Crossroads Math -- Summer Curriculum

Incoming 6th Graders

Below you will find a schedule of what should be studied, practiced, AND MASTERED each week over the summer. The curriculum is designed for 8 weeks of practice. Weeks 1-3 focus on ensuring foundational standards from elementary school are mastered, while weeks 4-8 focus on the first standards of the 6th grade curriculum that will be assessed during the first weeks of the school year. Some tips can be found below:

- "Daily Memorization" - Creating flash cards (can be made by cutting up blank paper) is recommended to help in memorizing. Reviewing these for 10 minutes each day is highly encouraged.
- This packet is merely a guide. Students are responsible for fully understanding each standard listed and for some this packet will be more than enough instruction and practice, but others will need to supplement instruction with videos online and find additional practice online as well.
- KhanAcademy.org is an excellent resource with "how to" videos and multiple practice types per skill. Visit www.khanacademy.org/join & enter class code: TK5W487B Then click: "Create a new account"
  Please include your first name in your username so that I can identify your account from my coaching portal. RECORD YOUR PASSWORD SO YOU DO NOT LOSE YOUR PROGRESS THIS YEAR.
  Once logged in, work through all problem sets under the assigned standard numbers for each week.
- To keep organized, use this front & back cover page as a checklist of what you have mastered.

Prerequisite Elementary Level Skills
>QUIZ ON 2nd DAY OF SCHOOL: Wednesday, September 4th, 2019<

Week	DAILY MEMORIZATION	Standards to Learn & Practice	Mastery?
week 1 Pages 3-10	Multiplication/Division Facts: x0's x1's x2's x5's x10's	Whole Numbers ☐ 2.NBT.5 Fluent Subtraction with Regrouping ☐ 5.NBT.5 Fluently Multiply Multi-Digit Numbers Decimals ☐ 5.NBT.4 Rounding Decimals ❏ 4.NBT.3 Rounding Whole Numbers ☐ 5.NBT.3 Comparing Decimals ❏ 4.NBT.2 Comparing Whole Numbers	
week 2 Pages 11-18	Multiplication/Division Facts: x3's x4's	Fractions ☐ 3.NF.2 - Represent fractions on a number line ☐ 3.NF.3 - Equivalent Fractions ☐ 4.NF.1 - Simplifying Fractions ☐ 4.NF.3c - Mixed Numbers &Improper Fractions	
week 3 Pages 19-23	Multiplication/Division Facts: x6's x7's	Fractions ☐ 4.NFB.3c - Adding and Subtracting Fractions and Mixed Numbers with LIKE Denominators ☐ 5.NF.1 - Adding and Subtracting Fractions and Mixed Numbers with UNlike Denominators	

YOU WILL HAVE A QUIZ ON THESE STANDARDS ON THE 2nd DAY OF SCHOOL!
This quiz will not count toward your quarter one math grade; however, these skills foundationally support the sixth grade curriculum and mastery of 6th grade will be incredibly challenging without this foundation.

6th Grade Math Standards

>MASTERY QUIZ 2nd week of school *Friday, September 13th, 2019* on 6.EE.1, 6.NS.2, 6.NS.3<
>MASTERY QUIZ 3rd week of school *Friday, September 20th, 2019* on 6.NS.1, 6.NS.4<
>MASTERY QUIZ 4th week of school *Friday, September 27th, 2019* on Equivalent PDFs<

