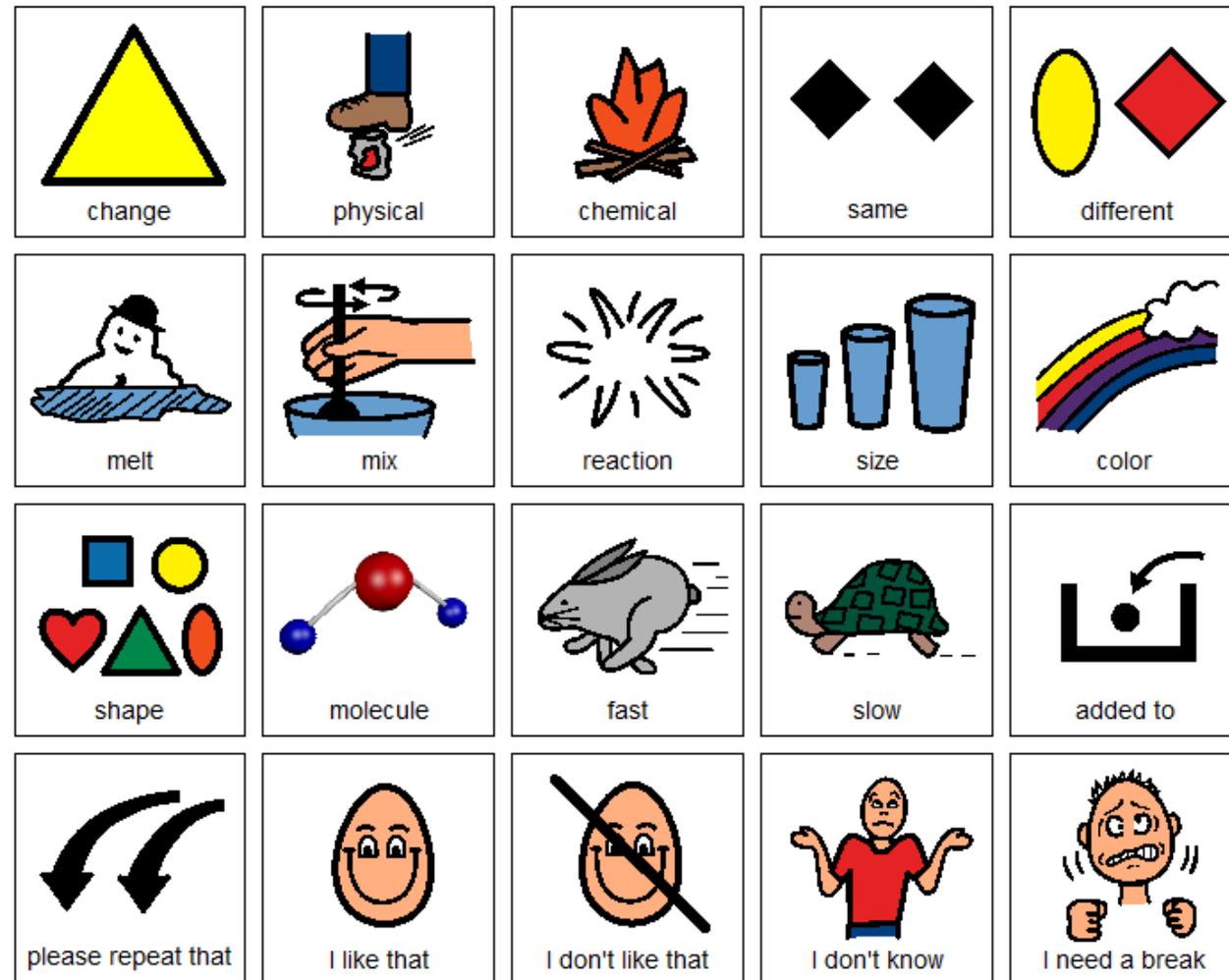
The lesson plans contain:

Detailed instructions on how that day's lesson should run

This unit comes with a vocabulary board.

Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

Tips on how to use in the unit!!

