Algebra 1 Curriculum

$4 + x = 10$

$y - 7 = 23$

6 UNITS
19 WEEKS

JOY 2 TEACH

SPECIAL EDUCATION

For students who:

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

Why you need this bundle:

- If you teach multiple grade levels, you have all you need in one place.
- Having the same layout for each unit reduces students' anxiety and allows them to focus on the content.
- Aligned with extended learning standards.
- Saves you money
- Picture/visual support for struggling learners

This bundle includes 6 different units that introduce skills for solving algebraic equations. It includes:

1. Introduction to Algebra (2 weeks)
2. Solving Equations (4 weeks)
3. Coordinate Graphing (2 weeks)
4. Polynomials (4 weeks)
5. Exponents (3 weeks)
6. Introduction to Linear Functions (4 weeks)

All units have printable AND digital versions

J2T

Table of Contents

Every unit has many scaffolded activities that include picture and color support.

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Quick Look

Day	Activity	Day	Activity	Day	Activity
1	• Book • Intro vocab cards • Intro Key words cards	7	• Book • Vocab cards activity • Worksheet set 1 practice	13	• Book • Vocab cards activity • Worksheet set 3 practice
2	• Book • Vocab cards activity • COSMIC cards • Drawing on a number line	8	• Book • Vocab cards activity • Worksheet set 1 practice	14	• Book • Vocab cards activity • Worksheet set 3 practice
3	• Book • Vocab cards activity • Drawing on a number line	9	• Book • Vocab cards activity • Worksheet set 1 practice	15	• Book • Vocab cards activity • Worksheet set 3 practice
4	• Book • Vocab cards activity • Identify possible values practice	10	• Book • Vocab cards activity • Worksheet set 2 practice	16	• Book • Vocab cards activity • Worksheet
5	• Book • Vocab cards activity • Identify possible values practice	11	• Book • Vocab cards activity • Worksheet set 2 practice	17	• Worksheet set 4 practice
6	• Book • Vocab cards activity • Worksheet set 1 practice	12	• Book • Vocab cards activity • Worksheet set 2 practice	18	• Book • Vocab cards cut and paste • set 4 practice
				19	• Assessment • Vocabulary Sudoku

Lesson plans

Day 2

Activity	Notes	Materials
Read or listen to a recording of the book (10 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
	  ○ 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
	  ○ 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

Key words review (5 minutes)	• Review the key word cards	• Key words cards
Intro COSMIC cards (10 min)	• Determine which set is going to be best for your students. • This plan spends 3 days focused on each step (except step 2&3 are combined into one) • Talk through the cards and make connections to the book and vocabulary cards and board	• COSMIC cards • Vocabulary board • Vocabulary cards
Drawing inequalities on the number line (10 minutes)	• Do one or more of the worksheets where students draw the inequality on the number line. • Watch for the open/closed circles depending on the sign • Ask student to verbalize or point to possible values of X	• Worksheet
Sharing (10 minutes)	• Each student shares one of their finished worksheet with the group using the communication method of their choice	• Completed worksheets • Communication devices

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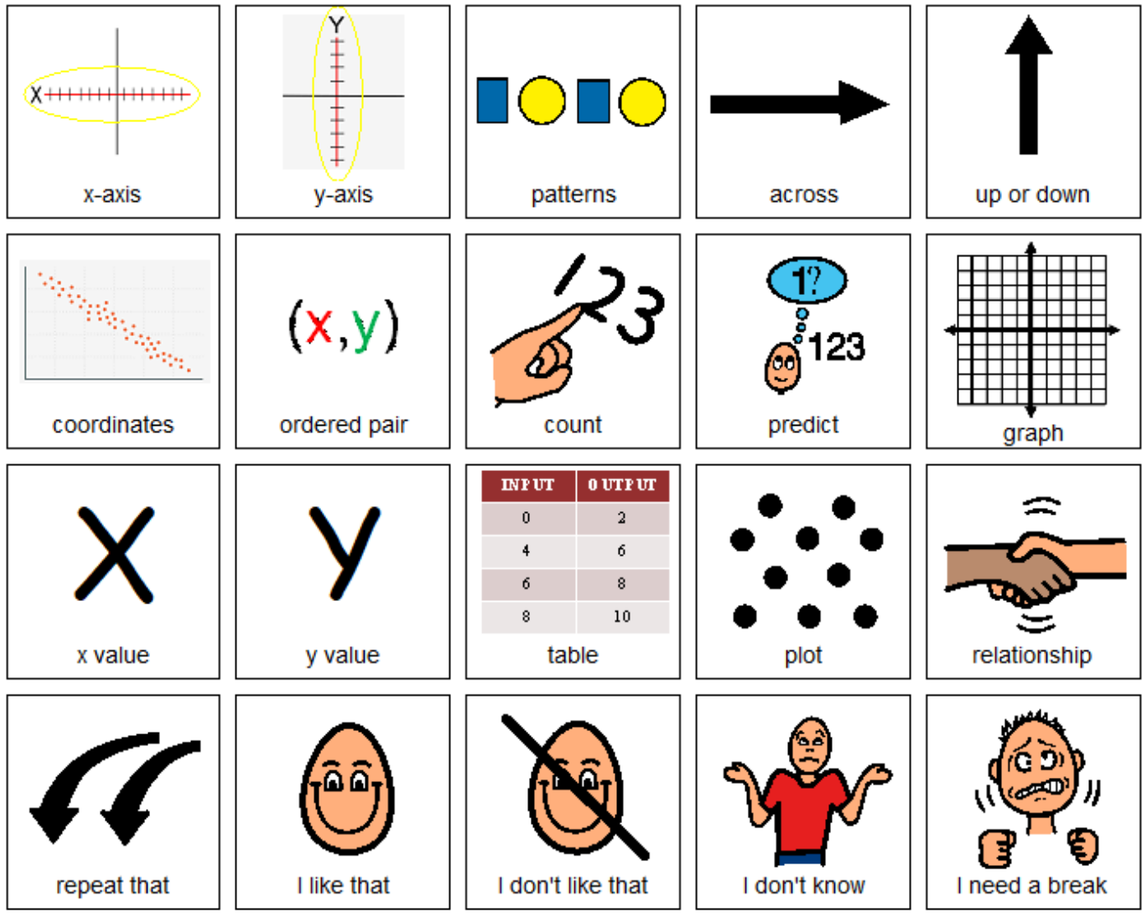
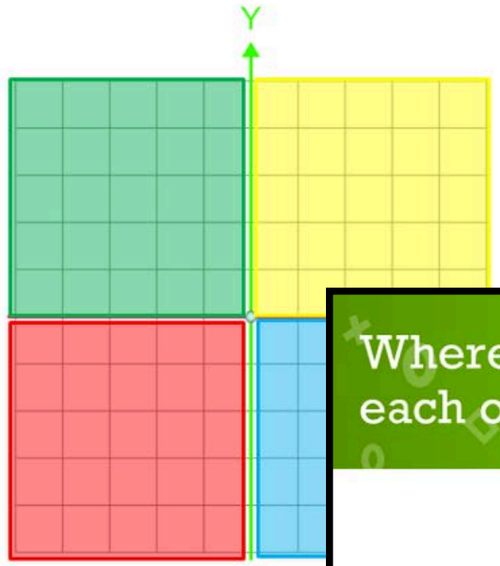


