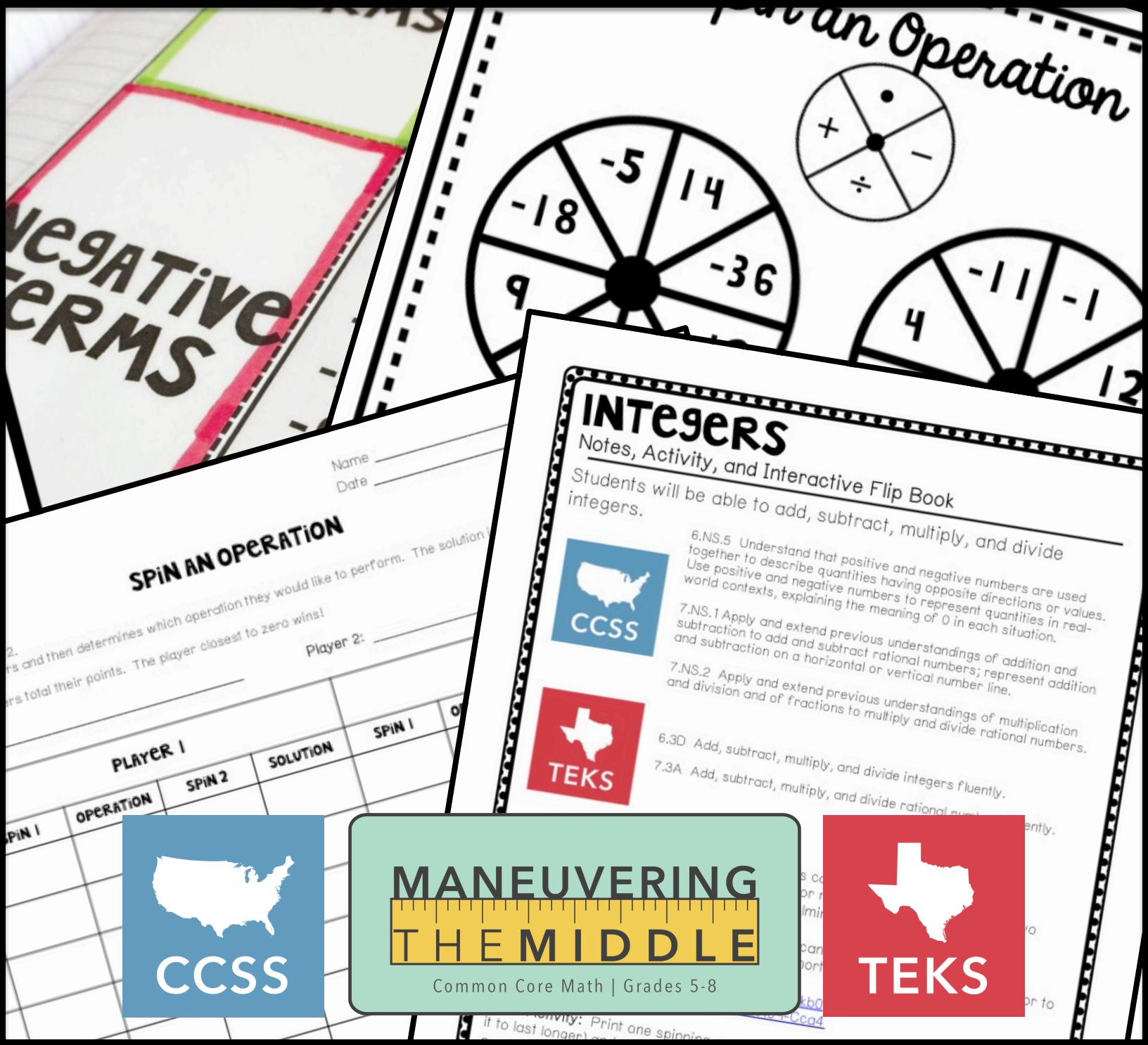


MIDDLE SCHOOL

# Integer Operations

NOTES, ACTIVITY, FLIP BOOK



NEGATIVE TERMS

## SPIN AN OPERATION

Name \_\_\_\_\_  
Date \_\_\_\_\_

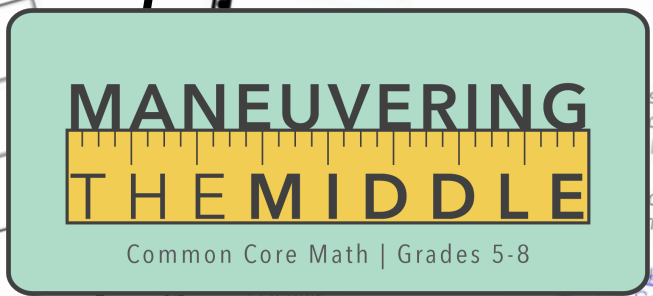
Students will be able to add, subtract, multiply, and divide integers.

