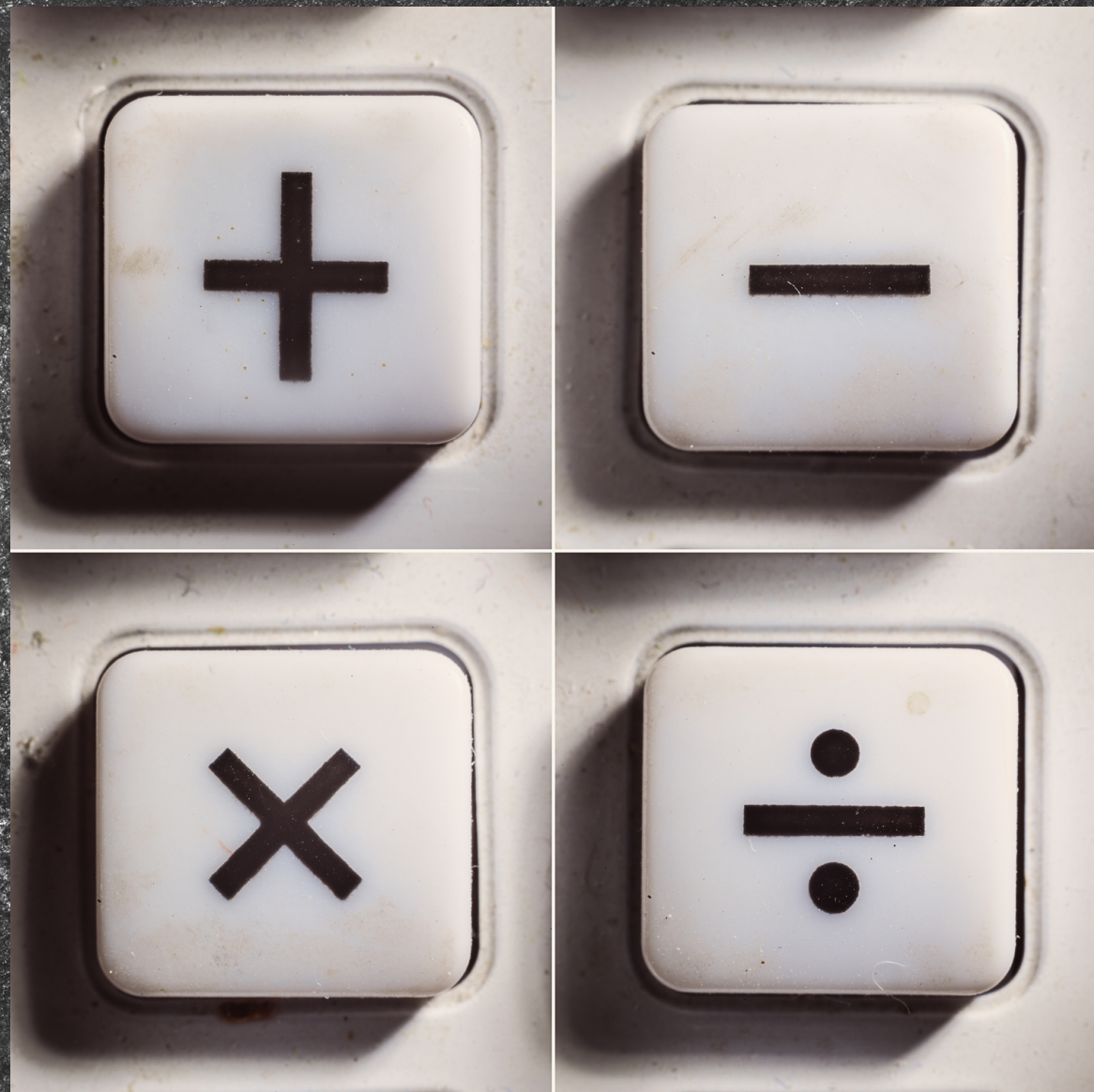


Special Ed



ORDER OF OPERATIONS

ALSO 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 lacks many prerequisite math skills needed for math. With some support, he is able to do this unit and enjoys the challenge. He is my tester!!