Every unit uses the same vocabulary board while working through the unit. Suggestions for use are included.

Most graphs are divided into 4 areas. These are called quadrants.



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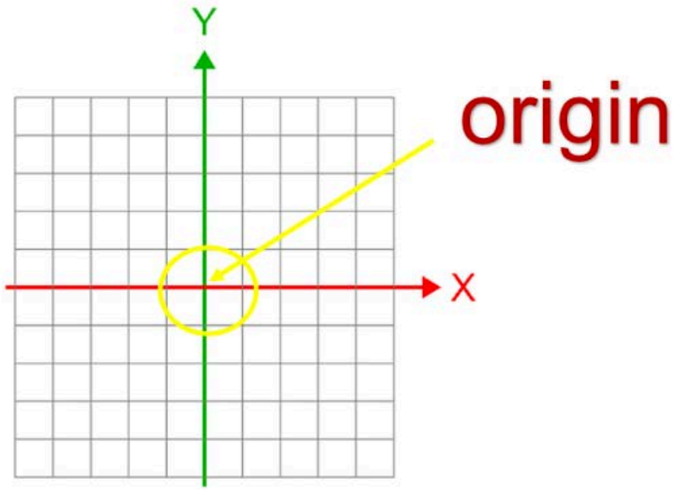
Where the x-axis and y axis intersect, or cross each other, is called the origin.



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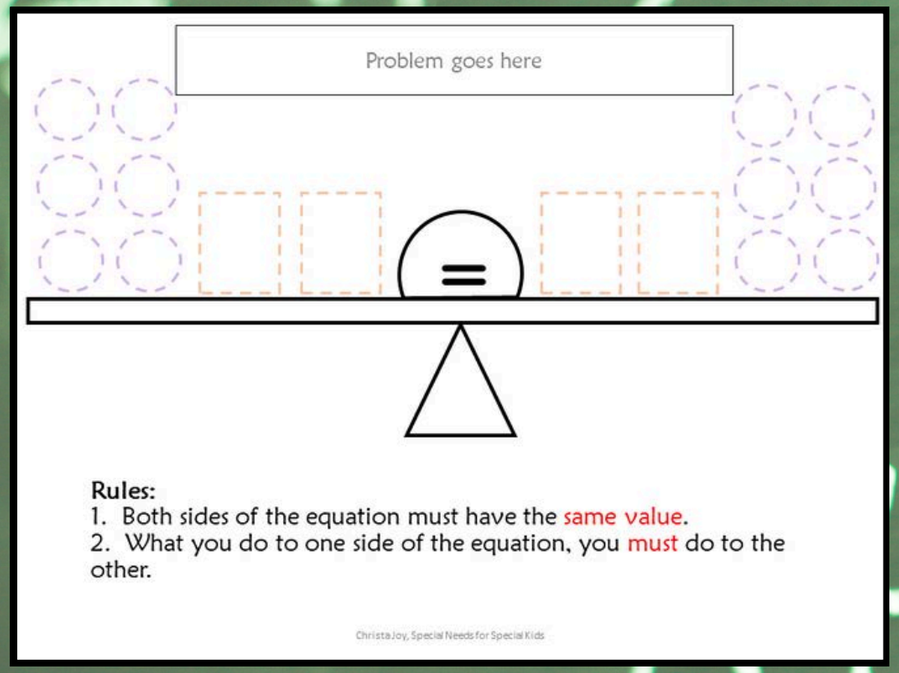
Books

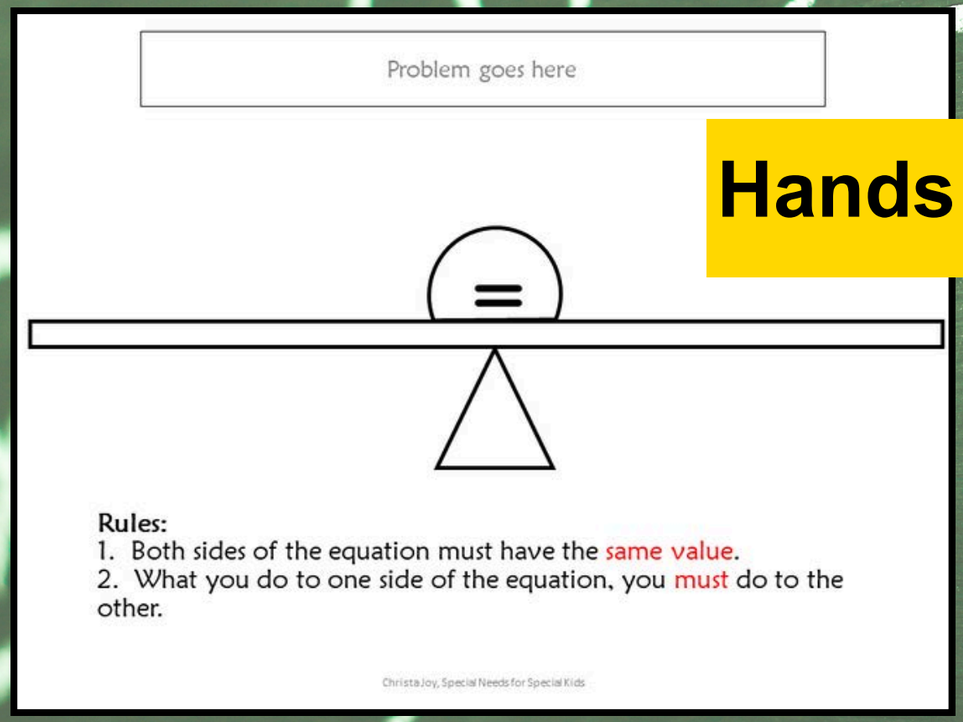
Every unit has a book with simple text and engaging photos. It is available as a PDF and an MP4 (movie) file.