Week	Daily MEMORIZATION	Standards to Learn & Practice	Mastery?
week 4 Pages 24-28	Multiplication/Division Facts: x8's x9's	☐ 6.NS.1 - Fraction Division *Elementary school supporting standards:* ☐ 5.NF.4 Multiplying Fractions (including whole numbers and mixed numbers) ☐ 5.NF.7 Dividing Fractions with whole numbers	
week 5 Pages 29-34	Multiplication/Division Facts: x11's x12's	☐ 6.NS.4 - Least Common Multiple (LCM), Greatest Common Factor (GCF), Distributive Property *Elementary school supporting standards:* ☐ 4.OA.4 Find all factor pairs for a whole number in the range 1-100, determine if prime or composite	
week 6 Pages 35-39	6.RP.3 Equivalent PDFs: Tenths & Fifths $\frac{1}{10}$ $\frac{2}{10}$ $\frac{3}{10}$ $\frac{4}{10}$ $\frac{5}{10}$ $\frac{6}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{9}{10}$ $\frac{10}{10}$ 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% $\frac{1}{5}$ $\frac{2}{5}$ $\frac{3}{5}$ $\frac{4}{5}$ $\frac{5}{5}$ 0.2 0.4 0.6 0.8 1.0 20% 40% 60% 80% 100%	☐ 6.NS.2 - Fluent Long Division *Elementary school supporting standards:* ☐ *5.NBT.6 Dividing with One-Digit and Two-Digit Divisors*	
week 7 Pages 40-45	6.RP.3 Equivalent PDFs: 8ths, 4ths ½'s $\frac{1}{8}$ $\frac{3}{8}$ $\frac{5}{8}$ $\frac{7}{8}$ 0.125 0.375 0.625 0.875 12.5% 36.7% 62.5% 87.5% $\frac{1}{2}$ $\frac{2}{2}$ and $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ 0.5 1.0 0.25 0.5 0.75 1.0 50% 100% 25% 50% 75% 100%	☐ 6.NS.3 - Decimal Operations Elementary school supporting standards: ☐ 5.NBT.7 Adding / Subtracting / Multiplying / Dividing Decimals	
week 8 Pages 46-52	6.RP.3 Equivalent PDFs: Thirds & Converting between any fraction, decimal, percent $\frac{1}{3} = 0.\overline{3} = 33.\overline{3}\,\%$ $\frac{2}{3} = 0.\overline{6} = 66.\overline{6}\%$	☐ 6.EE.1 - Order of Operations & Exponents Elementary school supporting standards: ☐ 5.OA.1 Evaluating Numerical Expressions / Order of Operations	

YOU WILL HAVE A MASTERY QUIZ ON THESE STANDARDS!!
Each standard will count as an individual mastery quiz grade for quarter one.
We will be quickly reviewing and practicing these skills during the first three weeks of school.

Pages 53-55 are ANSWER KEY #1 (For student to use regularly to gauge progress.)
Pages 56-57 are the ANSWER KEY #2 (For Family Member to use to check QUIZZES)

WEEK 1

Daily Memorization

Multiplication/Division Facts: x0's, x1's, x2's, x5's, x10's

-You will need to have these multiplication facts memorized this week.
-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.
-You can also have someone quiz you with them to make sure you have mastered them!

Multiplication/Division Facts: x0's, x1's, x2's, x5's, x10's

1 × 7	7 × 1	2 × 1	10 × 2	24 ÷ 12	1 × 5	45 ÷ 5	7 × 5	60 ÷ 6	50 ÷ 10	110 ÷ 10
7 ÷ 7	2 ÷ 2	2 × 2	4 ÷ 2	4 × 2	5 × 9	40 ÷ 8	50 ÷ 5	10 ÷ 1	20 ÷ 2	80 ÷ 8
1 × 11	5 ÷ 5	2 × 11	2 × 10	22 ÷ 2	15 ÷ 5	5 ÷ 5	40 ÷ 5	12 × 10	90 ÷ 10	10 × 3
1 × 4	9 ÷ 1	2 ÷ 1	6 ÷ 2	2 × 2	5 × 12	60 ÷ 12	5 × 9	8 × 10	10 × 6	10 × 2
9 × 1	4 ÷ 1	2 × 6	2 × 6	2 × 4	55 ÷ 5	5 × 5	5 × 12	10 ÷ 1	90 ÷ 10	80 ÷ 8
6 × 1	1 × 8	14 ÷ 2	2 × 4	2 × 4	5 × 8	25 ÷ 5	5 ÷ 1	90 ÷ 10	90 ÷ 10	10 × 12
9 × 1	5 ÷ 1	4 ÷ 2	8 × 2	22 ÷ 11	40 ÷ 5	5 ÷ 1	25 ÷ 5	120 ÷ 10	11 × 10	120 ÷ 12
2 ÷ 2	5 × 1	24 ÷ 2	16 ÷ 2	22 ÷ 2	10 ÷ 5	60 ÷ 12	20 ÷ 4	9 × 10	60 ÷ 10	80 ÷ 8
12 × 1	6 ÷ 1	12 ÷ 6	10 × 2	6 × 2	5 × 11	10 × 5	5 × 6	120 ÷ 10	10 × 1	10 × 5
9 ÷ 1	9 ÷ 9	2 × 4	24 ÷ 2	6 × 2	3 × 5	45 ÷ 5	1 × 5	10 × 10	30 ÷ 10	10 × 5