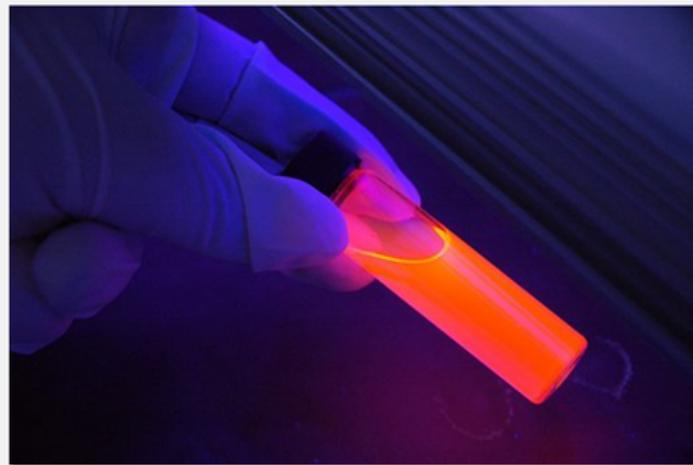


A physical change is when a substance changes in some way, but the substance itself stays the same.



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Chemical changes occur when there is an actual change in the molecular structure of the object. Something new is created.



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There is a book with this unit using simple text and photos. It is 45 pages and is an overview of the difference between physical and chemical changes.

It comes in PowerPoint versions as well as a movie (mp4) version.

physical change

Change in the shape, size or color of an object that does **NOT** change the molecules in the object.



chemical change

Change that results in a new substance being formed.



physical property

Things that describe how an object looks and feels.



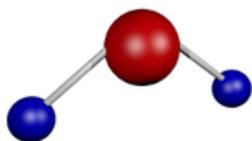
chemical property

Things about an object that determine how it will react with another object.



molecules

Make up objects and held together by strong bonds.



oxidized

Iron will react with the oxygen in the air and causes a chemical change seen as rust.



reactant

Something added to cause a chemical reaction to occur.



reagent

Something added to cause a chemical reaction to occur that also gets **used up** during the reaction.



There are 12 vocabulary cards that come in color and black and white.

Included are suggestions for group activities to do with these each day.

product

New substance formed after a chemical reaction.



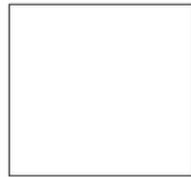
chain reaction

When one chemical change causes others to occur.



synthesis reaction

Two substances combine to make a new substance.

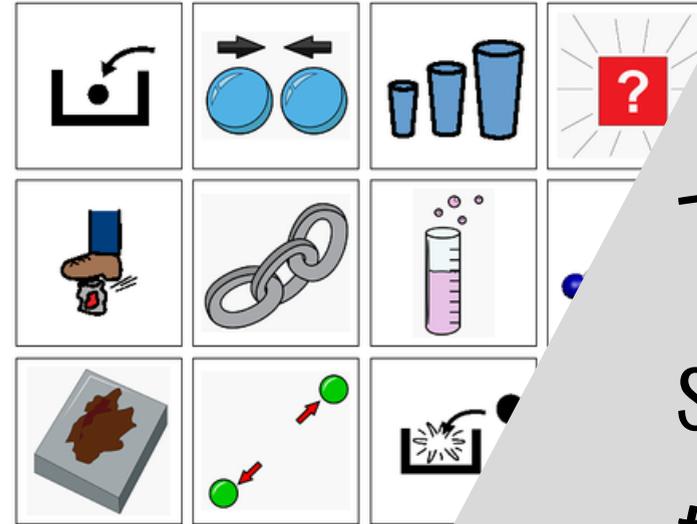


decomposition reaction

One substance breaks apart into two new substances.



Cut apart and match pictures with definition.



There is an activity where students will match either the picture to the definition or the definition to the picture (harder).