Introduction Unit

The introductory unit:

- balancing equations
- using hands-on activities.



Hands on activities

There are

- pieces to cut out for students to use
- lots of practice problems

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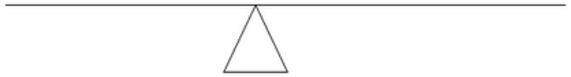
Name: _____

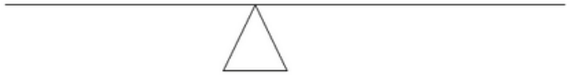
Solve the problem by drawing it in the box provided

$20 = 10 + 2x$



X = ☐

$17 = 11 + 2x$



X = ☐

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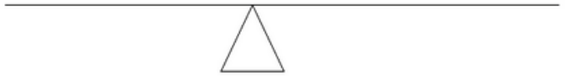
Lots of practice

Name: _____

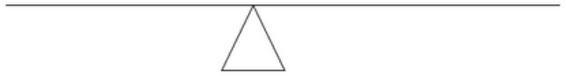
Solve the problem by drawing it in the box provided

$6 + 4x = 14$



X = ☐

$3 + 5x = 18$



X = ☐

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Introduction Unit

Move from using manipulatives to

↓

drawing out the problem

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Solving Equations and Inequalities

Vocabulary

variable

An unknown quantity in an expression or equation represented by a letter.

X, Y

expression

One or more numbers or variables joined by one or more operations.

$5X + 3$

equation

Expression with an equal sign.

isolate

To solve the equation so the variable is ***by itself*** on one side of the equal sign.

operation

Mathematical calculation. Addition, subtraction, multiplication or division.

constant

A number on its own in an expression or equation.

reciprocal

The fraction turned upside down.

coefficient

The number in front of the variable.

$5x$

Most units have vocabulary cards and activities.

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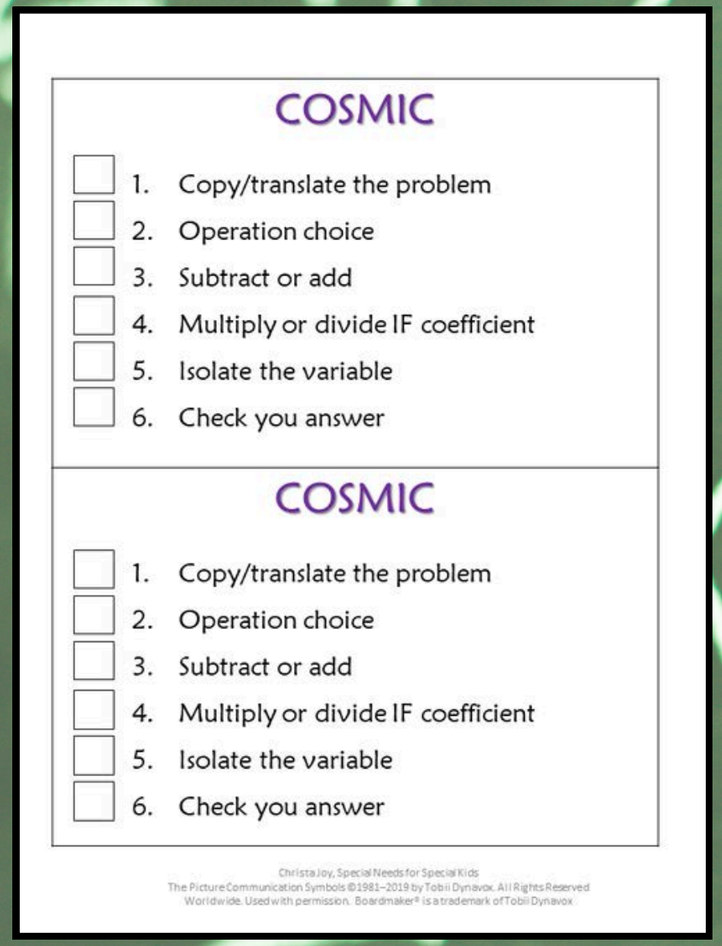
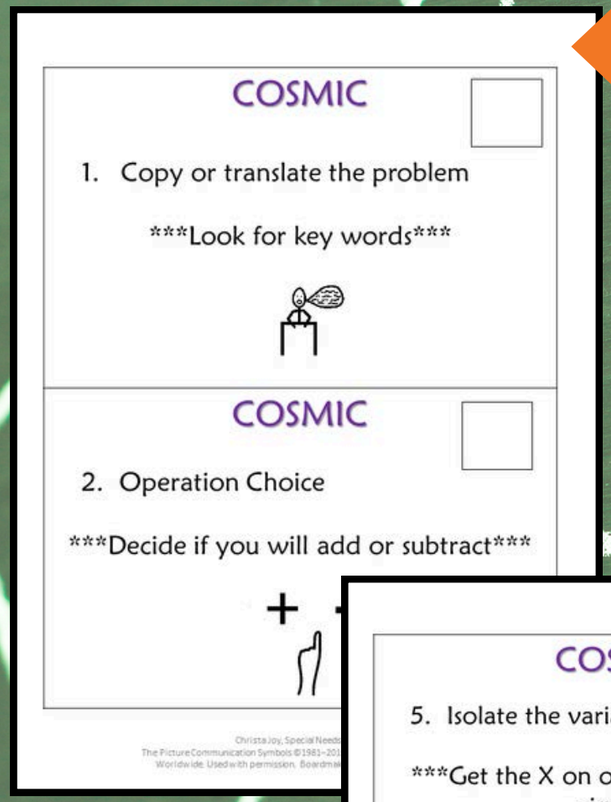
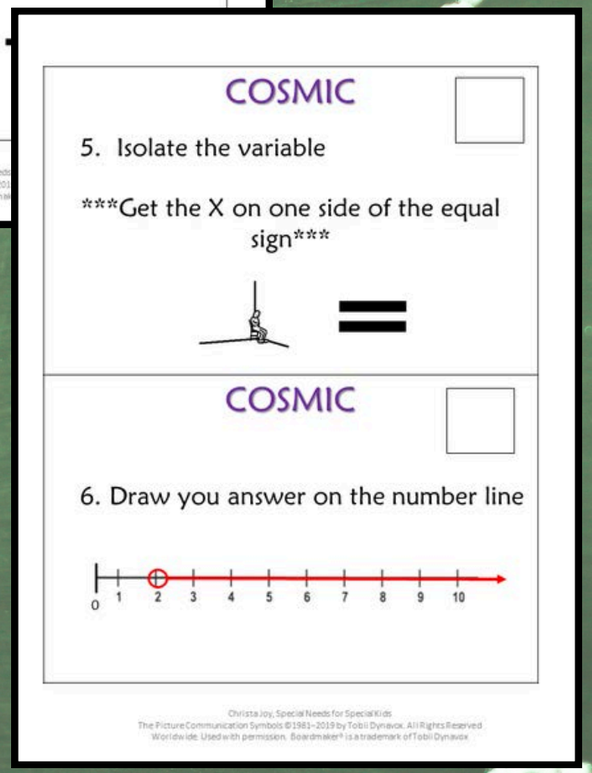
Solving Equations