Table of Contents

Pages	Activity
4-25	Order of Operations book
26-28	Vocabulary board
29-30	Power card
31-33	Putting the steps in order
34-38	Labeling the order of the operations in equations
39-42	Practice problems (teacher set)
43-53	Bingo cards
54-61	Practice problems (student set)
62-63	Quiz
64-65	Terms of use

Also included with this unit in separate files:

- Lesson plans
- Directions and links to digital activities

This unit contains almost 70 pages of material. But, don't worry!! I have included a **10 day lesson plan** to help you make the most of everything packed in this unit.

Order of Operations 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
 - I highly recommend using the movie version of the book (see direction for digital activities for link) since it is animated and narrated
- Practice problems
 - Print out a set of teacher practice problems onto cardstock and laminate
- Bingo cards
 - Print cards on cardstock and laminate
 - You will use the teacher practice problems as calling cards

Preassessment (do day 1 before starting lesson)

- Use the quiz as the preassessment
- 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 and who may lack
some pre-requisite skills.

Quick Look

Day	Activity	Day	Activity
1	<ul style="list-style-type: none">• Book• Vocabulary board intro• Power card introduction• Putting steps in order	6	<ul style="list-style-type: none">• Book• Practice problem group activity• Practice problems
2	<ul style="list-style-type: none">• Book• Review power card• Label the order of the steps	7	<ul style="list-style-type: none">• Book• Practice problem group activity• Practice problems
3	<ul style="list-style-type: none">• Book• Review power card• Label the order of the steps	8	<ul style="list-style-type: none">• Book• Practice problem group activity• Practice problems
4	<ul style="list-style-type: none">• Book• Practice problem group activity• Practice problems	9	<ul style="list-style-type: none">• Book• Practice problem group activity• Practice problems
5	<ul style="list-style-type: none">• Book• Practice problem group activity• Practice problems	10	<ul style="list-style-type: none">• Quiz

The lesson plans contain:

A quick look at what you will do each day.

Day 4-9

Activity	Notes	Materials
Read or listen to the movie version of the book	<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
Practice problem group activities	<ul style="list-style-type: none"> • Choose an activity to do as a group. See the handout for the explanation of the following activities <ul style="list-style-type: none"> ◦ Bingo ◦ Scavenger Hunt ◦ Speed matching • Bean bag toss 	<ul style="list-style-type: none"> • Practice problems (teacher set) • Other materials depend on activity chosen
Labeling the order of the operations review (5 minutes)	<ul style="list-style-type: none"> • Review the worksheet completed yesterday 	<ul style="list-style-type: none"> • Labeling the order of the operations worksheet
Practice problems (10 minutes)	<ul style="list-style-type: none"> • Do one of the worksheets with student practice problems (you will do one worksheet per day) • Students are working through problems step by step • Make sure students are not using mental math and writing down each step as they solve the problem • Use calculators to check (if no parentheses are used) • Help students refer to power card as they work through the problems 	<ul style="list-style-type: none"> • Worksheet • Calculator • Power cards
Sharing (10 minutes)	<ul style="list-style-type: none"> • Each student shares one of their finished worksheets with the group using the communication method of their choice 	<ul style="list-style-type: none"> • Completed worksheets • Communication devices

The lesson plans contain:
Detailed instructions on how that day's lesson should run including group and individual activities.

But what happens when there is more than one sign or operation in the problem?

$$2 + 3 \times 2 = ?$$



So, let's look again at our original problem, and use this new rule to figure out the correct answer.