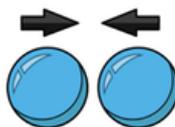
product



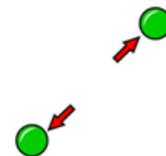
chain reaction



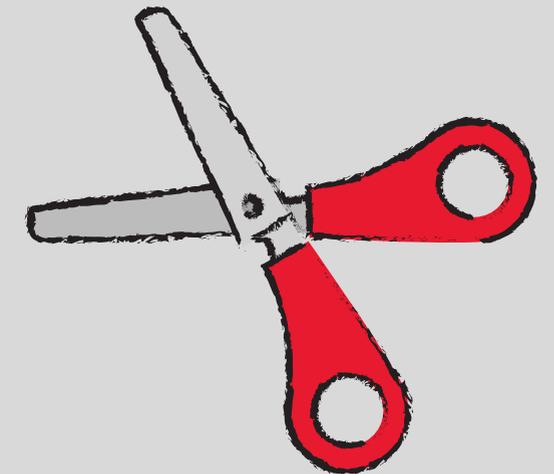
synthesis reaction



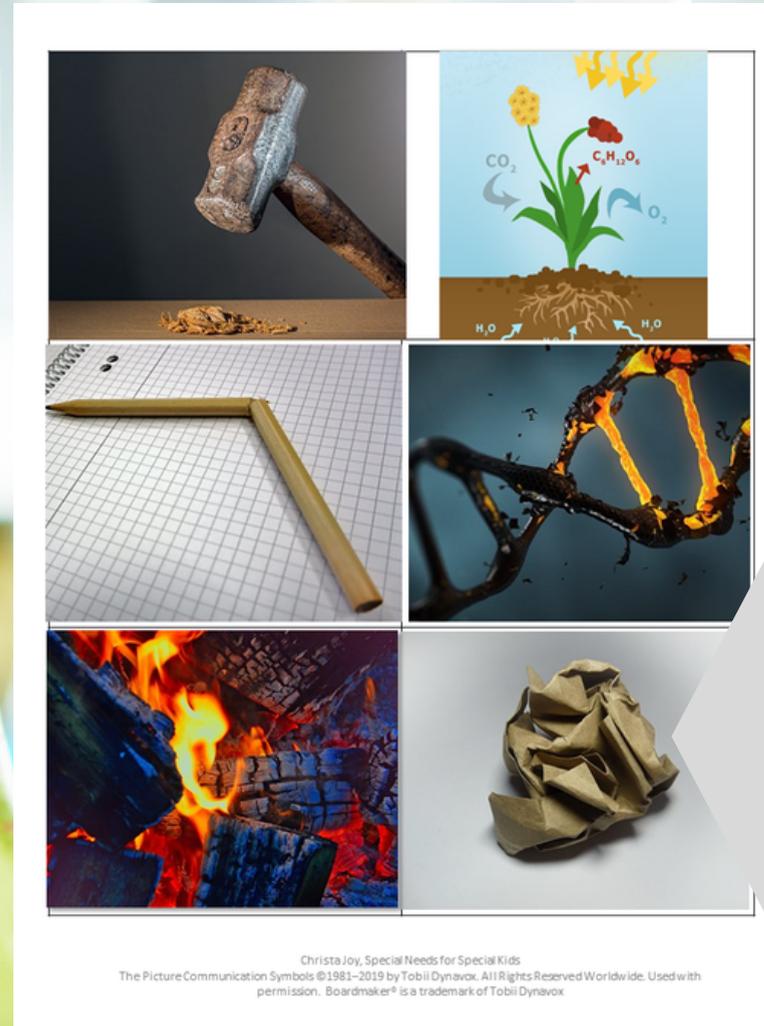
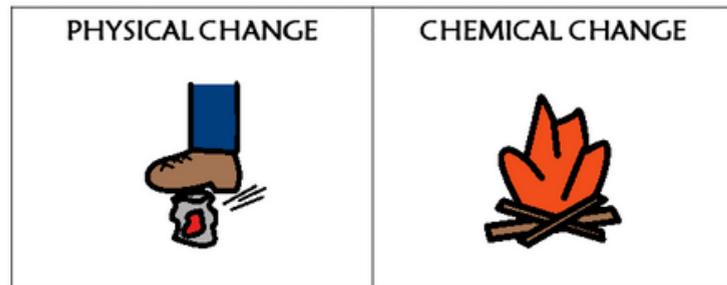
decomposition reaction