PLAYER 1		PLAYER 2	
SPIN 1	OPERATION	SPIN 2	SOLUTION

## INTEGERS

Notes, Activity, and Interactive Flip Book

- 6.NS.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- 7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line.
- 7.NS.2 Apply and extend previous understandings of multiplication and division of fractions to multiply and divide rational numbers.
- 6.3D Add, subtract, multiply, and divide integers fluently.
- 7.3A Add, subtract, multiply, and divide integers fluently.



# INTEGERS

## Notes, Activity, and Interactive Flip Book

---

Students will be able to add, subtract, multiply, and divide integers.



6.NS.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values. Use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.

7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line.

7.NS.2 Apply and extend previous understandings of multiplication and division and of fractions to multiply and divide rational numbers.



6.3D Add, subtract, multiply, and divide integers fluently.

7.3A Add, subtract, multiply, and divide rational numbers fluently.

**Ideas for Implementation:** Integer concepts can be so tricky for students! Comments like, “Is that a subtraction sign or negative sign?” or “I thought two negatives make a positive!” can be overwhelming and confusing.

**Notes:** The number line and counter models can be a bit tricky. If you are unfamiliar with them, I have included some short YouTube videos to watch prior to the lesson.

<https://www.youtube.com/watch?v=y8sGY1uhkb0>

<https://www.youtube.com/watch?v=7x7H09-Cca4>

**Class Activity:** Print one spinning mat (laminating or using a page protector will help it to last longer) and one recording sheet per partner. Students will spin two numbers, choose an operation, and record their work. The student who gets a total of closest to zero wins. *If a student spins two numbers whose result is not an integer, they need to round to the nearest integer.* This can also be played by varying the way a student wins. For example greater than 100, less than -5, closest to -20, etc.

**Flip Book:** As a class we would brainstorm the different terms that indicate an integer and then place them in the appropriate flap. Some words to consider: debit, credit, increase, decrease, withdrawal, rise, etc.

# HELPFUL HINTS

## Student Handouts

---

A few ideas for organizing your curriculum and keeping things nice and neat.

### **BINDERS**

Keep each unit in a separate binder, use the spine labels and covers to keep them looking nice and easy to find. I personally love 1.5" binders.

### **PAGE PROTECTORS**

I place my originals in page protectors in chronological order. Any extra copies from that lesson I hole punch and place behind that page. When I need an extra or a student is missing something from *weeeeeeeeeeks* ago, I can simply pull a copy out.

### **ANSWER KEYS**

I highlight the edges of my answer keys or if I am really good print them on colored paper. It helps them to stand out and makes it easy to find on my desk, in a binder, by the document camera, etc. Plus, highlighter doesn't show up if you make a copy.



### **CARD STOCK**

Card stock in a page protector makes an awesome divider. When I set up my dividers I include one for handouts, activities, assessments, and answer keys. Binder covers and spine labels have been included 😊

*Happy Teaching!*

## INTEGER OPERATIONS

Integers are \_\_\_\_\_ or \_\_\_\_\_ whole numbers.

<b>ADDITION SAME SIGNS</b>	<b>NUMBER LINE</b>	<b>COUNTERS</b>
	$-6 + -3 =$  <p>A number line from -10 to 0 with tick marks every 2 units. Labels are at -10, -8, -6, -4, -2, and 0. Arrows point left from -6 and -3 to -9.</p>	$-4 + -5 =$
$8 + 5 =$  <p>A number line from -10 to 0 with tick marks every 1 unit. Arrows point right from 0 to 8 and from 8 to 13.</p>	$-2 + -4 =$	

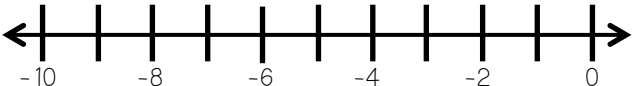

1.  $-8 + -7 =$

2.  $-9 + -2 =$

3.  $-4 + -7 =$

4.  $12 + 6 =$

Add integers with the same sign by finding the \_\_\_\_\_. Keep the sign of the numbers.

