INCLUDES GOOGLE SLIDES

This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader, and loves the sound of piano keys. With some support he is able to do this unit, and enjoys the challenge. He is my tester!!

Forces Unit

By

Christa Joy

Special Needs for Special Kids

Christa Joy, Special Needs for Special Kids
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Table of Contents

Also included with this unit is a power point show that is narrated and has automatic advancement of slides. Let me know in the feedback if this was helpful ☺

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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.

Forces
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
- Flash cards
  - Print out a set of cards onto cardstock and laminate
  - You will need one set for the class

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.

The lesson plans contain:

Overall tips for teaching students with significant needs

Quick Look

Day	Activity		Day	Activity
1	• Book • Vocab cards activity • Circle map		9	• Book • Experiment #2
2	• Book • Vocab cards activity • Circle map		10	• Book • Vocab cards cut and paste • Close worksheet
3	• Book • Vocab cards activity • Circle map		11	• Book • Vocab cards cut and paste • Close worksheet
4	• Book • Vocab cards activity • Circle map		12	• Book • Flash card activity • Close worksheet
5	• Book • Vocab cards activity • Sorting activity		13	• Book • Flash card activity • Close worksheet
6	• Book • Vocab cards activity • Flash card activity • Cause and Effect ws		14	• Book • Vocab cards activity • Close worksheet
7	• Book • Vocab cards activity • Flash card activity • Cause and Effect ws		15	• Assessment
8	• Book • Experiment #1			•

The lesson plans contain:

A quick look at what you will do each day

Day 2

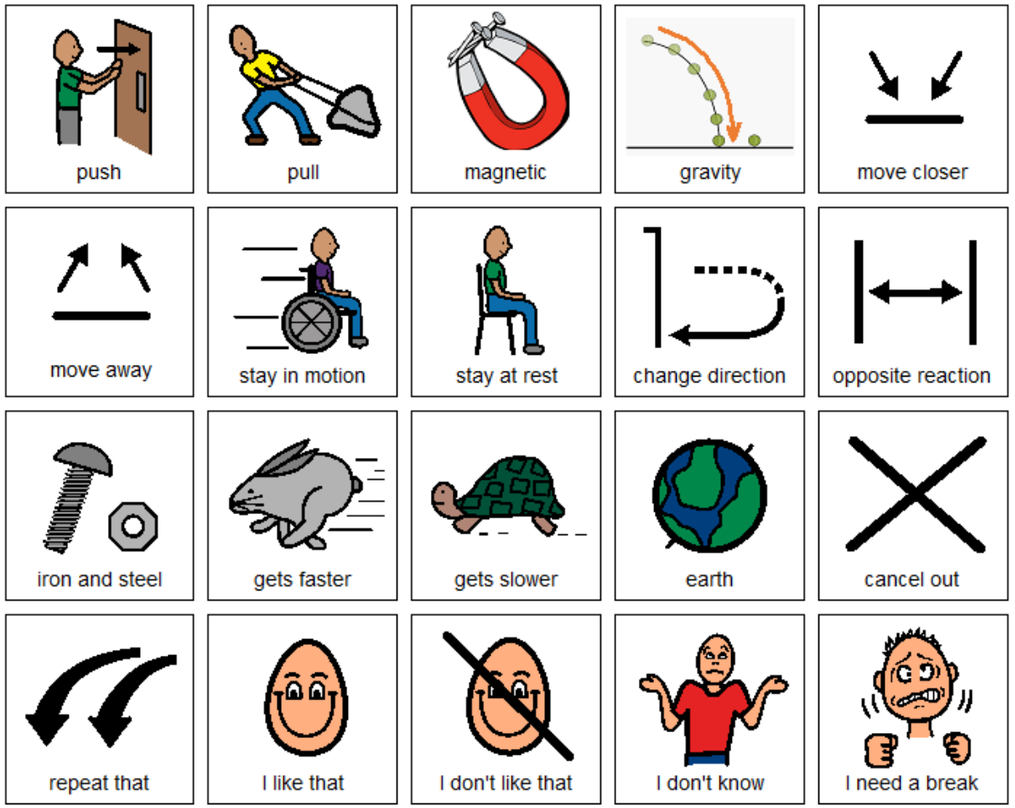
Activity	Notes	Materials
Read or listen to a recording of the book (15 minutes)	• Read through the story, asking lots of questions • Continue to make connections between book and vocabulary board	• Book • Vocabulary board

Vocabulary cards I Spy Game (10 minutes)	• I play this game, or variations of it the first few days
	  o 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 may only be able to handle a field of 3-5
	• Since this is the first time playing this game, I make it easy. Hold up a card, and have students find the matching one and hold it up
	• Discuss relevant points on the card
	  o You can also play this game in this manner having them find the symbol on their vocabulary board
		• Vocabulary cards (student set and teacher set)
		• Vocabulary board

Circle map review (5 minutes)	• Review the circle map completed yesterday	• Circle map completed yesterday
Circle Map #2 (10 minutes)	• Do the circle map on pulling forces • Choose the best version (errorless or not) depending on the learning level of your students • Students cut out symbols and place in circle map • Make connections to the book as necessary	• Circle map • Scissors • Glue
Sharing (10 minutes)	• Each student shares their circle map with the group using the communication method of their choice	• Completed circle maps • Communication devices

The lesson plans contain:

Detailed instructions on how that day's lesson should run



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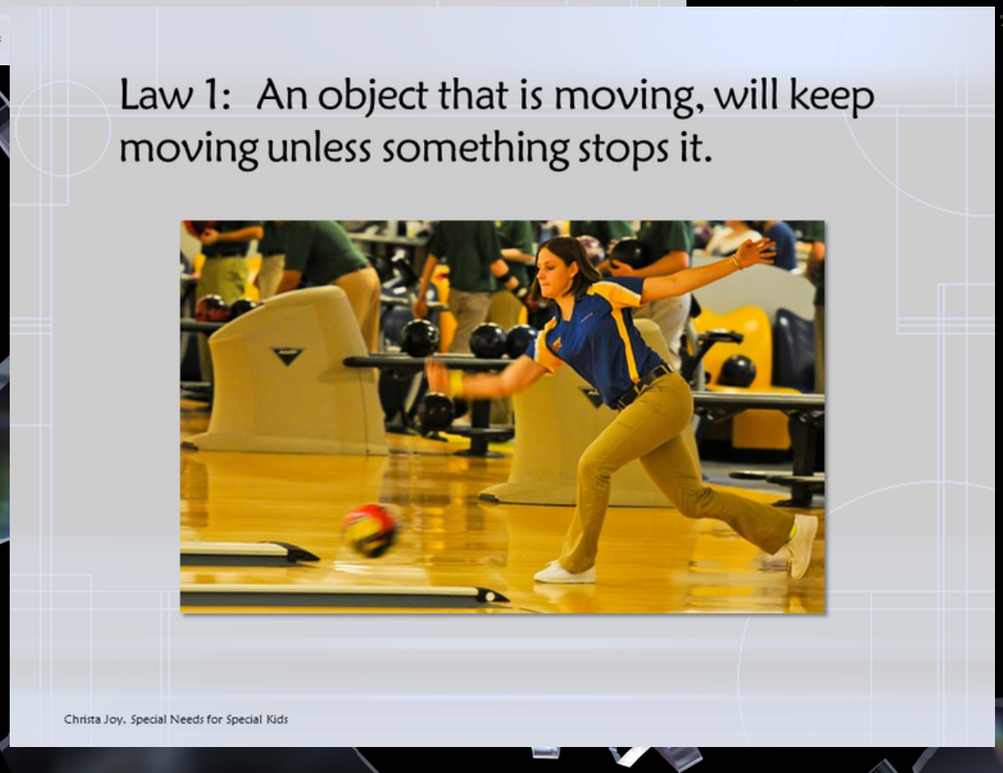
This unit comes with a vocabulary board.

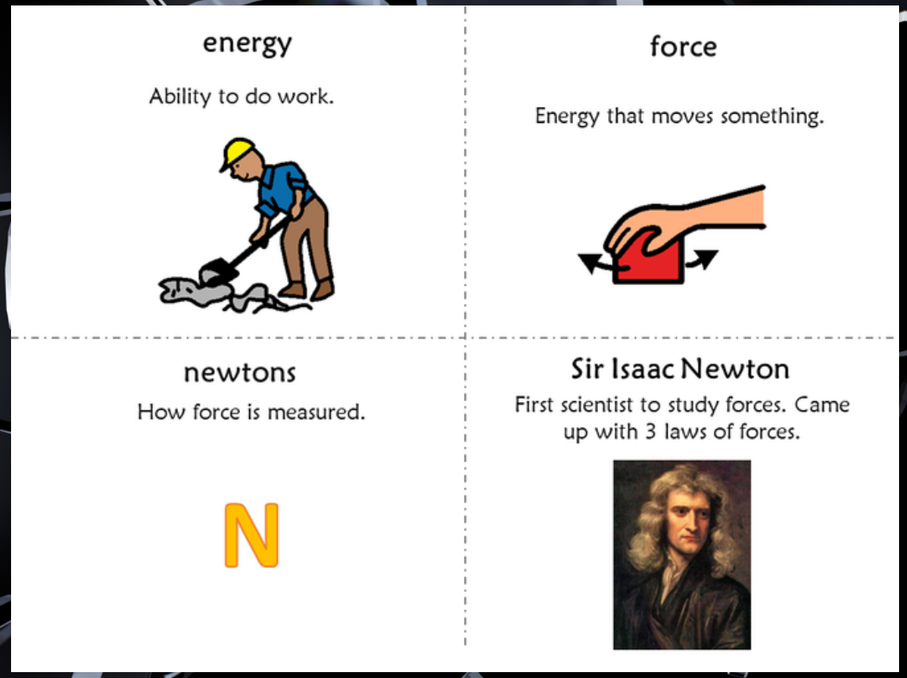
Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

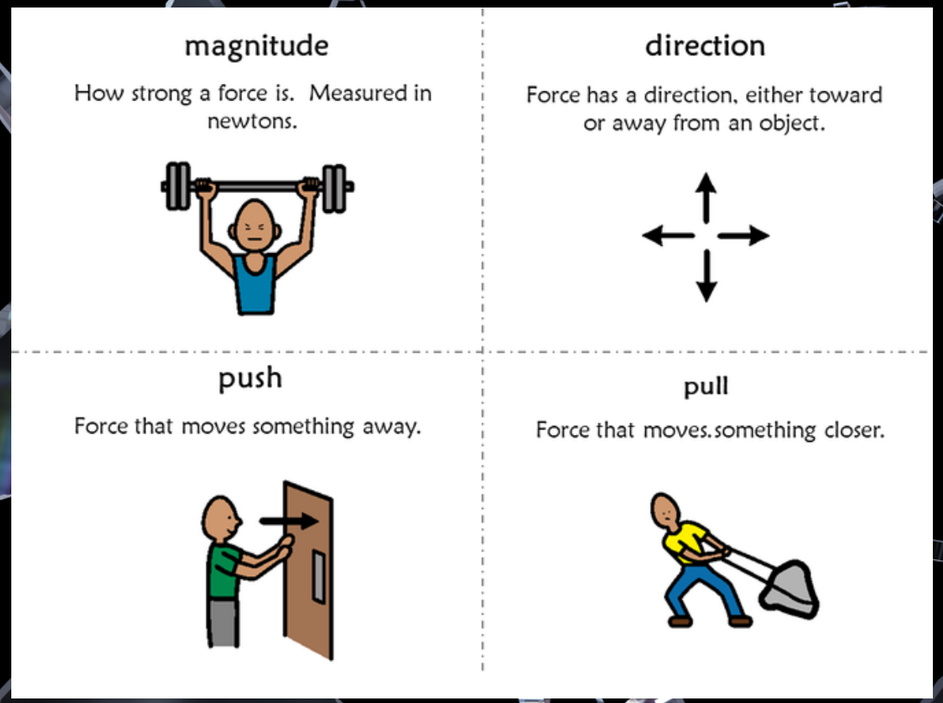
Tips on how to use in the unit!!