PEMDAS

$$2 + 3 \times 2 = ?$$

we would need to multiply first

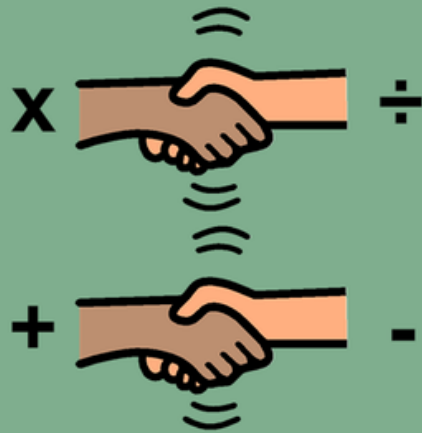
$$2 + 6 = ?$$

we would need to add

$$2 + 6 = 8$$







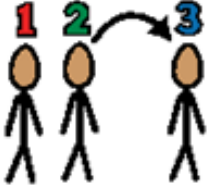




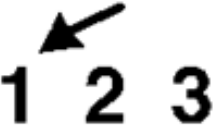
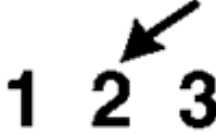









There is one last thing to remember. Just like reading a sentence, you always want to read the equation left to right. First apply your rules of PEMDAS. But think of **multiplying and dividing as a team**, and **addition and subtraction as a team**.



This unit contains a book that is 22 pages and covers the order of operations

It comes in a pdf version as well as an mp4 version that is animated and narrated.

 operations	 addition	 subtraction	 multiplication	 division
 parentheses	 in order	 one step at a time	 PEMDAS	 partners
 left to right	 first	 next	 correct	 wrong
 repeat that	 yes	 no	 I don't know	 I need a break

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!!

Step by step cards for solving problems using order of operations. Made to fit on 4x6 index card.

- Print on cardstock and laminate
- Glue together back-to-back

PEMDAS LEFT → RIGHT

1. Parentheses
2. Exponents
3. Multiplication
4. Division
5. Addition
6. Subtraction

Partners:

- multiplication and division (solve left to right)
- addition and subtraction (solve left to right)

Sample: $4 \times 3 - 6 + 1 = ?$

$$\begin{array}{l} 4 \times 3 - 6 + 1 = ? \\ \underbrace{\hspace{1.5cm}} \\ 12 - 6 + 1 = ? \\ \underbrace{\hspace{1.5cm}} \\ 6 + 1 = ? \\ \underbrace{\hspace{1.5cm}} \\ 6 + 1 = 7 \end{array}$$

Step by step cards for solving problems using order of operations. Made to fit on 4x6 index card.

- Print on cardstock and laminate
- Glue together back-to-back

PEMDAS () LEFT → RIGHT

3^2

X

÷

+

-



Sample: $4 \times 3 - 6 + 1 = ?$

$$\begin{array}{l} 4 \times 3 - 6 + 1 = ? \\ \underbrace{\hspace{1.5cm}} \\ 12 - 6 + 1 = ? \\ \underbrace{\hspace{1.5cm}} \\ 6 + 1 = ? \\ \underbrace{\hspace{1.5cm}} \\ 6 + 1 = 7 \end{array}$$

There is a power card that outlines the order of operations using words or pictures which students can use when working through problems.

Place the steps in order for the correct order of operations. Circle the two sets of partners.

PEMDAS

--	--	--	--	--	--

X	-	()	+	÷	3 ²
---	---	-----	---	---	----------------

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Place the steps in order for the correct order of operations. Circle the two sets of partners.

PEMDAS

--	--	--	--	--

X	-	()	+	÷
---	---	-----	---	---

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There is an activity where students sequence the correct order of operations.

For each problem below, label the order of operations with numbers. The first one is done for you.

$4 \overset{1}{\times} 9 \overset{2}{+} 2 = ?$	$6 \square - 4 \square + 1 = ?$
$(4 \square - 1 \square) \div 3 = ?$	$10 \square - 8 \square \times 1 = ?$
$2 \square \times (6 \square + 4) = ?$	$8 \square \div (2 \square + 2) = ?$
$6 \square + 1 \square \times 5 = ?$	$10 \square - 8 \square \div 4 = ?$
$(2 \square + 4 \square) \div 6 = ?$	$(7 \square - 5 \square) \times 3 = ?$

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For each problem below, label the order of operations with numbers. The first one is done for you.