<b>ADDITION DIFFERENT SIGNS</b>	<b>NUMBER LINE</b>	<b>COUNTERS</b>
	$3 + -11 =$  <p>A number line from -10 to 0 with tick marks every 2 units. Labels are at -10, -8, -6, -4, -2, and 0. Arrows point right from 0 to 3 and left from 3 to -8.</p>	$-10 + 6 =$
$-9 + 4 =$  <p>A number line from -10 to 0 with tick marks every 1 unit. Arrows point left from 0 to -9 and right from -9 to -5.</p>	$5 + -7 =$	


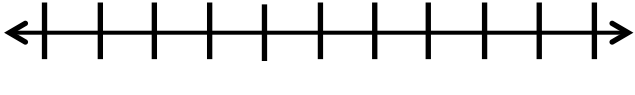
5.  $8 + -9 =$

6.  $-7 + 13 =$

7.  $4 + -8 =$

8.  $-9 + 13 =$

Add integers with different signs by \_\_\_\_\_ and keeping the sign of the number with the greatest absolute value.

<b>SUBTRACTION</b>	<b>NUMBER LINE</b>	<b>COUNTERS</b>
	$3 - 11 =$ 	$10 - 6 =$
	$-9 - 4 =$ 	$-5 - 7 =$



9.  $-3 - 7 =$

10.  $9 - 6 =$

11.  $5 - 12 =$

12.  $-2 - 6 =$

Subtract integers by rewriting the problem as \_\_\_\_\_.

<b>MULTIPLICATION &amp; DIVISION</b>	<b>NUMBER LINE</b>	<b>COUNTERS</b>
	$4 \cdot -2 =$ 	$-2 \cdot -6 =$
	$-15 \div -5 =$ 	$-14 \div 7 =$

13.  $-8 \cdot -4 =$

14.  $144 \div -12 =$

15.  $5 \cdot -9 =$

16.  $-56 \div -7 =$

When signs are the \_\_\_\_\_, the product/quotient is positive. When signs are \_\_\_\_\_, the product/quotient is negative.

Summarize today's lesson:

## INTEGER OPERATIONS

Integers are \_\_\_\_\_ or \_\_\_\_\_ whole numbers.

<b>ADDITION SAME SIGNS</b>	<b>NUMBER LINE</b>	<b>COUNTERS</b>
	$-6 + -3 = -9$	$-4 + -5 = -9$
	$8 + 5 = 13$	$-2 + -4 = -6$

1.  $-8 + -7 = -15$       2.  $-9 + -2 = -11$       3.  $-4 + -7 = -11$       4.  $12 + 6 = 18$

Add integers with the same sign by finding the sum. Keep the sign of the numbers.

<b>ADDITION DIFFERENT SIGNS</b>	<b>NUMBER LINE</b>	<b>COUNTERS</b>
	$3 + -11 = -8$	$-10 + 6 = -4$
	$-9 + 4 = -5$	$5 + -7 = -2$

5.  $8 + -9 = -1$       6.  $-7 + 13 = 6$       7.  $4 + -8 = -4$       8.  $-9 + 13 = 4$

Add integers with different signs by subtracting and keeping the sign of the number with the greatest absolute value.

SUBTRACTION	NUMBER LINE	COUNTERS
	$3 - 11 = -8$ 	$10 - 6 = 4$
$-9 - 4 = -13$ 	$-5 - 7 = -12$	

9.  $-3 - 7 = -10$       10.  $9 - 6 = 3$       11.  $5 - 12 = -7$       12.  $-2 - 6 = -8$

Subtract integers by rewriting the problem as addition.