Checklists

Uses the COSMIC system

There are cards (with or without pictures) to guide students through steps.

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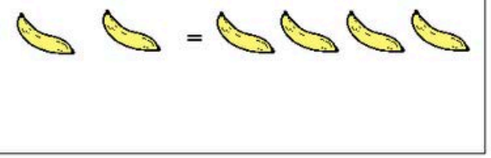
Solving Equations

1. Decide if you need to add or subtract from both sides.
2. Circle either the + or – sign.
3. Either add or subtract the correct number of pictures as the first step in isolating the variable on one side.

3



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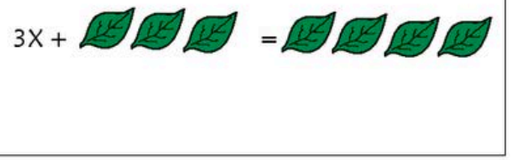

1. Decide if you need to add or subtract from both sides.
2. Circle either the + or – sign.
3. Either add or subtract the correct number as the first step in isolating the variable on one side.

3

5 X - 4 = 36

4

2X + 6 = 16

1. Translate the problem.
2. Decide if you need to add/subtract.
3. Write the new problem.
4. Decide if you need to multiply/divide.
5. Is the variable isolated? Circle the answer.

Example: Two times a number plus ten equals twenty.

	2X + 10 = 20	1
+ or –	2X + 10 = 20 -10 -10	2
	2X = 10	3
X or ÷	2X = 10 ÷ 2 ÷ 2	4
yes / no	X = 5	5

Students work on each step in isolation.