There is a book with this unit using simple text and photos. It is 50 pages and is an overview of different forces (push, pull, magnetism, and gravity) and Newton's laws.

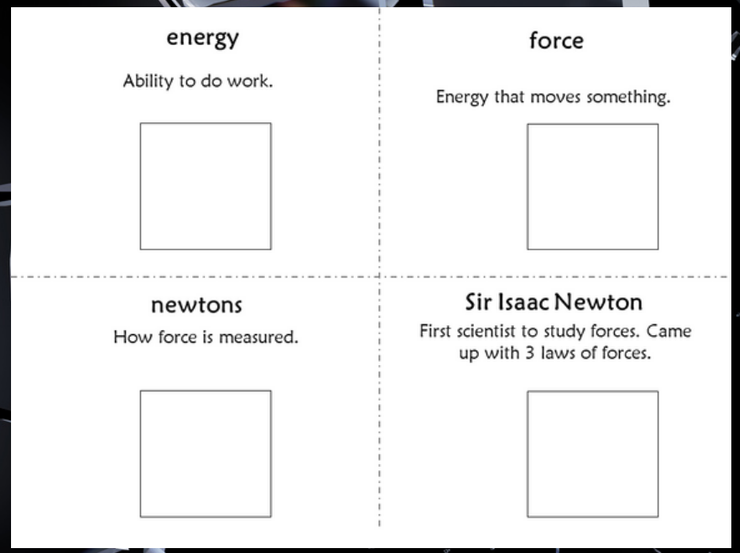
Both come in pdf versions as well as a voice-recorded powerpoints (so you don't have to print it out.)

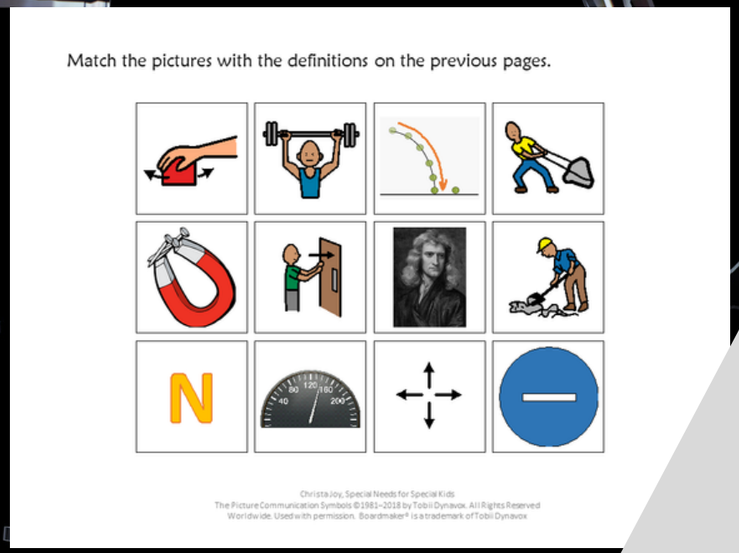


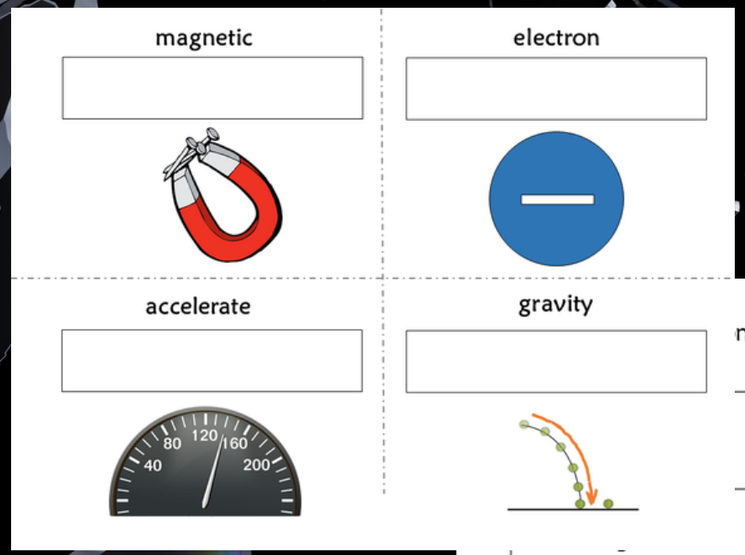


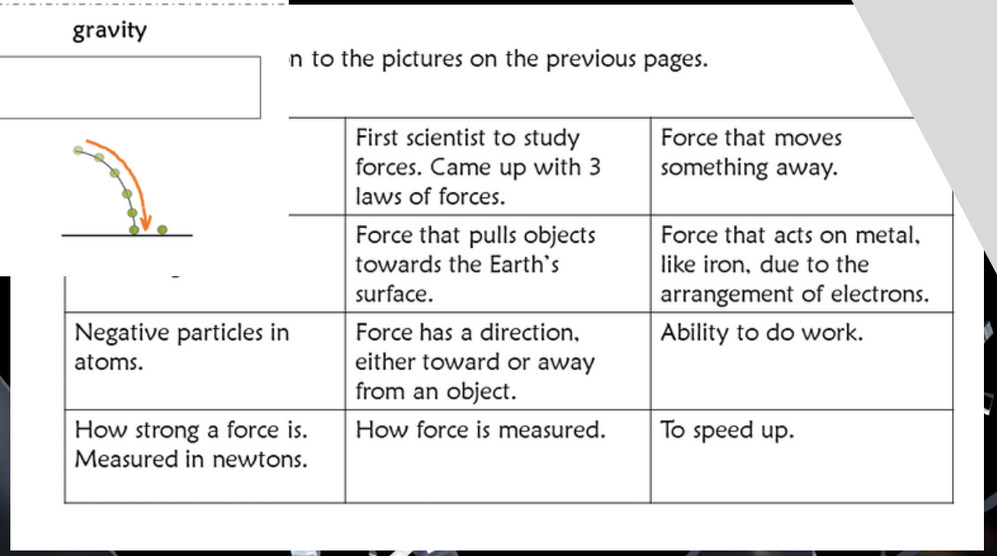
There are 12 vocabulary cards that come in color and black and white.