$3 \overset{2}{+} 2 \overset{1}{\times} 5 \overset{3}{+} 1 = ?$	$8 \square - 2 \square \times 3 \div 6$
$(5 \square - 1 \square) \div 2 \square \times 8 = ?$	$2 \div 2 \times 5 - 6 = ?$
$8 \square + 2 \square + 3 \square + 4 = ?$	$9 \square - 5 \square + 2 \div 2 = ?$
$7 \square \times (2 \square + 1 \square) - 1 = ?$	$(8 \square + 2 \square) \times 4 - 3 = ?$
$(1 \square + 5 \square) \div 6 \square \times 4 = ?$	$2 \square + (6 \square - 5 \square) \times 3 = ?$

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There is an activity where students label the order of operations in an equation.

Practice problems

- There are *** extra problems included.
- The last page has all the possible answers you can cut apart and use for the activities below if needed.
- This set of practice problems can be used for:
 - **Bingo game** (included)
 - **Additional practice**
 - **File folder game** (see below)
 - **Scavenger hunt:** Place answers on index cards around the room. Have students solve the problem and find the answer.
 - **Speed matching:** Have numbers (answers to problems) on table. Hold up problem, see who can solve it the fastest and find the answer in the pile of numbers.
 - **Bean bag toss:** write numbers on paper plates and set around the room. Students solve problem on card and then try to toss bean-bag onto correct plate.
- File folder game
 - Glue down answers on one or both inside surfaces of file folder. **spread apart enough so when matching the corresponding problem it does not cover up more possible answers.
 - Laminate and add Velcro
 - Cut apart and laminate problems to solve, add Velcro
 - Match problem to solution

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$5 + 2 \times 3 = ?$	$10 \div 2 - 4 = ?$
$8 \div 2 \times 5 = ?$	$(3 + 1) \div 2 = ?$
$3 \times (4 + 1) = ?$	$10 - 5 + 1 =$
$1 + 2 + 4 = ?$	$2 \times 2 \times 2 = ?$
$(11 - 3) \div 2 = ?$	$(20 + 5) \div 5 = ?$
$12 - 6 \times 2 = ?$	$9 \div (7 - 4) = ?$
$2 \times 2 + 5 = ?$	$4 \times 5 \div 2 = ?$
$8 + 2 \times 4 = ?$	$10 \times 2 - 3 = ?$

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There are practice problems with suggestions for group activities.

Bingo cards



- Included are 10 Bingo
- Place the cards in page protectors or laminate for long term use.
- This is a great way to practice the new vocabulary included in this unit.
- Cut apart a set of the vocabulary cards to use as the calling cards.
- Options:
 - Show students the picture for them to match
 - Read the definition and see if students can find the matching picture
 - Work as teams
 - Vary the "winning" patterns.
 - Cover all
 - Cover corners
 - Row across or down
 - Cover the edges
 - Vary the ways to mark the card
 - Place in page protector or laminate and use dry erase markers
 - Stickers
 - Post-it notes
 - Dot markers

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Order of Operations



15	20	5	1
16	6	1	4
10	8	0	7
9	3	17	2

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There are 10 Bingo cards included with 10 different ways to use them.

Work through each of the problems below using the order of operations (PEMDAS). Do one step at a time. Circle your final answer. The first one is done for you.

$$4 + 6 \times 2 = ?$$

$$4 + 6 \times 2 = ?$$

$$4 + 12 = ?$$

$$4 + 12 = 16$$

$$12 + 4 - 2 = ?$$

$$15 - 5 \times 2 = ?$$

$$2 \times 2 + 3 = ?$$

Work through each of the problems below using the order of operations (PEMDAS). Do one step at a time. Circle your final answer.

$$3 \times (5 + 5) = ?$$

$$(12 - 6) + 2 = ?$$

$$13 - (5 \times 2) = ?$$

$$6 + (17 - 7) = ?$$

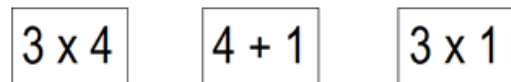
There are practice problems half that use parentheses and half that don't.