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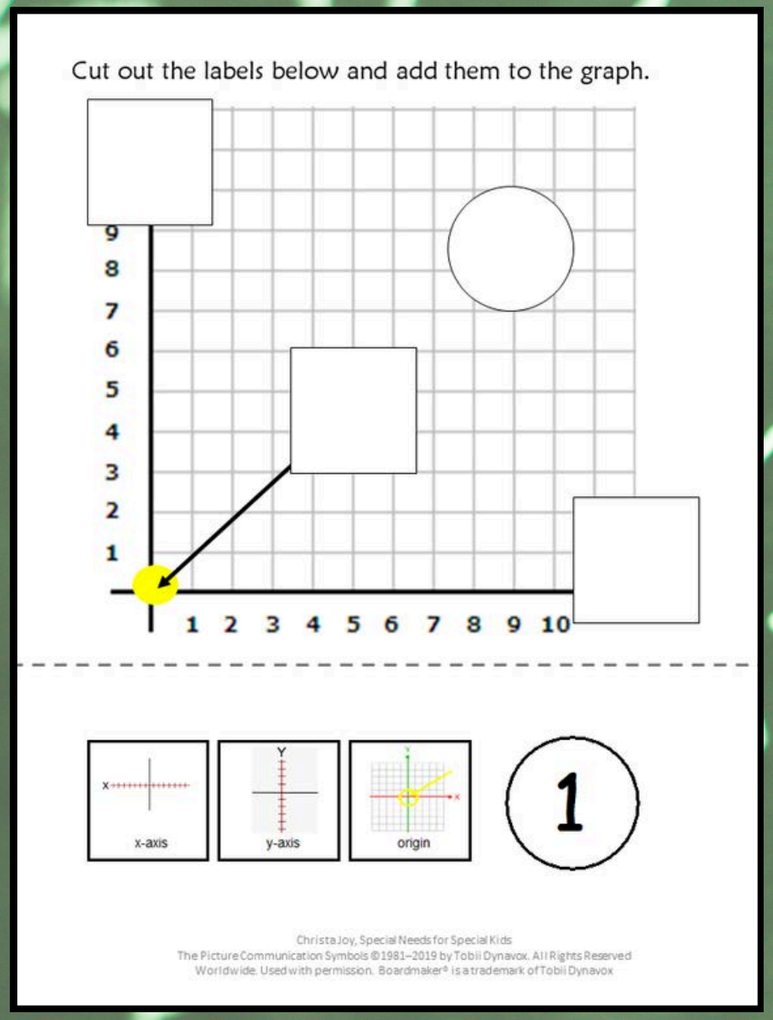
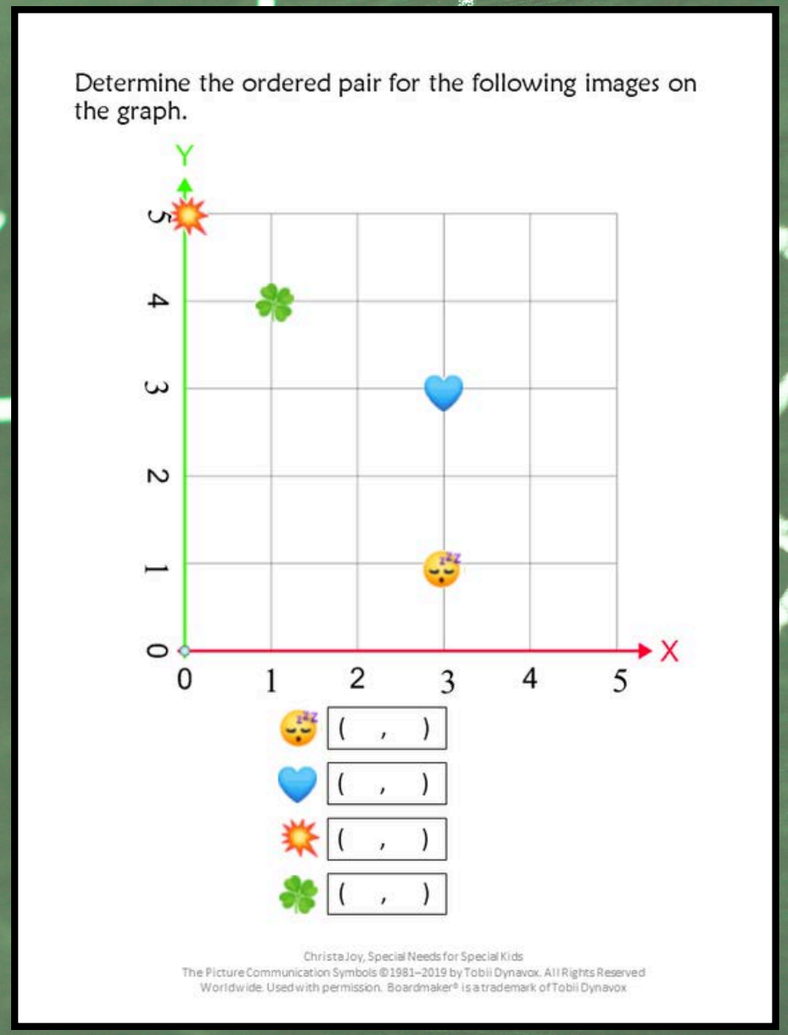
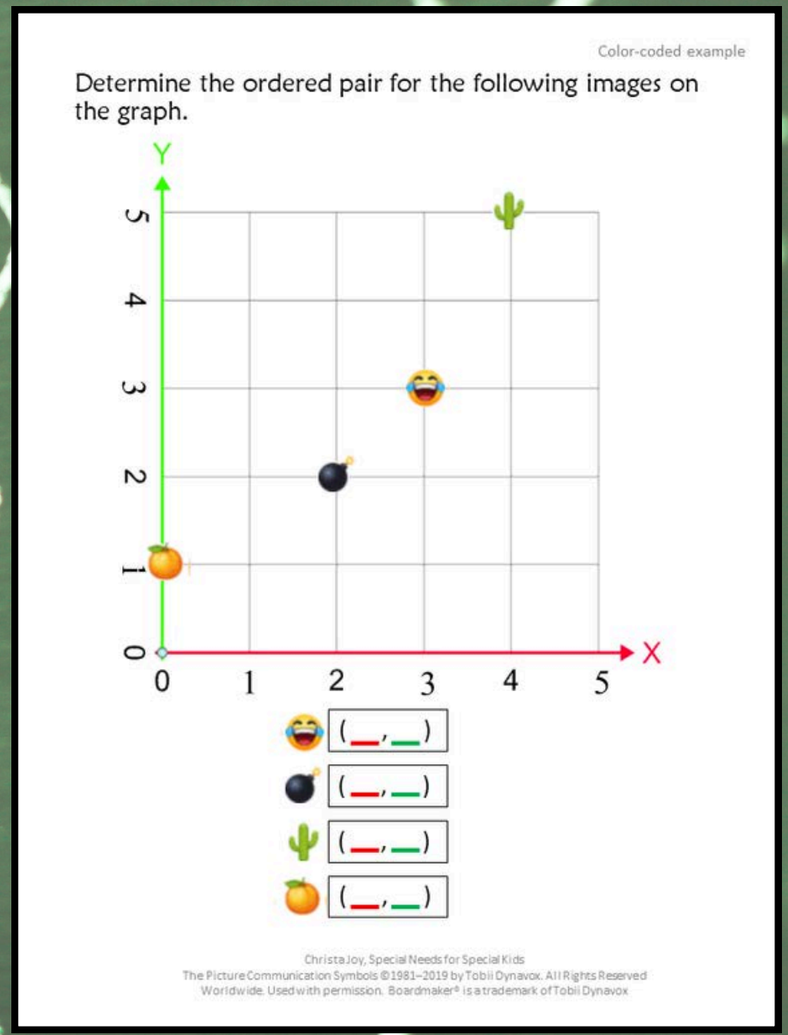
Coordinate Graphing







Students work on each step in isolation.

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Polynomials

Look at each polynomial.

- Underline the constants
- Circle the variables
- Draw a box around the coefficient

$\underline{4} + \boxed{6}\,\text{(x)}$	$9 - 4x$
$8z - 12$	$12z + 6 - 4y$
$2x + 3z$	$x - 3y + 2x$
$8z + 1$	$z + 4y - 2y$
$6 + 2x + 3y$	$4 + 5x - 1$
$2z - 6 - 4x$	$7z - 3x - 2y$
$9x$	$16 + 4z$
$10z + 3x - 16$	$5x - 12$

Add the polynomials.

$x + 3y$
$3x + y$
$\square$

$3x + 2z$
$5x + 2z$
$\square$

$4z + 8x$
$2z + 2x$
$\square$

$4y + 6x$
$3y + 4x$
$\square$

$(3y + 4z) + (2z + 7y)$

$\square$
$+ \square$
$\square$

Look at the expression below. Cut it apart on the dashed line and arrange the pieces so the like terms are together. Record the new equation on the recording sheet.