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



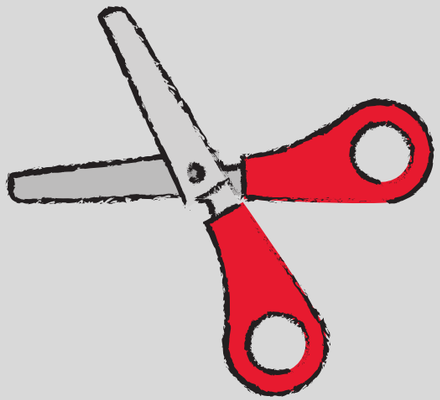




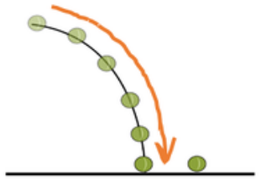


	First scientist to study forces. Came up with 3 laws of forces.	Force that moves something away.
	Force that pulls objects towards the Earth's surface.	Force that acts on metal, like iron, due to the arrangement of electrons.
Negative particles in atoms.	Force has a direction, either toward or away from an object.	Ability to do work.
How strong a force is. Measured in newtons.	How force is measured.	To speed up.

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



Type of Force label cards used for students to hold up when you show a picture identifying the correct type of force.

Push	Pull
	
Gravity	**Magnetic**
	

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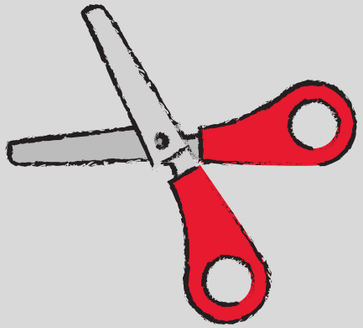
There is a set of flash cards. There are 24 photos and 4 category labels. Students will identify what is the primary force in each photo.