MULTIPLICATION & DIVISION	NUMBER LINE	COUNTERS
	$4 \cdot -2 = -8$ 	$-2 \cdot -6 = 12$
$-15 \div -5 = 3$ 	$-14 \div 7 = -2$	

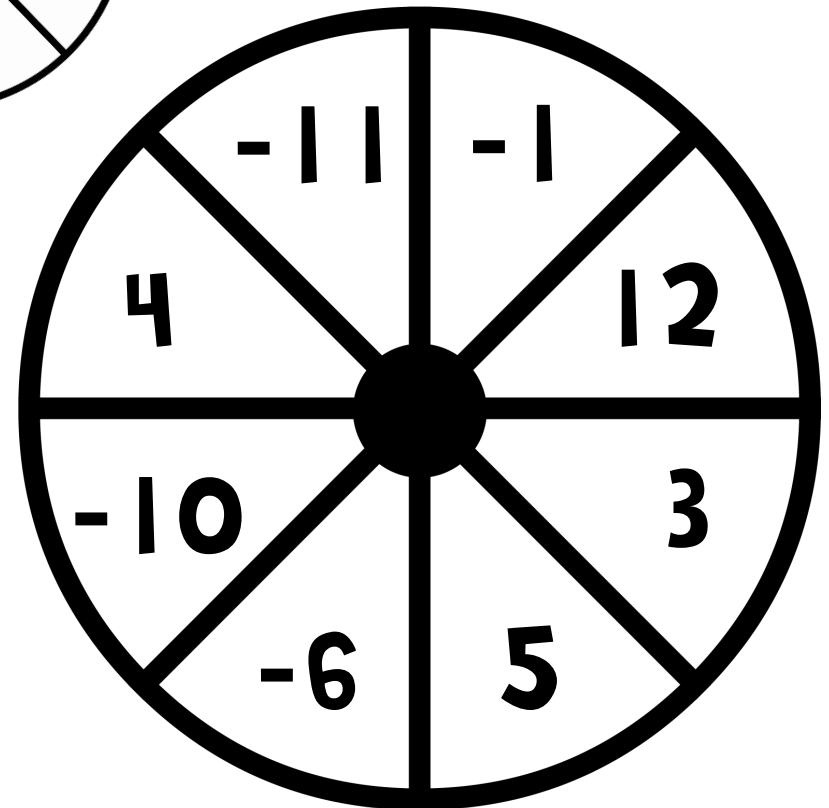
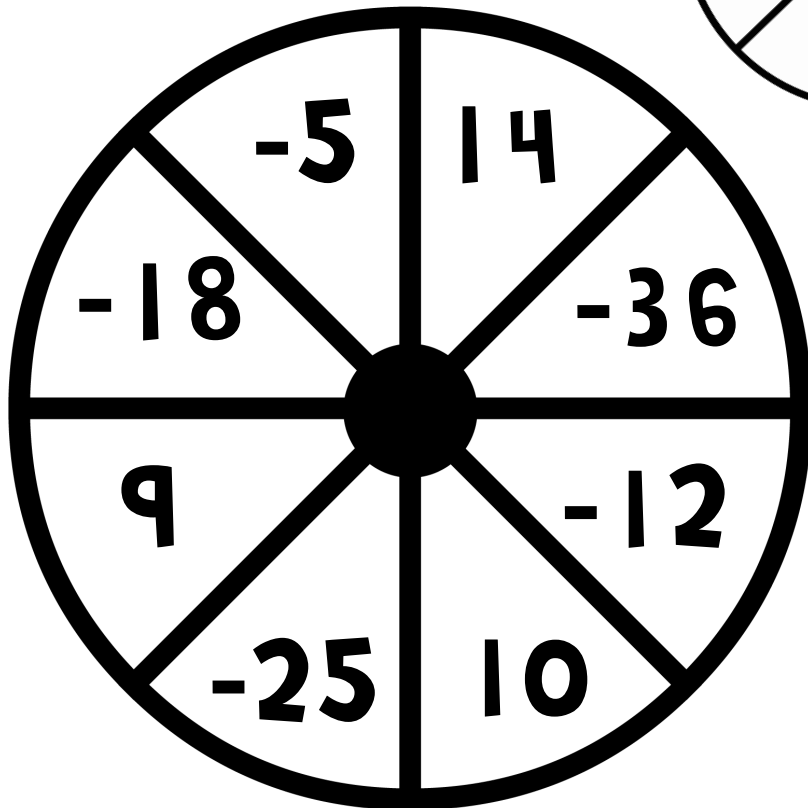
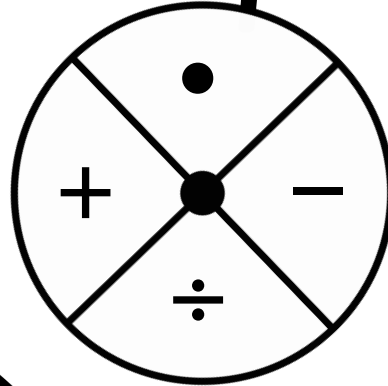
13.  $-8 \cdot -4 = 32$       14.  $144 \div -12 = -12$       15.  $5 \cdot -9 = -45$       16.  $-56 \div -7 = 8$

When signs are the same, the product/quotient is positive. When signs are different, the product/quotient is negative.