Quiz: Order of Operations

1. What operation would you do first in this equation: $6 + 3 \times 2 - 4 = ?$



2. Which part of the equation would you do first? $3 \times (4 + 1) = ?$



3. What operation would you do first in this equation: $12 \div 4 \times 3 - 5 = ?$



4. What operation would you do first in this equation: $20 - 4 + 2 + 6 = ?$



5. Solve this equation: $2 \times (3 + 1) - 5 = ?$

There is a short quiz to use as the assessment.

Please note, that this unit does not include a formal assessment or fill-in-the-blank worksheets often found in my other units.

Watch the movie on the Order of Operations



This unit includes digital activities. Part of that is a movie version of the book you can play in a google slide. This movie is animated and narrated.

$4 \times 9 + 2 = ?$	$6 - 4 + 1 = ?$
$(4 - 1) \div 3 = ?$	$10 - 8 \times 1 = ?$
$2 \times (6 + 4) = ?$	$8 \div (2 + 2) = ?$
$6 + 1 \times 5 = ?$	$10 - 8 \div 4 = ?$
$(2 + 4) \div 6 = ?$	$(7 - 5) \times 3 = ?$

For each problem, type in the order of operations in empty boxes.

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There are 2 sets of google slides that include half of each set of worksheets in the unit. Students can type in the answers.

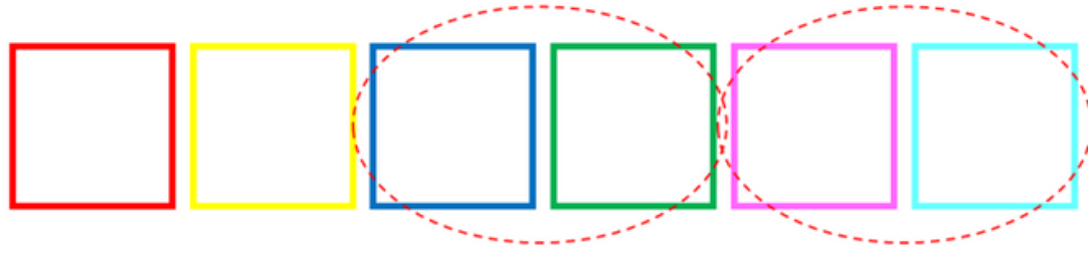
$4 + 6 \times 2 = ?$ $4 + 6 \times 2 = ?$ $4 + 12 = ?$ $4 + 12 = 16$
$12 \div 4 - 2 = ?$ <div style="border: 1px solid blue; height: 40px; width: 100%;"></div>
$15 - 5 \times 2 = ?$ <div style="border: 1px solid blue; height: 40px; width: 100%;"></div>
$2 \times 2 + 3 = ?$ <div style="border: 1px solid blue; height: 40px; width: 100%;"></div>

Typing in the blue box, work through each of the problems below using the order of operations (PEMDAS). Do one step at a time. Circle your final answer. The first one is done for you.



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PEMDAS



Place the steps in order for the correct order of operations. Circle the two sets of partners.

+
()
÷

3^2
×
-

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One set is differentiated with color for students who need more support. In this set, students are NOT typing but clicking and dragging over their answers.

<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 2 1 3 </div> $3 + 2 \times 5 + 1 = ?$	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 3 1 2 </div> $8 - 2 \times 3 \div 6 = ?$
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 1 2 3 </div> $(5 - 1) \div 2 \times 8 = ?$	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 1 2 3 </div> $2 \div 2 \times 5 - 6 = ?$
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 1 2 3 </div> $8 + 2 + 3 + 4 = ?$	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 2 3 1 </div> $9 - 5 + 2 \div 2 = ?$
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 2 1 3 </div> $7 \times (2 + 1) - 1 = ?$	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 1 2 3 </div> $(8 + 2) \times 4 - 3 = ?$
<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 1 2 3 </div> $(1 + 5) \div 6 \times 4 = ?$	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> 3 1 2 </div> $2 + (6 - 5) \times 3 = ?$

For each problem, drag the correct number to put in the box to show the order of operations for each equation. The first one is done for you.

1 2 3

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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!!

[Click Here to read more!!](#)