1	6x	+ 4y	+ 2x	+ 3y
2	2	+ 3x	+ x	+ 7
3	5y	+ 7x	+ 2y	+ 8x
4	x	+ y	+ x	+ y
5	6x	+ 2	+ 2x	+ 8

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Exponents

Circle or shade in the equivalent expression

1. 7^2

2+2+2+2+2+2+2	7 x 7	7 + 7

2. 4^3

4 x 4 x 4	4 x 3	3 + 3 + 3 + 3

3. 6^4

6 x 4	6 + 6 + 6 + 6	6 x 6 x 6 x 6

4. 2^2

2 + 2	2 x 2	2 x 2 x 2 x 2 x 2

5. 1^8

1x1x1x1x1x1x1x1	1+1+1+1+1+1+1+1	1 x 8

Draw a line to the equivalent expression.

10^2	3x3x3x3x3x3x3
7^3	7 x 7 x 7
4^4	10 x10
9^5	4 x 4 x 4 x 4
8^6	9 x 9 x 9 x 9 x 9
3^7	8x8x8x8x8x8

Finding the common difference in the arithmetic sequence. The first one is done as an example.

2, 4, 6, 8, 10 (+2 +2 +2 +2) Common difference +2

3, 4, 5, 6, 7 Common difference ☐

10, 20, 30, 40, 50 Common difference ☐

3, 6, 9, 12, 15 Common difference ☐

0, 5, 10, 15, 20 Common difference ☐

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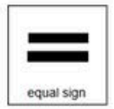
Assessment

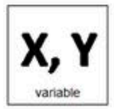
There is an assessment that reviews the main concepts and has some practice problems.

Version 1

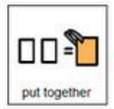
1. In an expression or equation, a variable is usually a:

2. An equation is an expression with an:

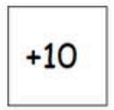




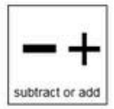
3. In order to solve the equation we need to do wha
the variable?

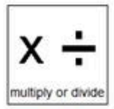


4. If you add 5 to one side of the equation, what do
you do have to the other side of the equation?



5. The first operation choice to solve the equation is:





Version 3

1. In an expression or equation, a variable is usually a:
   A. Letter
   B. Number
   C. Animal
2. An equation is an expression with an:
   A. Equal sign
   B. Variable
   C. Word
3. In order to solve the equation we need to do what to the variable?
   A. Put together
   B. Translate
   C. Isolate
4. If you add 5 to one side of the equation, what do you do have to the other side of the equation?
   A. +10
   B. +5
   C. -5
5. The first operation choice to solve the equation is:
   A. Subtract or add
   B. Multiply or divide
   C. Count
6. Translate this expression: Two times a number plus one:
   A. 2x-1
   B. x/2+1
   C. 2x+1

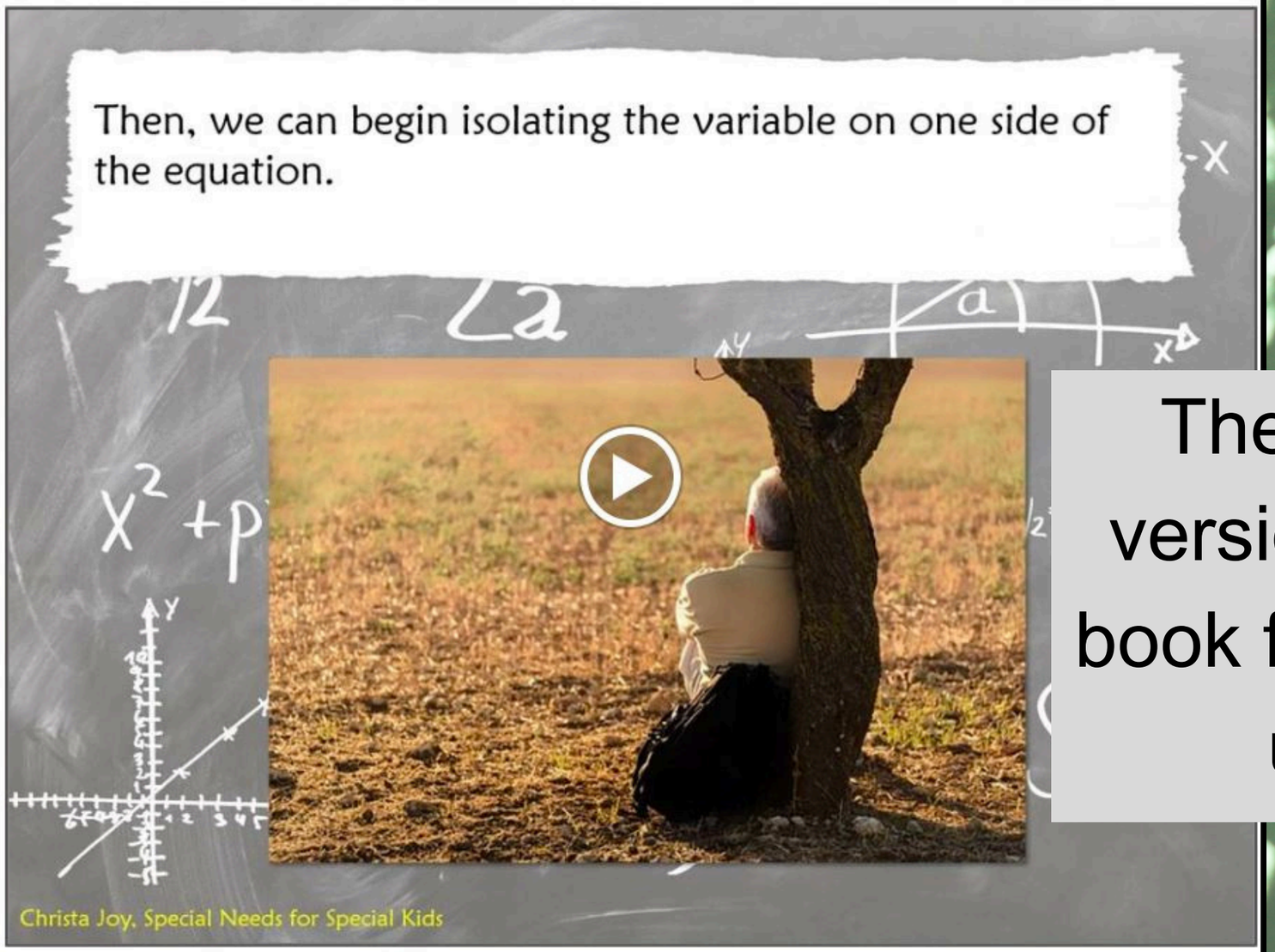
All of these units include digital versions of the activities.