Summarize today's lesson:

**\*\*This is a space for students to write 2-3 sentences about the lesson. It helps move new learning to long term memory.**

# Spin an Operation





## SPiN AN OPERATIOn

1. Determine who is player 1 and 2.
2. Each player spins both spinners and then determines which operation they would like to perform. The solution is the number of points for each round.
3. At the end of 6 rounds, players total their points. The player closest to zero wins!

Player 1: \_\_\_\_\_

Player 2: \_\_\_\_\_

	PLAYER 1				PLAYER 2				
	SPiN 1	OPERATIOn	SPiN 2	SOLUTIOn	SPiN 1	OPERATIOn	SPiN 2	SOLUTIOn	
<b>ROUND 1</b>									
<b>ROUND 2</b>									
<b>ROUND 3</b>									
<b>ROUND 4</b>									
<b>ROUND 5</b>									
<b>ROUND 6</b>									
<b>TOTAL POINTS FROM ALL ROUNDS</b>					<b>TOTAL POINTS FROM ALL ROUNDS</b>				

**POSITIVE  
TERMS**

**NEGATIVE  
TERMS**

10 - 9 - 8 - 7 - 6 - 5 - 4 - 3 - 2 - 1 - 0 - N<sub>w</sub>

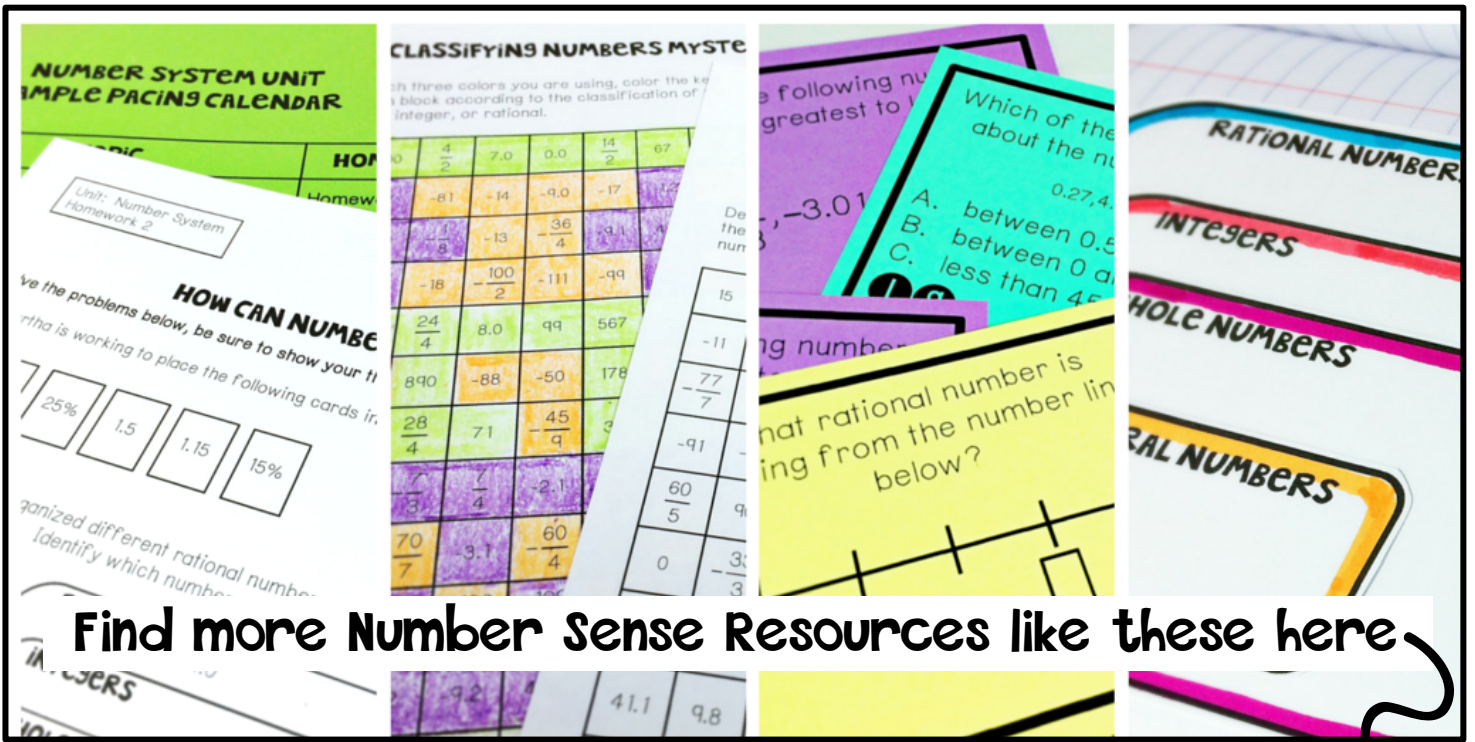
Print pages 2-3 double sided, one per student.