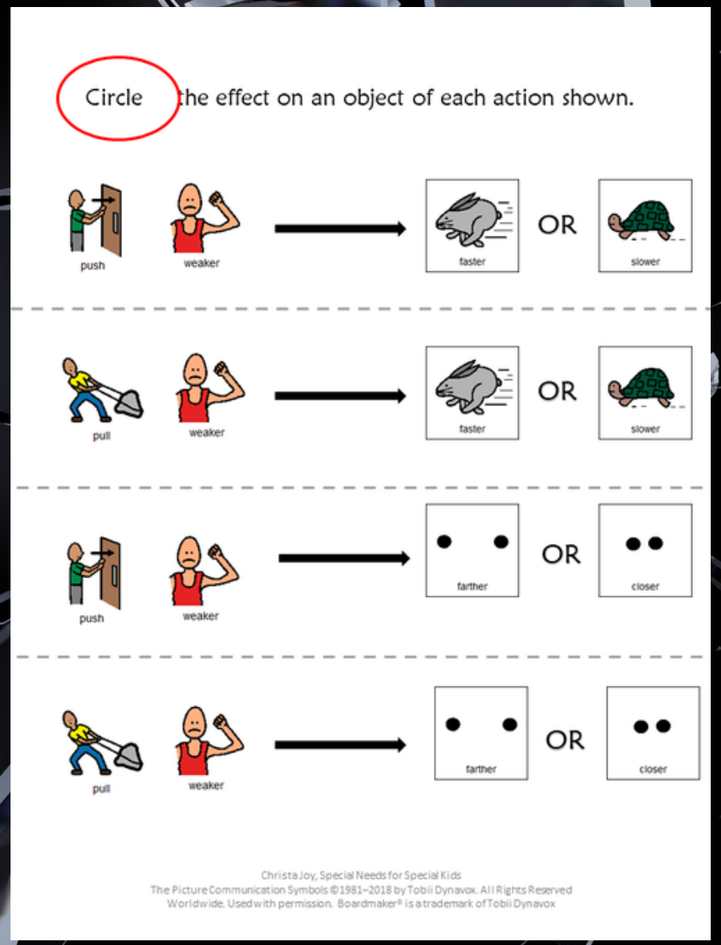


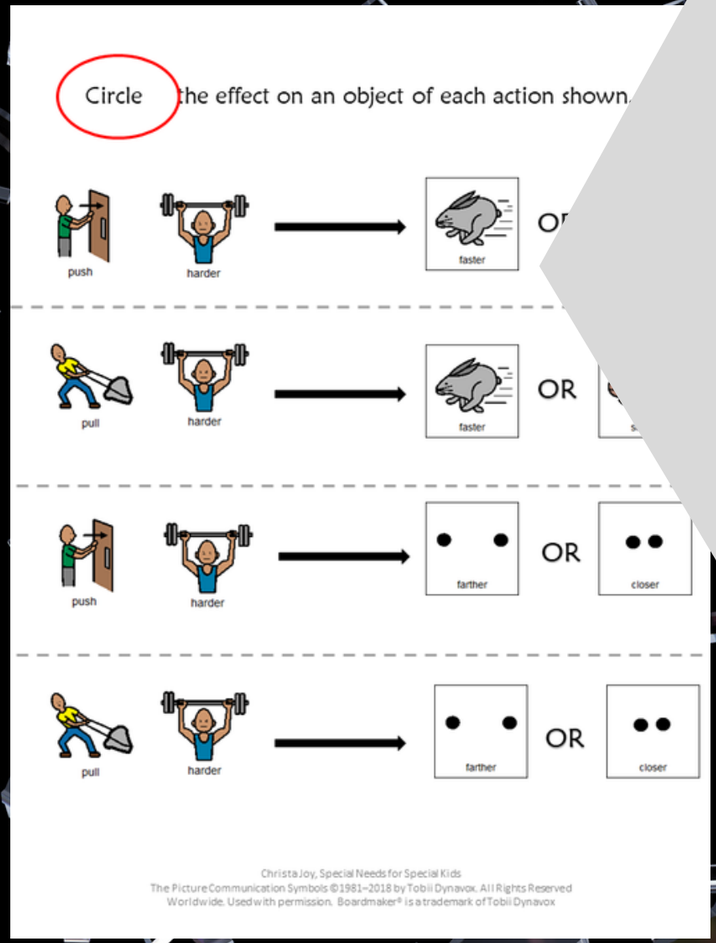
There are 4 circle maps. There is one on each force: push, pull, gravity, magnetism.

Circle maps are a great way for students to see the concept at a glance.

There are 2 versions:

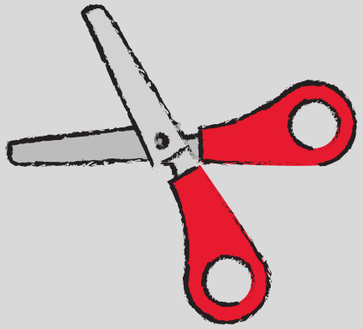
- One is errorless
- One has wrong answers mixed in students will have to set aside





There are 2 worksheets where students identify the effect on an object. Suggestions for differentiation are included.

There are 2 sorting activities. One uses photos and one uses picture symbols. Suggestions for differentiation are included



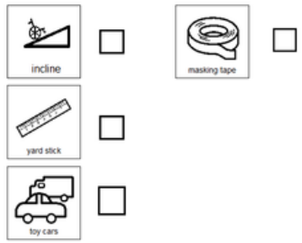
Gravity (Pull) Experiment #2

Incline Ramp

People on my team: _____

_____

Materials needed:



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Gravity (Pull) Experiment #2

Incline Ramp

My hypothesis

I think a _____ incline will make the car go _____

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Gravity (Pull) Experiment #2

Incline Ramp

The Experiment:

1. Measure and record the height of the ramp.
2. Place car at the top of the ramp.
3. Let it go.
4. Record how far car goes by putting a piece of tape on the floor.

Results:

	Height of ramp	Tape #
1		1
2		2
3		3

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Gravity (Pull) Experiment #2

Incline Ramp

What I learned

The _____ the ramp, the _____ car traveled.

The _____ the ramp, the _____ car traveled.

The force acting on the car is _____ .

This is a _____ force.

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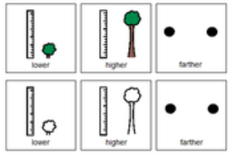
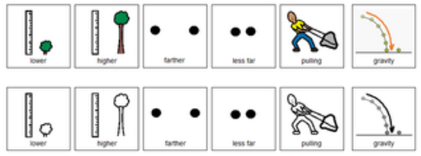
Pictures to use (if needed)

