

# Nicholas County Middle School: NTI Days

## 8<sup>th</sup> Grade Packet

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\* Each day's work is due within 3 days of the NTI day.

Day 1:

Math	Social Studies	English	Science
Solve using the Order of Operations	Dekanawida Biography	<i>Jello to Kids: It's Official. You Can Now Play with Your Food</i> Real world article to read with questions.	Water is Everything article and comprehension questions.

Day 2:

Math	Social Studies	English	Science
Simplify by Combining Like Terms	Amerigo Vespucci Biography	<i>Texas Mother-Daughter Duo Makes a Profit Selling Homemade Slime</i> Real world article to read with questions.	The Great Barrier Reef article and comprehension questions.

Day 3:

Math	Social Studies	English	Science
Simplify using The Distributive Property	The Columbian Exchange	<i>YouTube is the New Way to Get Famous</i> Real world article to read with questions.	Introduction to the Oceans article and comprehension questions.

Day 4:

Math	Social Studies	English	Science
Solve and Check each Equation	Nathaniel Bacon Biography	<i>How "Minecraft" is Helping Kids Fall in Love with Books</i> Real world article to read with questions.	Air Pressure article and comprehension questions.

Day 5:

Math	Social Studies	English	Science
Solve and Check each equation	Colony Map and The Colonial Environment and Its Economic Impacts	<i>Young Adults Need to be More Interactive to Overcome Loneliness</i> Real world article to read with questions.	The Hydrologic Cycle article and questions.

Name: \_\_\_\_\_

7.EE.B.3 – Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically.

Directions – Simplify the expressions using The Order of Operations. Show each step in the process. REMEMBER: First, Parenthesis. Next, Exponents. Then, Multiplication and Division (whichever comes first left to right). Finally, Addition or Subtraction (whichever comes first left to right).

An example is done here for you.

$$\frac{2 [(7 \cdot 3) + 6]}{26 \div 13} = \frac{2 [21 + 6]}{2} = \frac{2 [27]}{2} = \frac{54}{2} = 27$$

Parenthesis → Bracket → multiply → Divide

$12 + (36 \div 9)$	$28 \div (10 - 8)$	$(8 + 3) \cdot (16 - 7)$
$(20 \cdot 6) \div (6 + 2)$	$35 + \frac{50 + 25}{5 \cdot 5}$	$3 [4 (9 - 2)]$
$[(48 + 2) 2] \div 5 - 10$	$80 - [3 (8 + 7)]$	$[45 - (3 \cdot 2)] \div 3$
$[5 (20 - 2)] \div \frac{30}{2}$		

**ANSWER BANK**

14	84	15	35	6	16	10	13	20	38
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Name: \_\_\_\_\_

8.EE.7.C – I can solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Directions – Combine like terms in each expression. Simplify the expressions until they cannot be simplified anymore. REMEMBER: Like terms have the same variable to the same power! Label each expression with highlighters or shapes to show the like terms. An example is done here for you.

$$\begin{array}{l}
 -10 \boxed{-5t} + \boxed{z} \boxed{-2z} + \boxed{4t} \\
 \boxed{-5t+4t} \quad \boxed{+z-2z} \quad -10 \\
 -t - z - 10
 \end{array}$$

Label like terms.  
Combine like terms.  
One isn't written as a coefficient.

$3s - 5 - 7s$	$4w + 8w - 9$	$-8 - 6 + 3r + 7r$
$-2 + 5r - 9 - 8r$	$12r + 5 + 3r - 5$	$n + 4 - 9 - 5n$
$3 + 3k + 10k + 9 + 9k$	$-6 + 7y + 4z - 5z - 10y$	$-c - 8w - 6c + 7 - c$
$-7y^2 - 9y - 9 - 5y^2 - 7$		

**ANSWER BANK**

$-8c - 8w + 7$	$3w$	$6n - 12$
$-4s - 5$	$22k + 12$	$10s - 5$
$-4n - 5$	$-3r - 11$	$15r$
$12y^2 - 9y - 11$	$-16cw + 7$	$10r - 14$
$-3y - z - 6$	$12w - 9$	$9z + 17y - 6$

Name: \_\_\_\_\_

8.EE.7.C – I can solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Directions – Use the Distributive Property in each expression. Simplify the expressions until they cannot be simplified anymore. REMEMBER: Multiply the number in front of the parenthesis by EVERYTHING inside the parenthesis. An example is done here for you.

$-9 - 3(-7 - 8r)$  Distribute (Negative  $\cdot$  Negative = Positive)  
 $-9 + 21 + 24r$  Combine Like terms  
 $12 + 24r$

$2(4 - 5k)$	$-3(7c - 8)$	$-9(8y + 2)$
$-5(3 - 4g)$	$-2(9b + 5) - 3$	$-8(9 - 4h) + 6h$
$-8(-3 - 7m)$	$8 + 7(-4r + 2)$	$-5c - 3(7 + 9c)$
$3(-2n - 5) - 2(-3n + 5)$		

**ANSWER BANK**

$-21c + 24$	$-15 + 20g$	$6 - 3k$
$-18b - 13$	$8 - 10k$	$-72y + 18$
$-32c - 21$	$-28r + 22$	$24 + 56m$
$-72 - 30h$	$22c + 21$	$-72 + 38h$
$-25$	$-72y - 18$	$12n + 25$

Name: \_\_\_\_\_

8.EE.7.C – I can solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Directions – Solve each equation. Show each step in the process. Check ALL answers by substituting! An example is done here for you.

$$\begin{array}{l}
 -10 = 10(k - 9) \quad \text{Distribute.} \\
 -10 = 10k - 90 \quad \text{Inverse (add).} \\
 +90 \quad +90 \\
 80 = 10k \quad \text{Inverse (divide).} \\
 \frac{80}{10} = \frac{10k}{10} \quad 8 = k
 \end{array}$$

$$\begin{array}{l}
 \text{Check: } -10 = 10(8 - 9) \\
 -10 = 10(-1) \\
 -10 = -10
 \end{array}$$

Both sides match, so solution is correct!

$2x + 5 = 13$	$4x - 3 = 9$	$-x + 5 = 1$
$2x - 1 = 7$	$4x + 3 = -5$	$3(x + 2) = 15$
$2(2x - 1) = 10$	$2x + 5x + 6 - 1 = 19$	
$\frac{1}{4}(8x + 12) = 7$	$-3(3r + 4) = -24$	

**ANSWER BANK**

3	4	$\frac{1}{3}$	2	4	3	3	4	2	-2
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Name: \_\_\_\_\_

8.EE.7.C – I can solve linear equations with rational number coefficients, including equations whose solutions require expanding expressions using the distributive property and collecting like terms.

Directions – Solve each equation. Show each step in the process. Check ALL answers by substituting! An example is done here for you.

$3n - 5 = -8(6 + 5n)$  Distribute.  
 $3n - 5 = -48 - 40n$  Move variables + constants to like boxes!  

3n	40n
43n	
÷ 43	

5	-48
-43	
÷ 43	

  
 $n = -1$  \* Remember to change signs when crossing over!

Check:  
 $3(-1) - 5 = -8(6 + 5(-1))$   
 $-3 - 5 = -8(6 - 5)$

$8x - 2 = -9 + 7x$	$a + 5 = -5a + 5$
$5p - 14 = 8p + 4$	$-18 - 6k = 6(1 + 3k)$
$5n + 34 = -2(1 - 7n)$	

**ANSWER BANK**

-6	4	-1	0	-7
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