WEEK 1

Foundational: Whole Numbers & Decimals

4.NBT.4 - Fluently add and subtract multi-digit whole numbers using the standard algorithm.
KhanAcademy: https://www.khanacademy.org/commoncore/grade-4-NBT#4.NBT.B.4

5.NBT.5 - Fluently multiply multi-digit whole numbers using the standard algorithm.
KhanAcademy: https://www.khanacademy.org/commoncore/grade-5-NBT#5.NBT.B.5

5.NBT.4 - Use place value understanding to round decimals to any place.
KhanAcademy: https://www.khanacademy.org/commoncore/grade-5-NBT#5.NBT.A.4

5.NBT.3 - Read, write, and compare decimals to thousandths.

5.NBT.3a - Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).

5.NBT.3b - Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

KhanAcademy: https://www.khanacademy.org/commoncore/grade-5-NBT#5.NBT.A.3

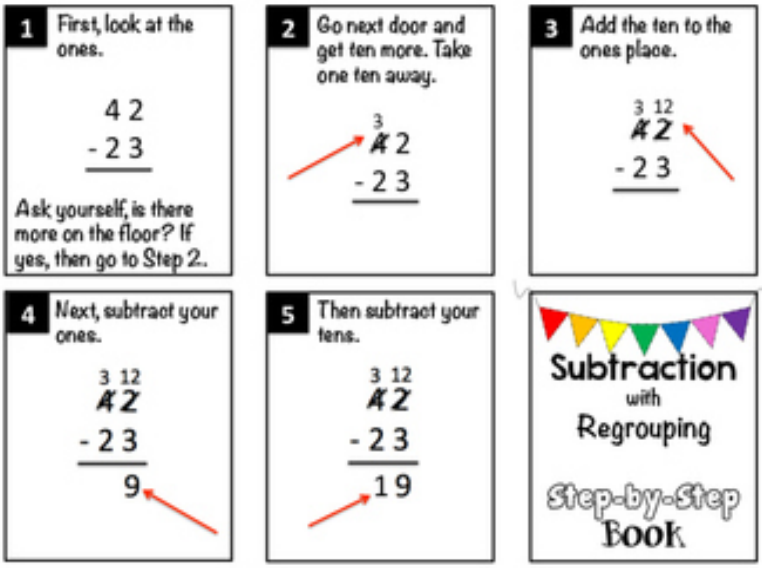
NOTES: MULTIPLICATION

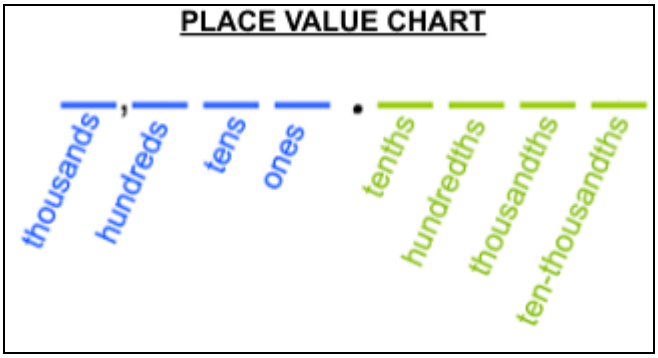
STANDARD ALGORITHM

An algorithm is a set of steps or rules that you can follow to solve a basic mathematical problem. These are the steps for the standard algorithm for multiplication.

Step 1:	154 x 28 1, 232	Multiply the top number by the digit in the ones place.
Step 2:	154 x 28 1, 232 **0**	Put a zero as a place holder.
Step 3:	154 x 28 1, 232 **3,080**	Multiply the top number by the. digit in the tens place.
Step 4:	154 x 28 **1,232** **+ 3,080** **4,312**	Add the numbers together.