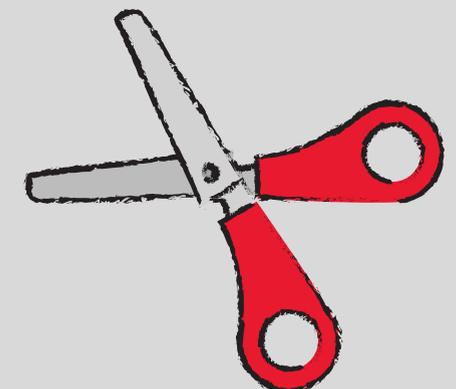
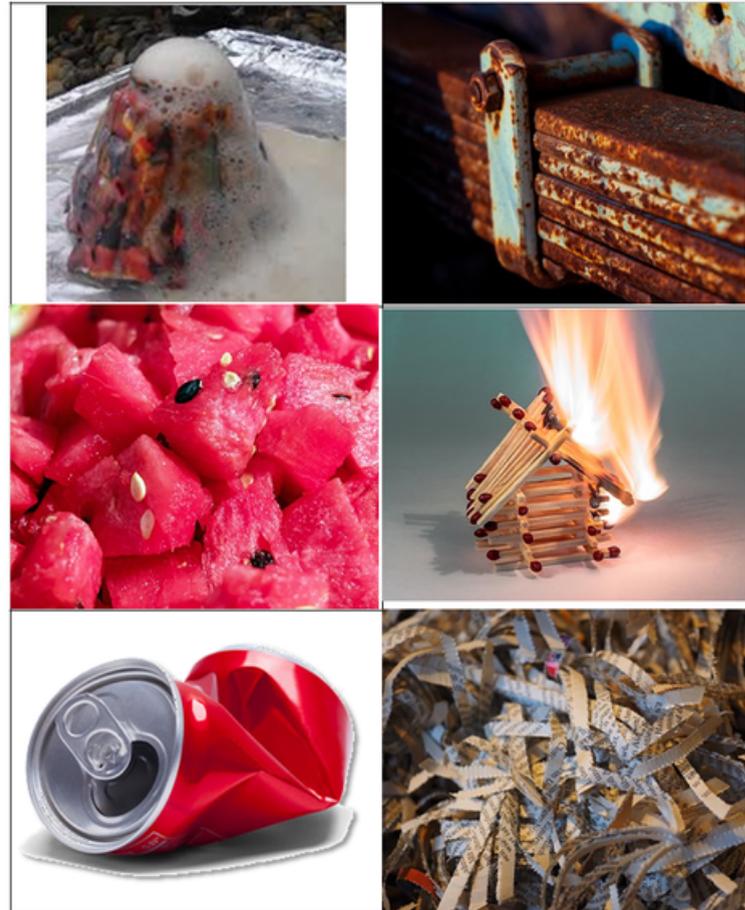
Iron will react with the oxygen in the air and causes a chemical change seen as rust.	Things about... determine how... another...
Something added to cause a chemical reaction to occur.	New substance formed... chemical reaction...
Things that describe how an object looks and feels.	Change in the shape, size... of an object that does NOT... change the molecules in the...
When one chemical change causes others to occur.	Two substances combine to make... new substance.
One substance breaks apart into two new substances.	Something added to cause a chemical reaction to occur that also gets used up during the reaction.
Change that results in a new substance being formed.	Make up objects and held together by strong bonds.



Physical and chemical change label cards used for students to hold up when you show a picture identifying the correct type of change.

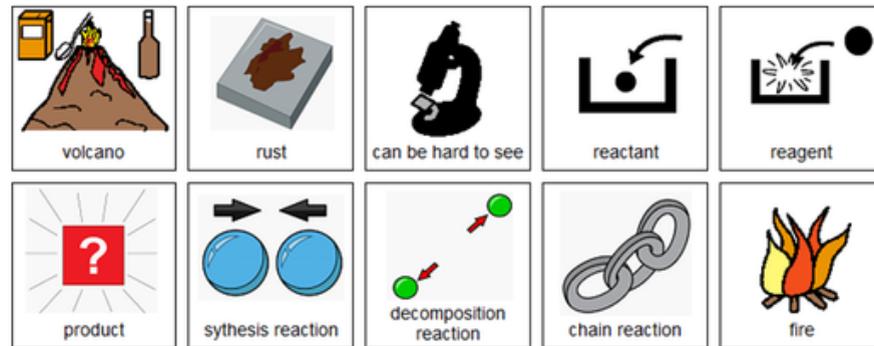


There is a set of flash cards.
There are 24 photos and 2
category labels. Students will
identify what is the change is in
each photo.

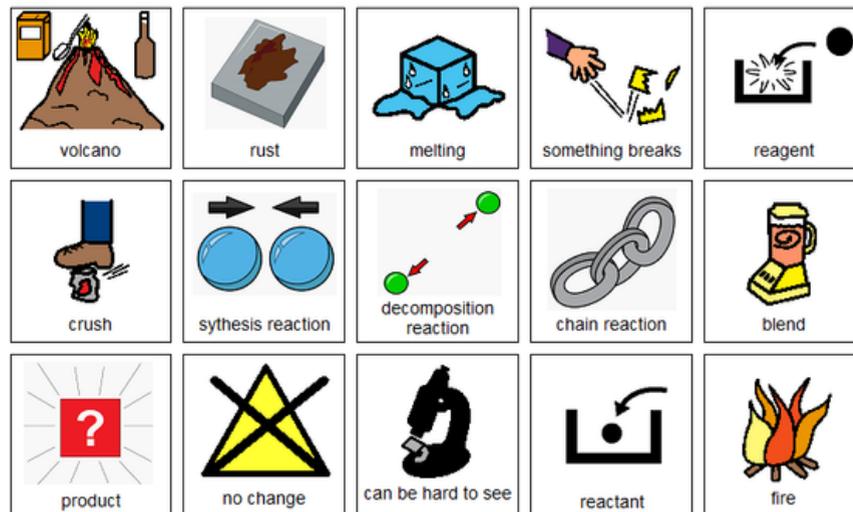


Errorless version

Cut apart pictures and place in circle map about chemical changes.