For hypothesis



For what I learned



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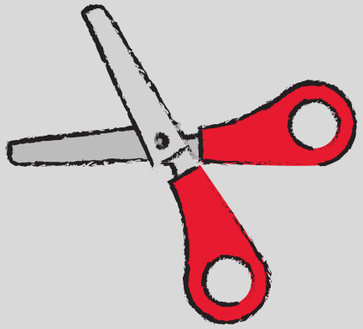
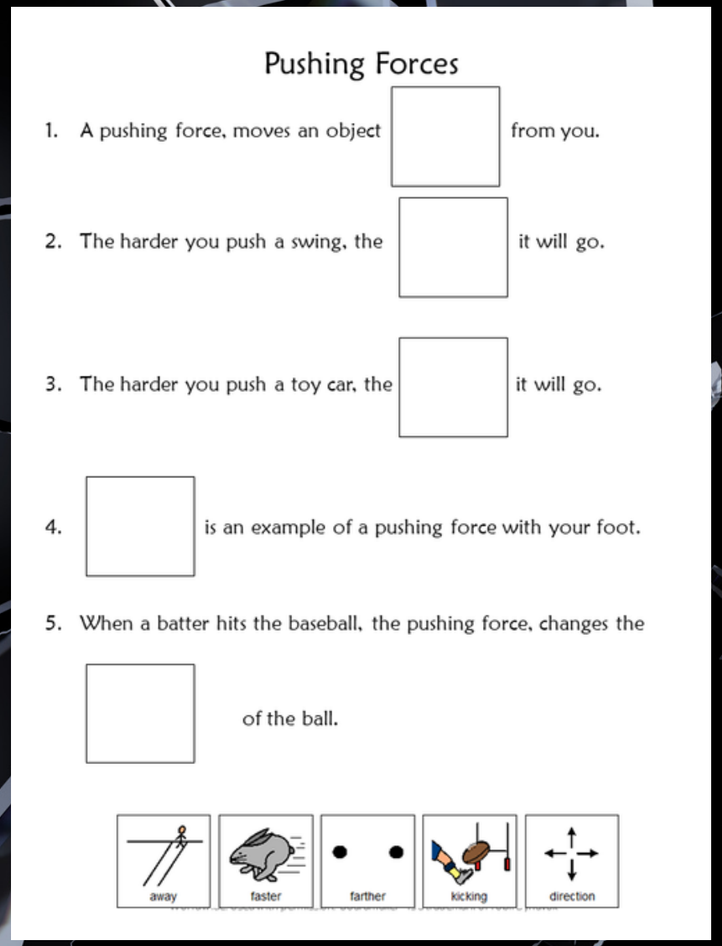
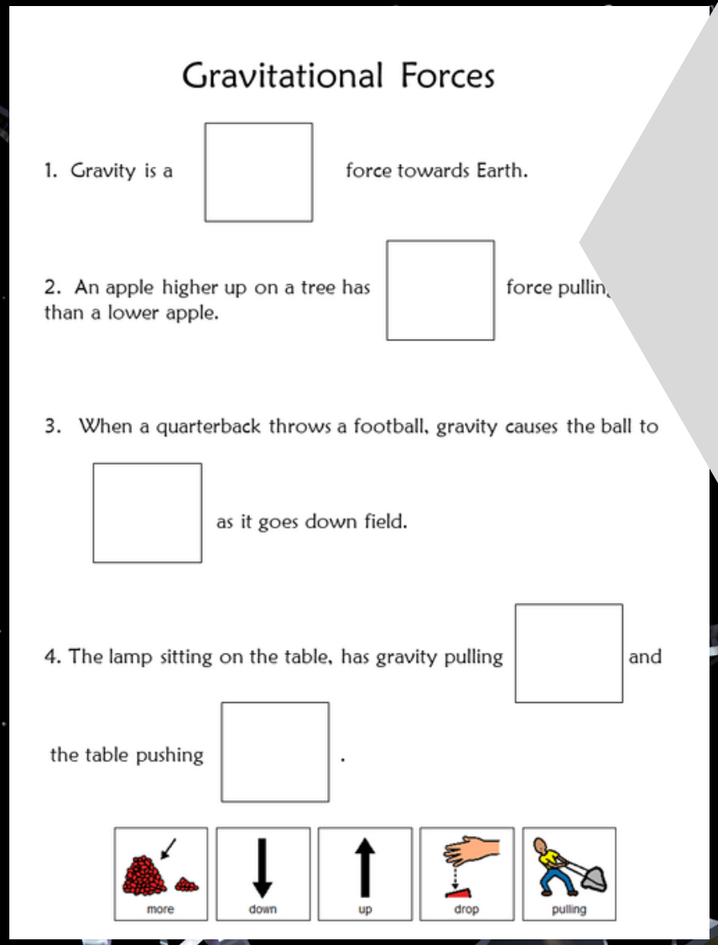
There are 2 experiments that walk students through the scientific method step by step using pictures.





Pushing Forces

1. A pushing force, moves an object ____ from you.
2. The harder you push a swing, the ____ it will go.
3. The harder you push a toy car, the ____ it will go.
4. ____ is an example of a pushing force with your foot.
5. When a batter hits the baseball, the pushing force, changes the ____ of the ball.

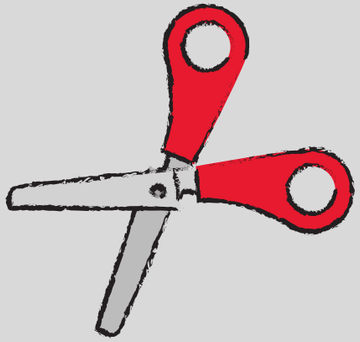


Gravitational Forces

1. Gravity is a ____ force towards Earth.
2. An apple higher up on a tree has ____ force pulling than a lower apple.
3. When a quarterback throws a football, gravity causes the ball to ____ as it goes down field.
4. The lamp sitting on the table, has gravity pulling ____ and the table pushing ____.

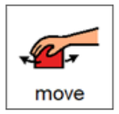
There are 5 close worksheets are a great informal assessment. There is one for each force and one for Newton's laws that cover information in the book.

Answer key included.

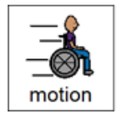


Version 1

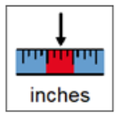
1. A force is something that causes an object to:



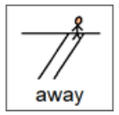
2. One of Newton's laws states that an object in motion, will stay in:

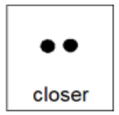


3. All forces are measured in :

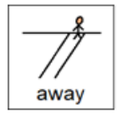


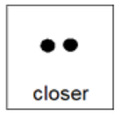
4. A pushing force causes an object to move:





5. A pulling force causes an object to move:





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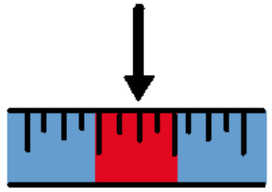
FINALLY the assessment!! There are 3 versions. This version has 10 questions with 3 picture choices for each question.

Answer key included.