SUBTRACTION with Regrouping





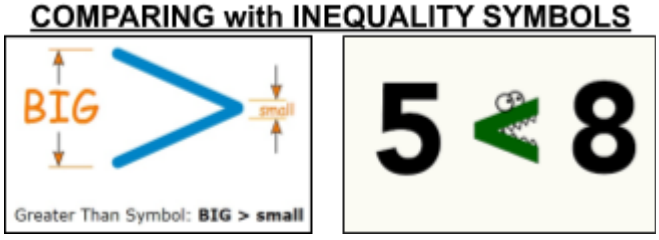
Rounding Poem

Find your place
Look next door
5 or greater, add one more
All digits in front stay the same
All digits behind, zero's your name

Example:

Round to nearest ten
- 63 → 60
- 65 → 70
- 524 → 520

Round to nearest hundred
- 435 → 400
- 462 → 500
- 7328 → 7300



WEEK 1

Foundational: Whole Numbers & Decimals

Whole Numbers: 4.NBT.4 - Fluently add and subtract // 5.NBT.5 - Fluently multiply //
Decimals: 5.NBT.4 - Round decimals // 5.NBT.3 - Compare decimals

SKILL PRACTICE // WHOLE NUMBERS

1. 49 × 975 = _____ 2. 6,751 ×609 = _____ 3. What is the product of 9 and 740? _____

4. Add. You need to regroup ten tens as a new hundred.

a. 80 + 30	b. 220 + 90	c. 64 + 53	d. 370 + 74	e. 533 + 282
f. 67 + 72	g. 224 + 193	h. 464 + 392	i. 355 + 374	j. 787 + 82

5. Subtract. Regroup if necessary. Check each subtraction by *adding your answer and the number you subtracted.*

a. 88 − 54 +54	b. 63 − 48 + _____
c. 84 − 49 + _____	d. 882 − 159 + _____
e. 556 − 391 + _____	f. 550 − 246 + _____

WEEK 1

Foundational: Whole Numbers & Decimals

Whole Numbers: 4.NBT.4 - Fluently add and subtract // 5.NBT.5 - Fluently multiply //
Decimals: 5.NBT.4 - Round decimals // 5.NBT.3 - Compare decimals

SKILL PRACTICE // WHOLE NUMBERS

6. What number was added? Think of regrouping!

a. 167 + 1□2 = 359

b. 240 + 1□2 = 422

c. 391 + 4□2 = 813

d. 653 + 1□3 = 846

e. 375 + 1□4 = 559

7. Find what numbers are missing.

a. 2□4 + 477 = 731

b. 5□9 + □25 = 914

c. 20□ + 6□6 = 892

d. 68□ + □19 = 900

8) 578 x 872

9) 800 x 74

10) 316 x 63

WEEK 1

Foundational: Whole Numbers & Decimals

Whole Numbers: 4.NBT.4 - Fluently add and subtract // 5.NBT.5 - Fluently multiply //
Decimals: 5.NBT.4 - Round decimals // 5.NBT.3 - Compare decimals

SKILL PRACTICE // DECIMALS Rounding

1) Round to the nearest tenth.	8.54	
2) Round to the nearest whole number.	99.59	
3) Round to the nearest tenth.	310.286	
4) Round to the nearest whole number.	6.4	
5) Round to the nearest whole number.	6.805	
6) Round to the nearest tenth.	9.725	
7) Round to the nearest hundredth.	118.380	
8) Round to the nearest tenth.	90.69	
9) Round to the nearest tenth.	65.85	
10) Round to the nearest whole number.	70.59	
11) Round to the nearest hundredth.	76.684	
12) Round to the nearest hundredth.	815.755	
13) Round to the nearest tenth.	877.71	
14) Round to the nearest hundredth.	12.261	
15) Round to the nearest whole number.	16.4	
16) Round to the nearest whole number.	95.81	
17) Round to the nearest hundredth.	2.408	
18) Round to the nearest hundredth.	3.993	
19) Round to the nearest whole number.	76.3	
20) Round to the nearest hundredth.	716.514	

Compare

1) 6.81 _____ 6.37
2) 6.32 _____ 6.5
3) 2.216 _____ 2.149
4) 6.48 _____ 6.99
5) 5.75 _____ 5.750
6) 2.59 _____ 2.684
7) 8.538 _____ 8.122
8) 6.81 _____ 6.1

Expand

Ex) 391.675

$3 \times 100 + 9 \times 10 + 1 + (6 \times \frac{1}{10}) + (7 \times \frac{1}{100}) + (5 \times \frac{1}{1000})$

1) 231.856
2) 3.611
3) 362.72
4) 79.564
5) 42.1

WEEK 1

Foundational: Whole Numbers & Decimals

Whole Numbers: 4.NBT.4 - Fluently add and subtract // 5.NBT.5 - Fluently multiply //
Decimals: 5.NBT.4 - Round decimals // 5.NBT.3 - Compare decimals

STANDARD PRACTICE // Whole Numbers

1. Manny owns 83 sets of basketball cards. Each set has exactly 504 cards. What is the total number of basketball cards Manny owns?