Cut apart pictures and place in circle map **ONLY IF** they relate to chemical changes.



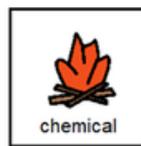
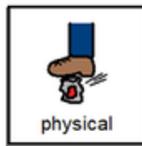
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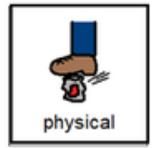
There are 2 circle maps. There is one on physical changes and one on chemical changes.

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

- One is errorless
- One has wrong answers mixed in students will have to set aside



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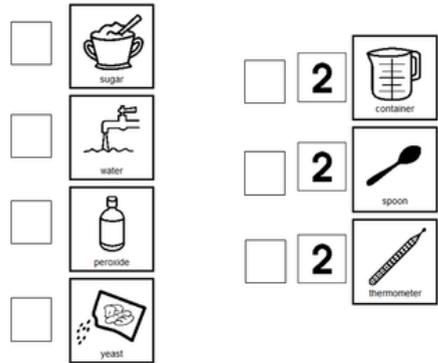
Students will sort physical and chemical changes. There are photos and picture symbols included. Suggestions for differentiation is included.

Physical or Chemical Change Experiment #1

Heat or No Heat

People on my team: _____

Materials needed:



Physical or Chemical Change Experiment #1

Heat or No Heat

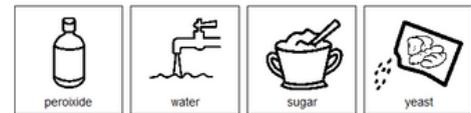
Data collection

Mixture #1
Contains:
Peroxide and
yeast

1 []

Mixture #2
Contains:
Sugar and water

2 []

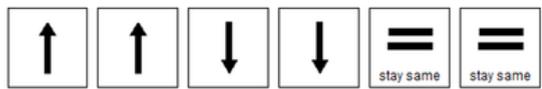


Physical or Chemical Change Experiment #1

Heat or No Heat

My hypothesis

I think the temperature of:
Mixture #1 will []
Mixture #2 will []

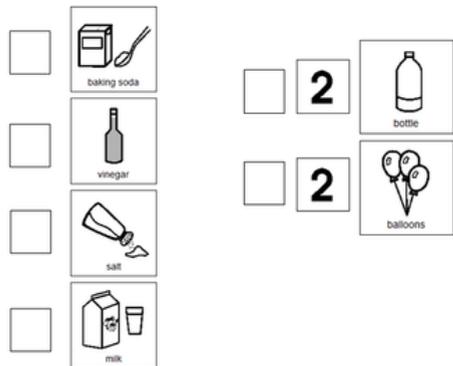


Physical or Chemical Change Experiment #2

Producing a Gas

People on my team: _____

Materials needed:

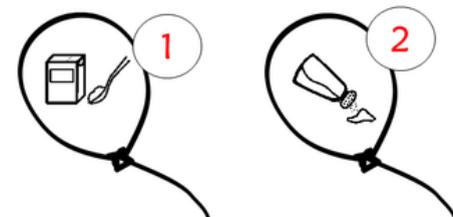


Physical or Chemical Change Experiment #2

Producing a Gas

Preparing Materials

In each balloon, put 1 teaspoon of:



In each bottle, put 1 cup of:



Physical or Chemical Change Experiment #2

Producing a Gas

What I knew

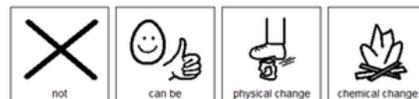
When there is a chemical change gas [] released.

When there is a physical change then gas is released. []

What I learned

Bottle #1 had a [] change.

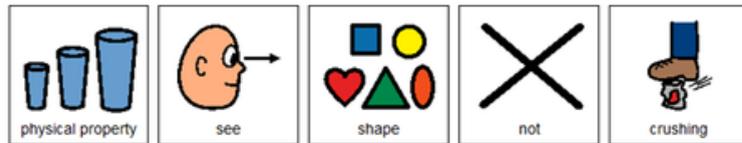
Bottle #2 had a [] change.



There are 2 experiments that walk students through the scientific method step by step using pictures.