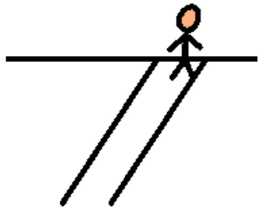
Version 2

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

Q 3

J joules	 inches	N newtons

Q 4

 no where	 away	 closer

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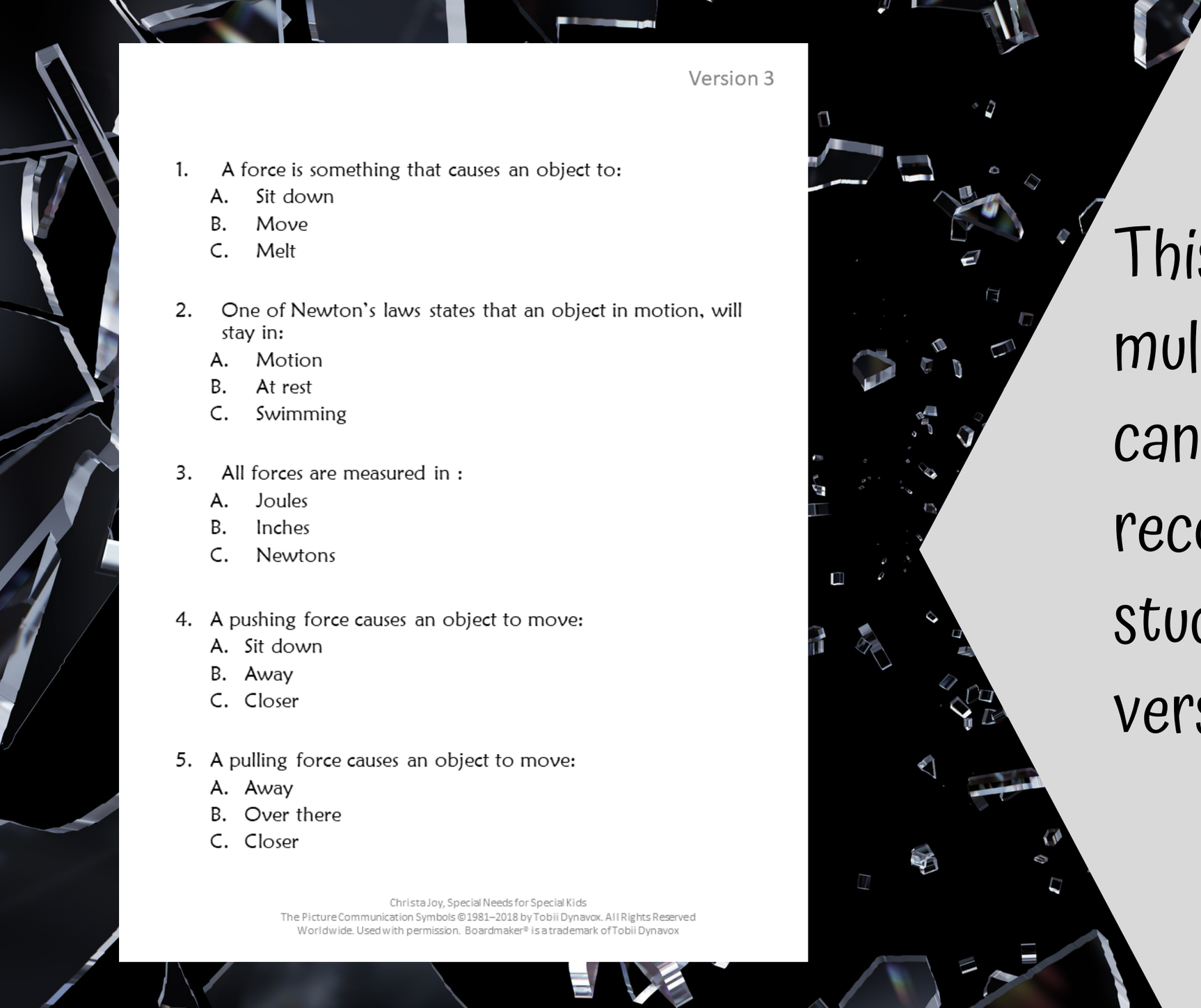
With this version, you cut out the answer choices and glue them on index cards. Ask the student the question, and they point to the correct answer.



Version 3

1. A force is something that causes an object to:
   A. Sit down
   B. Move
   C. Melt

2. One of Newton's laws states that an object in motion, will stay in:
   A. Motion
   B. At rest
   C. Swimming

3. All forces are measured in :
   A. Joules
   B. Inches
   C. Newtons

4. A pushing force causes an object to move:
   A. Sit down
   B. Away
   C. Closer

5. A pulling force causes an object to move:
   A. Away
   B. Over there
   C. Closer

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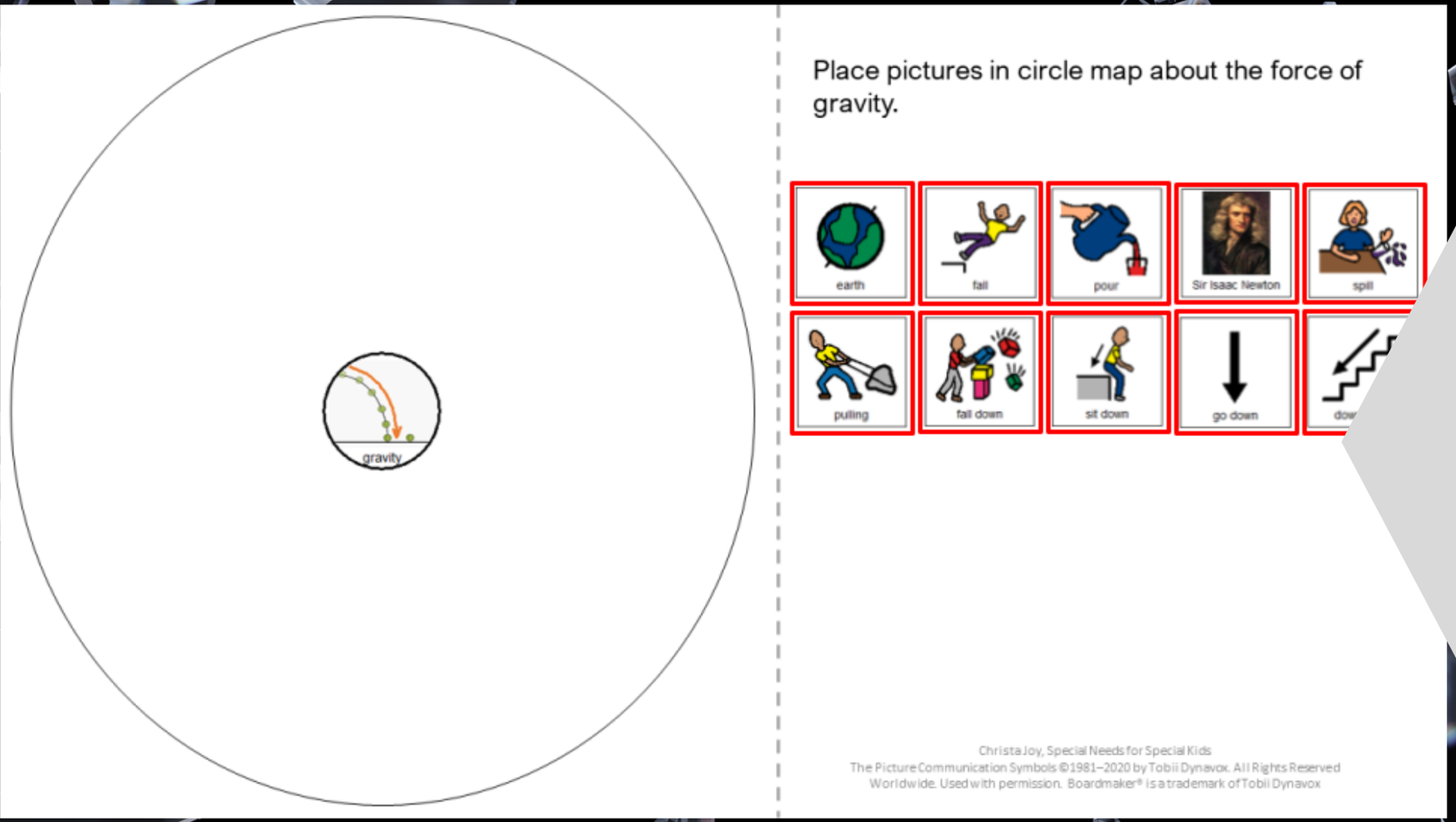
This is your traditional multiple choice version. It can also be used as a recording sheet if your students are using the version with index cards.