There is a movie version of the book.

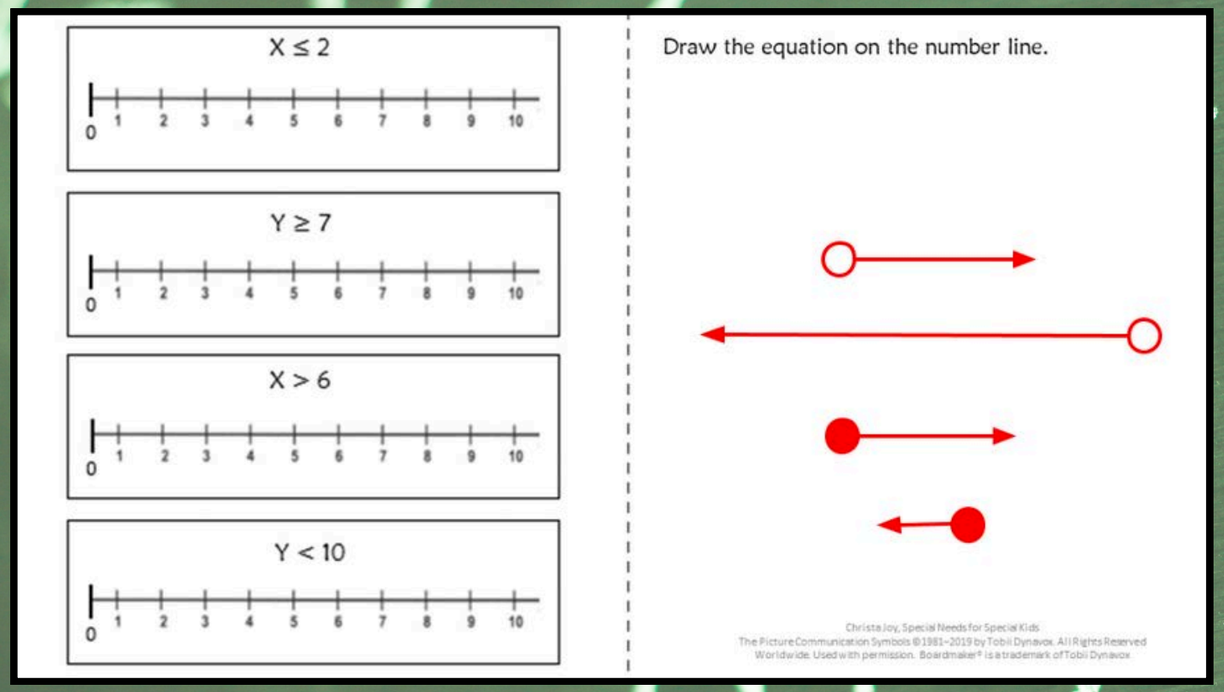
There are 2 complete sets of slides, one of which is differentiated by color. In the differentiated set of slides, no typing is required.

Make great independent learning centers.

Watch the movie on Inequalities

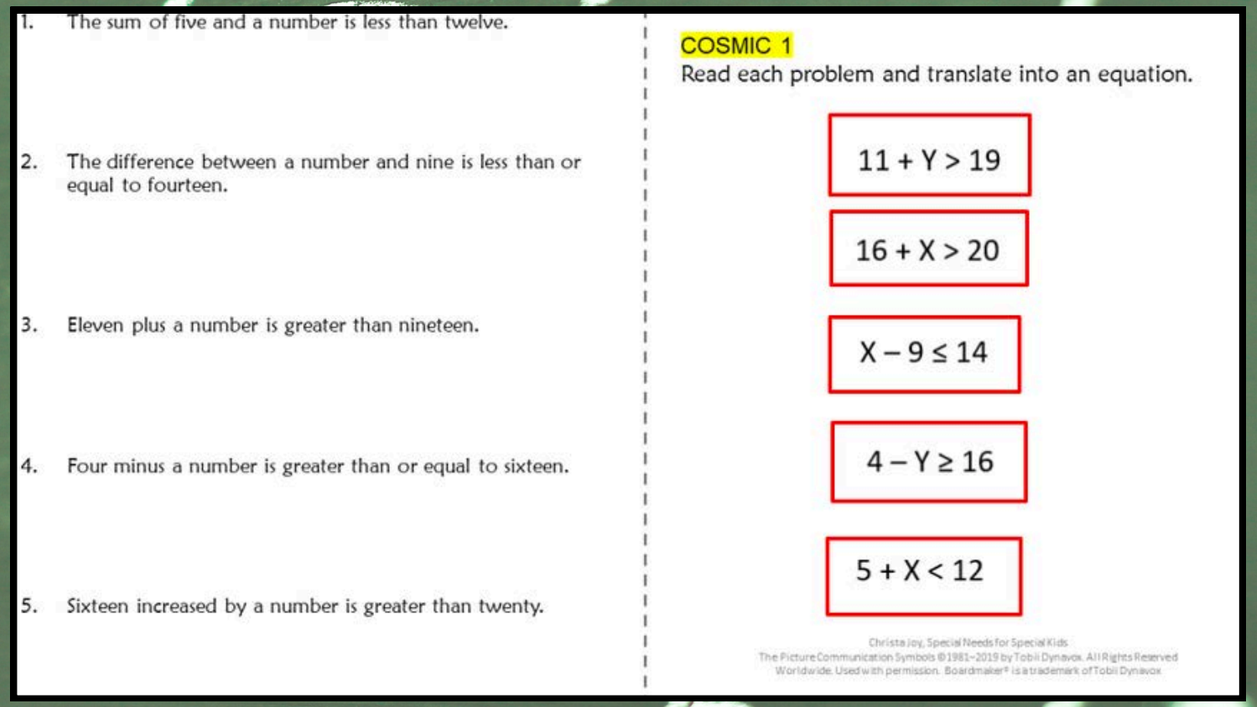


The movie version of the book from each unit.