2. The star running back on our football team got most of his total yardage running. The rest was catching passes. He caught passes for 60 yards. His total yardage was 150 yards. The running back for the other team got 200 yards. How many yards did the star running back on our football team get running?

3. The average temperature in Lincoln in July is 85 degrees. Last Wednesday, it was 90 degrees. Today it was 15 degrees cooler than last Wednesday. What was the temperature today?

4. Michelle has $80 to buy a new outfit. She found a skirt for $20, a blouse for $25, and a belt for $8. How much does she have left to buy shoes?

5. You had $1 million, but then you spent $999 and then $22,222. How much money do you have left?

6. Emmy Noether, the Mother of Modern Algebra, was born in 1882. In what year did she celebrate her 25th birthday?

7. Mrs. Hilt will buy a new pair of shoes in 11 days. How many minutes must she wait before she can buy her new pair of shoes?

8. Mrs. Hilt read 21 books. Each book had exactly 2,010 words in it. She sold five of her books for $4.95 each. How many words did Mrs. Hilt read?

WEEK 1

Foundational: Whole Numbers & Decimals

Whole Numbers: 4.NBT.4 - Fluently add and subtract // 5.NBT.5 - Fluently multiply //
Decimals: 5.NBT.4 - Round decimals // 5.NBT.3 - Compare decimals

STANDARD PRACTICE // Decimals

1) Which option shows the numbers ordered smallest to largest?

A. 3.03, 3.66, 3.35, 3.7
B. 9.3, 9.52, 9.28, 9
C. 4, 4.25, 4.27, 4.3
D. 3.29, 3.69, 3.7, 3.32

2) Which option shows the numbers ordered largest to smallest?

A. 6.68, 6.85, 7, 6.7
B. 2.73, 3, 2.6, 2.95
C. 4.7, 4.94, 5, 4.99
D. 3.7, 3.62, 3.31, 3.13

3) Which option shows the numbers ordered smallest to largest?

A. 1.7, 1.66, 1.56, 1.23
B. 3.42, 3.33, 3, 3.3
C. 2.43, 2, 2.4, 2.19
D. 5, 5.11, 5.47, 5.5

4) Which option shows the numbers ordered largest to smallest?

A. 9.72, 10, 9.6, 9.57
B. 5, 4.83, 4.8, 4.52
C. 5.12, 6, 5.6, 5.65
D. 5.2, 5.4, 5.18, 5.79

5) During a 'Super Saturday Sale', a shoe store sold 300 pairs of sneakers and 567 pairs of sandals. To the nearest ten, what is the total number of shoes the store sold?

6) In a math book, there were 882 problems in chapter one and 170 in chapter two. To the nearest ten, how many problems are there in the first 2 chapters?

7) Two friends were counting the number of texts they sent in a month. Alex sent 812 and Jessie sent 460. To the nearest ten, what is the combined amount of texts they sent?

8) In one day, a mail truck gave out 166 letters and 145 magazines. To the nearest hundred, how many pieces of mail did was delivered total?

9) What number is represented by $100 + 7 + 0.3 + 0.01 + 0.005$?

10) What number is equal to $8 \times 100,000 + 2 \times 10,000 + 4 \times 10 + 5 \times \frac{1}{100}$?

WEEK 1

Foundational: Whole Numbers & Decimals

Whole Numbers: 4.NBT.4 - Fluently add and subtract // 5.NBT.5 - Fluently multiply //
Decimals: 5.NBT.4 - Round decimals // 5.NBT.3 - Compare decimals

PRACTICE QUIZ

1) The king invited 17,850 guests to the royal wedding of the princess. 7,625 guests have arrived. If all guest attend the wedding, how many more guests are expected?