	10
	9
	8
	7
	6
	5
	4
	3
	2
	1
	0
	-1
	-2
	-3
	-4
	-5
	-6
	-7
	-8
	-9
	-10

**POSITIVE  
TERMS**

Glue this side down.

**NEGATIVE  
TERMS**



SIXTH GRADE  
**Number System**  
NOTES, HOMEWORK, QUIZZES, & TEST

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

CCSS TEKS

EVERYTHING YOU NEED TO TEACH THE 6<sup>TH</sup> GRADE CCSS

6<sup>TH</sup> GRADE MATH  
endless BUNDLE

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

CCSS TEKS Grade 6

**Comparing Rational Numbers**  
PROBLEM SOLVING TASK CARDS

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

CCSS TEKS

**Ordering Rational Numbers**  
PROBLEM SOLVING TASK CARDS

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

CCSS TEKS

SIXTH GRADE  
**Classifying Rationals**  
MYSTERY PATTERN ACTIVITY

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

CCSS TEKS

EIGHTH GRADE  
**Real Number System**  
NOTES, HOMEWORK, ACTIVITIES & QUIZ

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

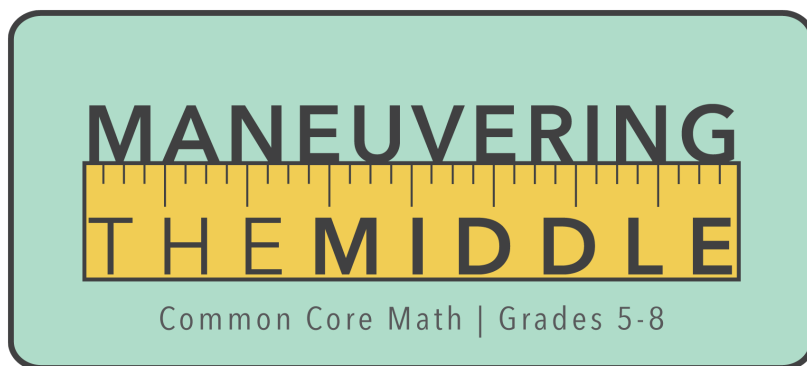
CCSS TEKS

EIGHTH GRADE  
**Scientific Notation**  
NOTES & SCAVENGER HUNT

MANEUVERING THE MIDDLE  
Common Core Math | Grades 5-8

CCSS TEKS

# CONNECT WITH ME



*Be sure to sign up for my newsletter to receive my exclusive freebie of Common Core Planning Overviews and blog posts.*

## THANKS & TERMS OF USE

*Thank you for your purchase! I hope that you find this helpful in your classroom. Please feel free to contact me with any questions as you implement this in your class.*

©Maneuvering the Middle, 2012-2015

Products by Maneuvering the Middle, LLC may be used by the purchaser for their classroom use only. All rights reserved. No part of this publication may be reproduced, distributed, or transmitted without written permission of the author. This includes posting this product on the internet in any form, including classroom/personal websites or network drives. If you wish to share this product with your team or colleagues, you may purchase additional licensing at a discounted rate.

## FONTS & GRAPHICS

<http://www.teacherspayteachers.com/Store/Amanda-Richardson>

<http://www.teacherspayteachers.com/Store/The-Enlightened-Elephant>



<http://www.teacherspayteachers.com/Store/Zip-a-dee-doo-dah-Designs>