Great for review

The digital activities require students to click and drag their answers.



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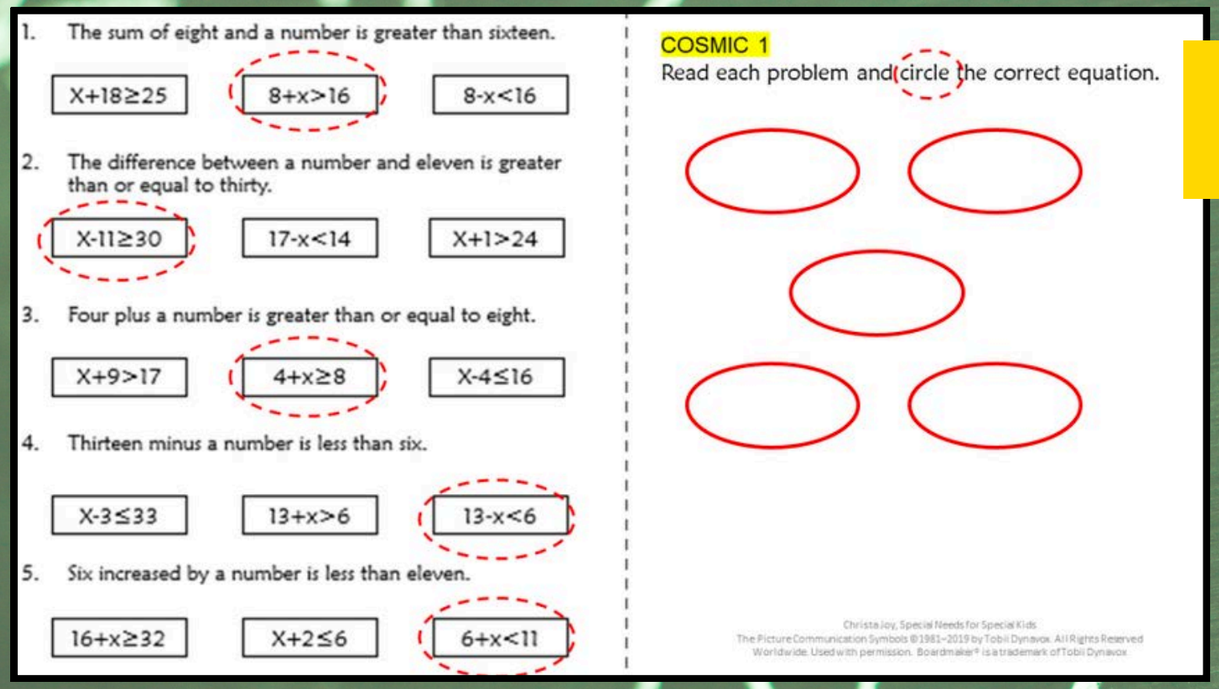

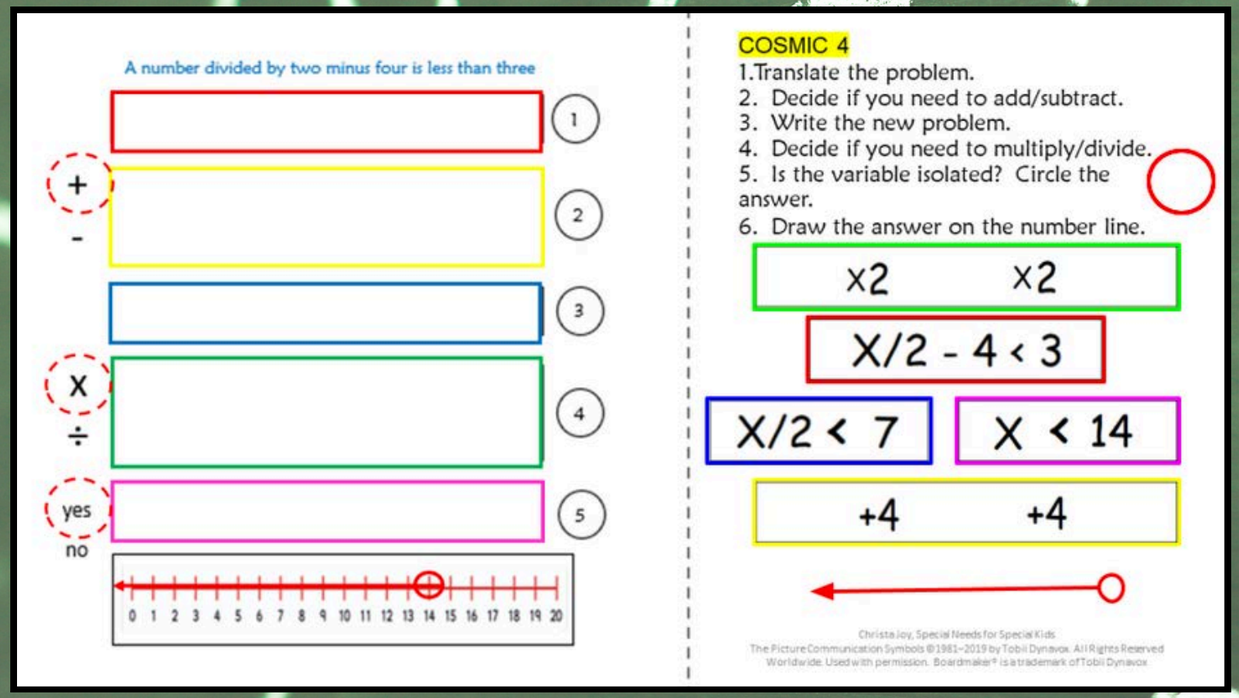

Perfect for any learning level

The second set of slides is differentiated with more visual support.

J2T

Still have questions?

Reach out at specialneedsforspecialkids@gmail.com

I will answer your question personally and promptly.