Watch the movie of Forces

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



Place pictures in circle map about the force of gravity.

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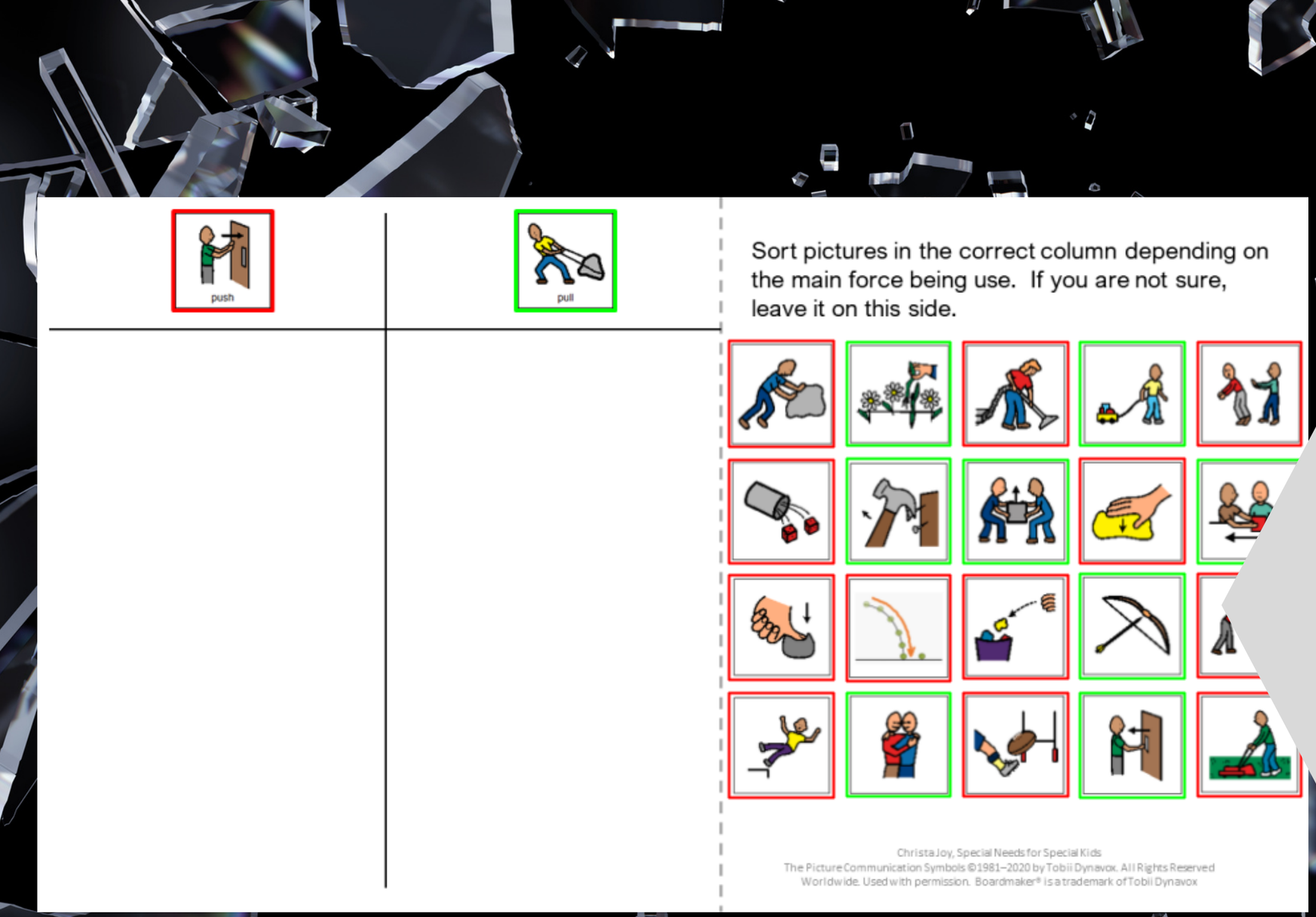
The digital activities have students click and drag their answers.



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

Click Here to read more!!

I realize there will be some students out there unable to do cutting activities. I have a blog post with ways to complete activities without a pair of scissors!!

All of the activities (except the book) come in color and black and white.