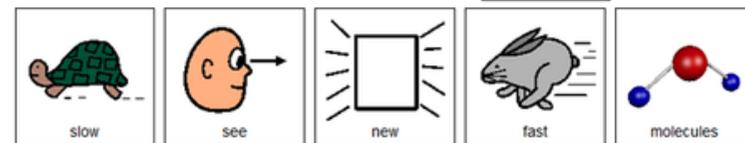
Physical Changes

1. A physical change does change the molecules in the object.
2. An example of a physical change is a can.
3. Physical changes change the of the object.
4. An example of a physical property is the of the object.
5. It is easy to a physical change.



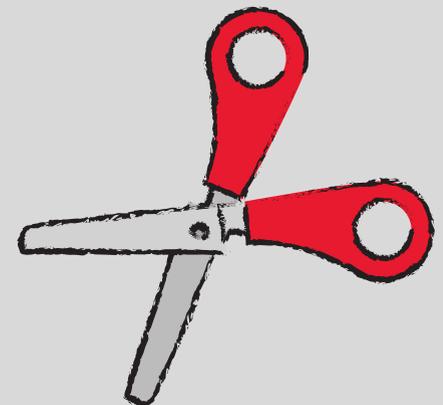
Chemical changes

1. A chemical change actually changes the in .
2. When there is a chemical change, you end up with a product.
3. Some chemical changes are like a firecracker.
4. Some chemical changes are like when rust forms.
5. Chemical changes are not always easy to .

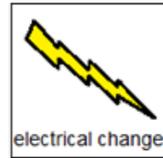
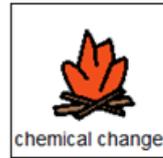
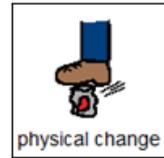


There are 4 close worksheets that are a great informal assessment. There are 2 for physical and 2 for chemical changes.

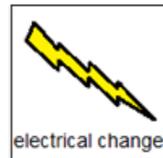
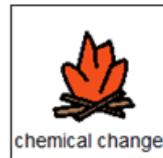
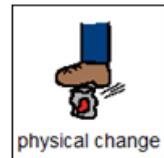
Answer key included.



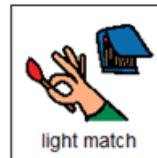
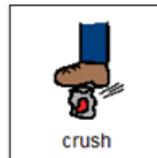
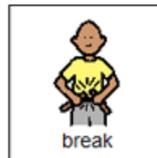
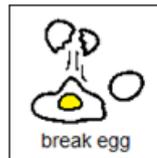
1. This change results in a NEW substance being formed.



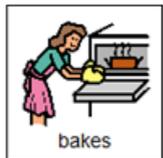
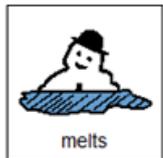
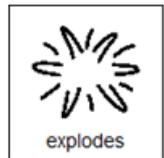
2. This change just changes how the object looks.



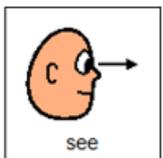
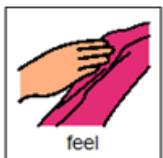
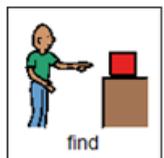
3. Circle all the examples of physical changes.



4. A physical change can also be when something like an ice cream cone:



5. Chemical changes can be harder to:

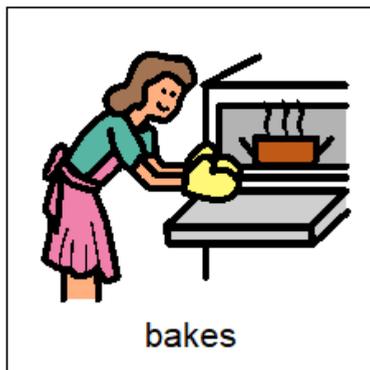
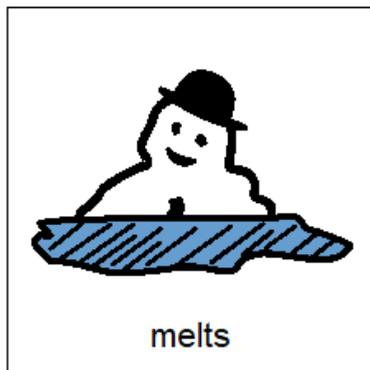
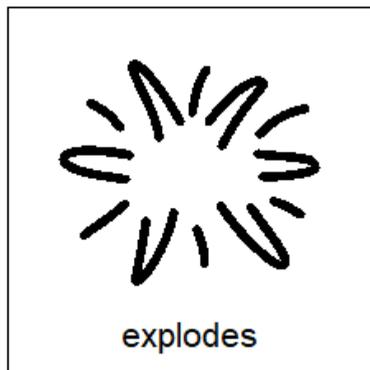


FINALLY the assessment!! There are 3 versions. This version has 10 questions with 3 picture choices for each question.