2) Solve 748,065 + 39,471 = _____

3) A water park sells 168 tickets. Each ticket costs $12. What is the total cost of the tickets sold?

4) Round 113.293 to the
   a) Ones place = _____
   b) Tenths place = _____
   c) Hundredths place = _____

5) Place the numbers in order from greatest to least: 89.89 90 90.98 90.9 90.089

_____ > _____ > _____ > _____ > _____

WEEK 2

Daily Memorization

Multiplication/Division Facts: x3's and x4's

-You will need to have these multiplication facts memorized this week.
-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.
-You can also have someone quiz you with them to make sure you have mastered them!

Multiplication/Division Facts: x3's and x4's

3 × 2	7 × 3	3 × 10	6 × 3	3 × 4	5 × 4	4 ÷ 1	4 × 4	20 ÷ 5	2 × 4	24 ÷ 4
24 ÷ 3	6 ÷ 2	9 ÷ 3	3 ÷ 3	30 ÷ 10	8 × 4	20 ÷ 5	36 ÷ 9	24 ÷ 6	44 ÷ 11	48 ÷ 12
6 ÷ 3	8 × 3	3 ÷ 1	24 ÷ 8	24 ÷ 3	36 ÷ 4	40 ÷ 10	6 × 4	40 ÷ 4	2 × 4	4 × 8
5 × 3	3 × 1	24 ÷ 8	12 ÷ 4	9 × 3	28 ÷ 7	12 ÷ 4	36 ÷ 9	4 × 4	36 ÷ 9	5 × 4
3 × 12	21 ÷ 7	36 ÷ 3	3 × 8	3 ÷ 3	4 ÷ 1	28 ÷ 7	6 × 4	4 × 1	4 × 2	12 ÷ 3
6 × 3	36 ÷ 12	3 × 12	9 ÷ 3	3 × 7	48 ÷ 4	24 ÷ 4	24 ÷ 6	32 ÷ 4	4 × 2	2 × 4
15 ÷ 3	3 × 9	3 ÷ 3	6 ÷ 2	3 × 8	20 ÷ 5	40 ÷ 10	5 × 4	12 ÷ 3	20 ÷ 5	36 ÷ 4
3 × 6	9 ÷ 3	11 × 3	27 ÷ 9	9 ÷ 3	11 × 4	4 × 5	20 ÷ 5	5 × 4	12 × 4	4 ÷ 1
3 × 3	24 ÷ 8	30 ÷ 10	12 ÷ 3	6 ÷ 3	28 ÷ 7	32 ÷ 8	4 × 9	32 ÷ 4	4 × 1	5 × 4
21 ÷ 3	3 × 6	11 × 3	27 ÷ 3	30 ÷ 10	1 × 4	40 ÷ 4	5 × 4	8 ÷ 4	44 ÷ 4	32 ÷ 8

WEEK 2

Foundational: Fractions

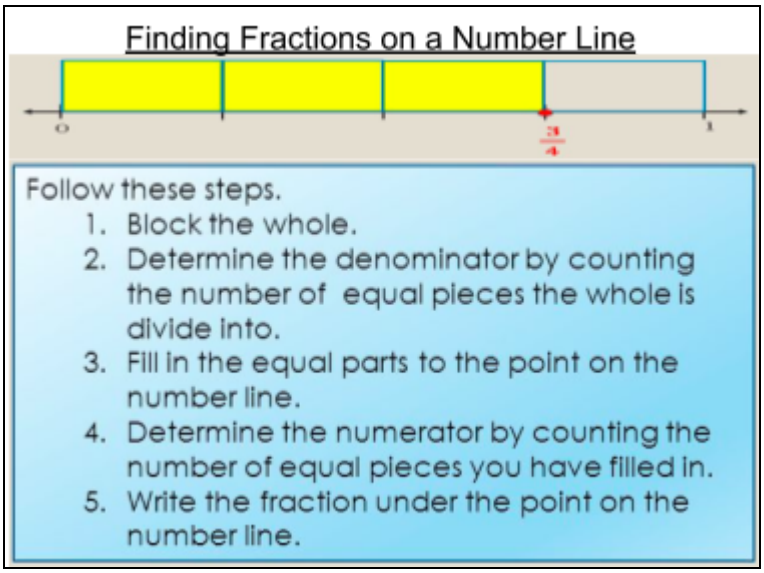
3.NF.2 - Understand a fraction as a number on the number line; represent fractions on a number line diagram.
KhanAcademy: https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.2

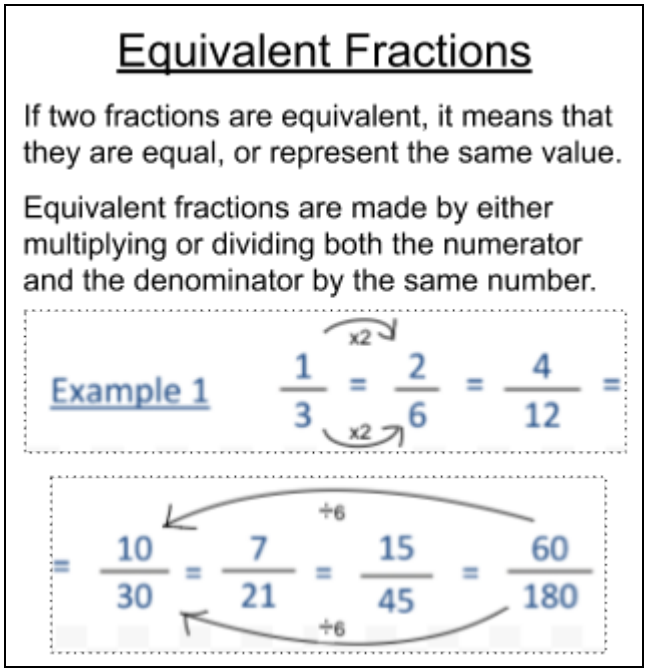
3.NF.3 - Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
KhanAcademy: https://www.khanacademy.org/commoncore/grade-3-NF#3.NF.A.3

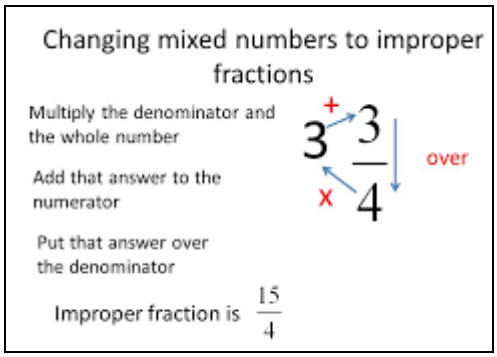
4.NF.1 - Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize & generate equivalent fractions, including simplest form.
KhanAcademy: https://www.khanacademy.org/math/arithmetic/fraction-arithmetic/arith-review-visualizing-equiv-frac/e/simplifying_fractions

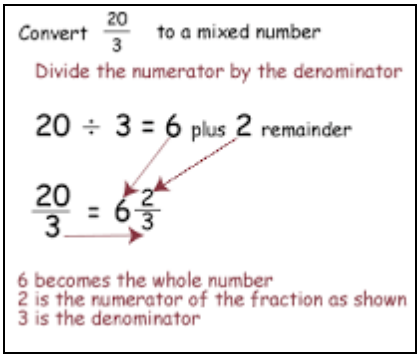
4.NF.3c - Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations&the relationship between addition&subtraction.
KhanAcademy: https://www.khanacademy.org/commoncore/grade-4-NF#4.NF.B.3c

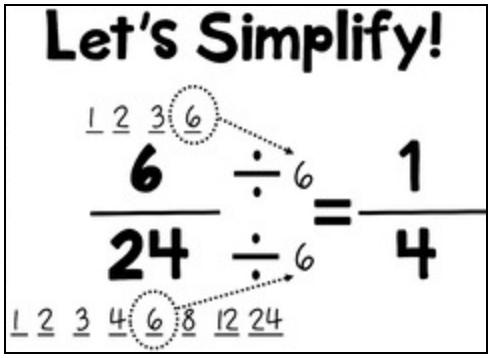
NOTES:









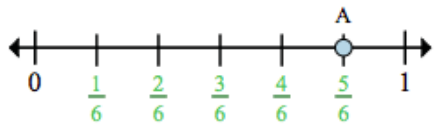


WEEK 2

Foundational: Fractions

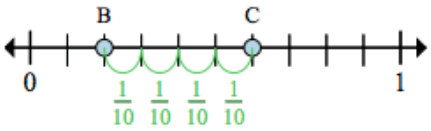
Whole Numbers: 3.NF.2 - Fractions on Number Line // 3.NF.3 - Equivalent Fractions //
Decimals: 4.NF.1 - Simplify Fractions // 4.NF.3c - Convert Mixed Numbers and Fractions

SKILL PRACTICE // Fractions on Number Line



Ex) This numberline is divided into how many pieces?