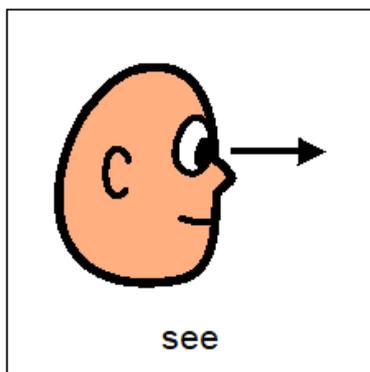
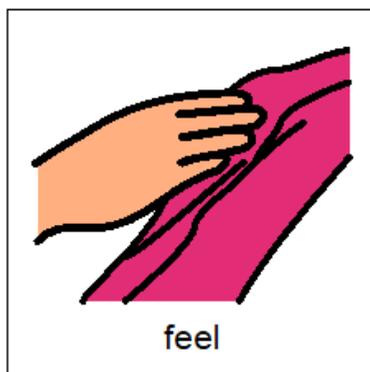
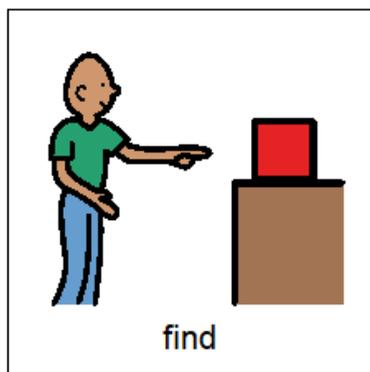
Answer key included.

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

Q 4



Q 5



With this version, you cut out the answer choices and glue them on index cards. Ask the student the question, and they point to the correct answer.

1. This change results in a **NEW** substance being formed.
 - A. Physical change
 - B. Chemical change
 - C. Electrical change
2. This change just changes how the object looks.
 - A. Physical change
 - B. Chemical change
 - C. Electrical change
3. Circle all the examples of physical changes.
 - A. Break an egg
 - B. Fireworks
 - C. Break a stick
 - D. Crush a can
 - E. Melting ice cube
 - F. Light a match
4. A physical change can also be when something like an ice cream cone:
 1. Explodes
 2. Melts
 3. bakes
5. Chemical changes can be harder to:
 - A. Find
 - B. Feel
 - C. See
6. Chemical changes actually make what change:
 - A. Molecules
 - B. Feathers
 - C. Weather



This is your traditional multiple choice version. It can also be used as a recording sheet if your students are using the version with index cards.

For example, when you tear a piece of paper into small pieces, that is a physical change. Those small pieces are still paper. It has not changed into a new thing. The size is just smaller.

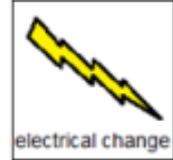


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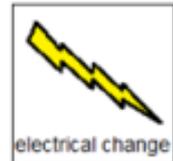
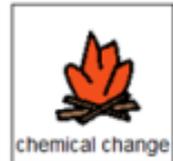
Listen to the book read aloud about physical and chemical changes

This unit also has digital activities. There is a movie version of the books students can listen to read aloud.

1. This change results in a NEW substance being formed.



2. This change just changes how the object looks.



3. Circle all the examples of physical changes.



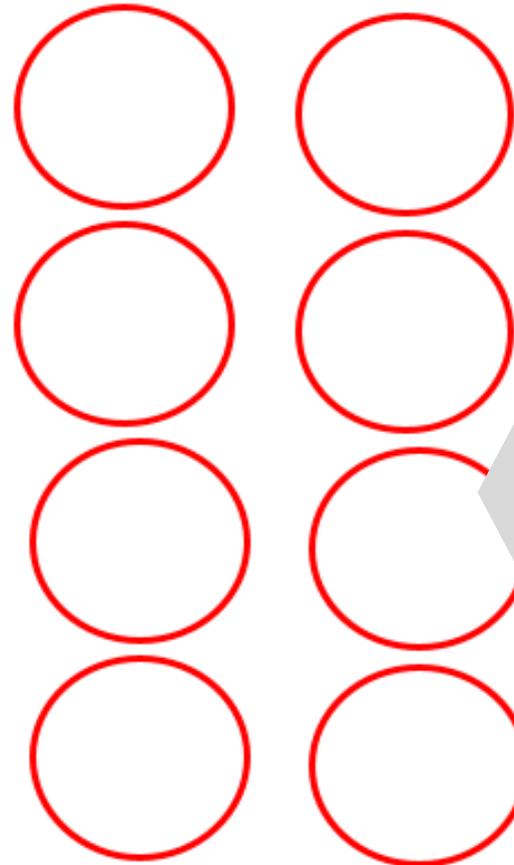
4. A physical change can also be when something like an ice cream cone:



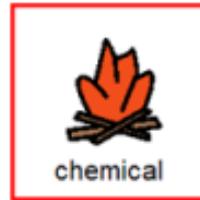
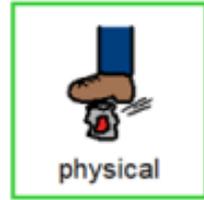
5. Chemical changes can be harder to:



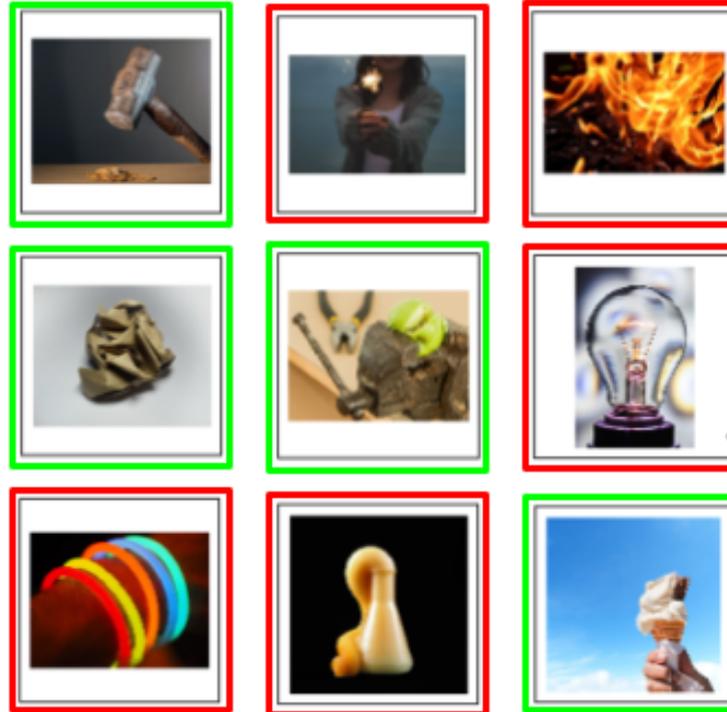
Circle the correct answer.



The digital activities have students click and drag their answers.



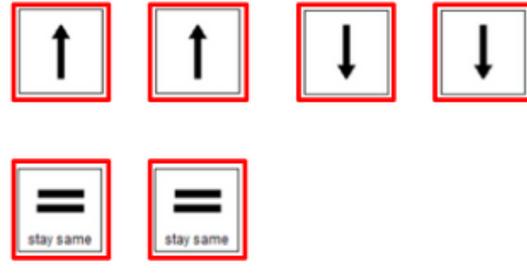
Sort pictures into correct column on previous page. If you are not sure, place it on the middle line.



There are 2 sets of slides. One set has color-coding for more support.

Heat or No Heat

Use the pictures to finish the hypothesis. There are more pictures than you need.



My hypothesis

I think the temperature of:

Mixture #1 will

Mixture # 2 will

There is also a set of slides that leads students through both experiments.

Heat or No Heat

What I knew

When there is a chemical change the temperature

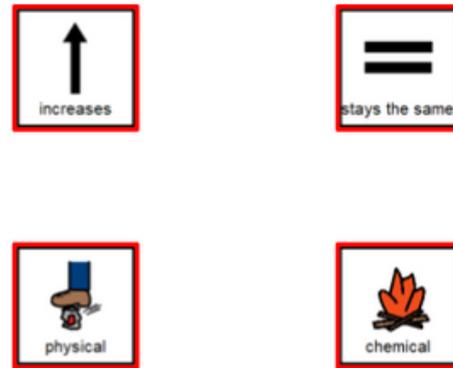
When there is a physical change the temperature

What I learned

Mixture #1 had a change.

Mixture #2 had a change.

Use the pictures to finish each sentence showing what you learned in the experiment.



This resource comes in a zipped folder. You will need to unzip the folder to access all the contents which include:

- ***13 days of lesson plans***
- ***Physical and chemical changes activities in color***
- ***Physical and chemical changes activities in black and white***
- ***Voice-recorded PowerPoint show***
- ***Physical and chemical changes book (PowerPoint) to use with activities***
- ***Physical and chemical changes experiments***
- ***Links and directions to digital activities***