Ex) What is the location of A (written as a fraction)?



Ex) On this numberline what is the value of 1 written as a fraction?

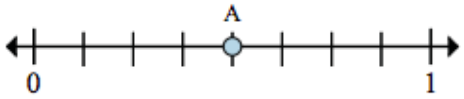
Ex) On this numberline from B to C is how far (written as a fraction)?

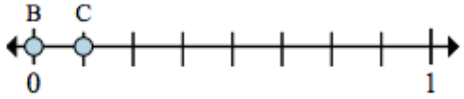
Ex. 6

Ex. 5/6

Ex. 10/10

Ex. 4/10



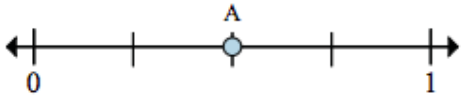


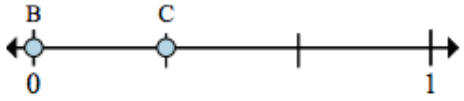
1) This numberline is divided into how many pieces?

2) What is the location of A (written as a fraction)?

3) On this numberline what is the value of 1 written as a fraction?

4) On this numberline from B to C is how far (written as a fraction)?



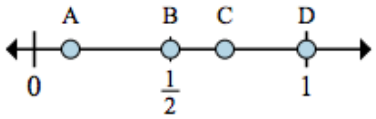


5) This numberline is divided into how many pieces?

6) What is the location of A (written as a fraction)?

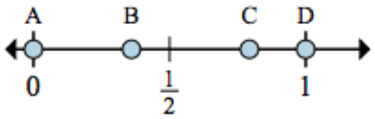
7) On this numberline what is the value of 0 written as a fraction?

8) On this numberline from B to C is how far (written as a fraction)?



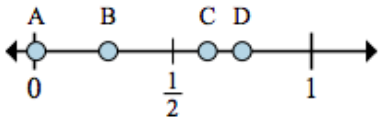
9) Which letter best shows $\frac{4}{8}$?

10) Which letter best shows $\frac{8}{8}$?



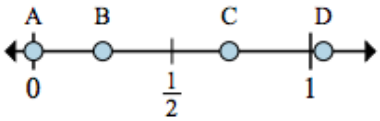
11) Which letter best shows $\frac{0}{3}$?

12) Which letter best shows $\frac{3}{3}$?



13) Which letter best shows $\frac{6}{8}$?

14) Which letter best shows $\frac{5}{8}$?



15) Which letter best shows $\frac{0}{8}$?

16) Which letter best shows $\frac{2}{8}$?

WEEK 2

Foundational: Fractions

Whole Numbers: 3.NF.2 - Fractions on Number Line // 3.NF.3 - Equivalent Fractions //
Decimals: 4.NF.1 - Simplify Fractions // 4.NF.3c - Convert Mixed Numbers and Fractions

SKILL PRACTICE // Equivalent Fractions

Some of these fractions are improper fractions - can you spot them?
Circle any improper fractions you find and change them to mixed numbers

An improper fraction is where the numerator is greater than the denominator.

Create an equivalent fraction for each fraction, using the given new numerator or denominator

1) $\frac{3}{3} = \frac{\quad}{9}$ 2) $\frac{2}{8} = \frac{\quad}{32}$ 3) $\frac{4}{7} = \frac{\quad}{28}$ 4) $\frac{4}{9} = \frac{\quad}{45}$

5) $\frac{3}{4} = \frac{\quad}{36}$ 6) $\frac{1}{8} = \frac{\quad}{48}$ 7) $\frac{2}{9} = \frac{12}{\quad}$ 8) $\frac{3}{10} = \frac{21}{\quad}$

9) $\frac{4}{3} = \frac{\quad}{18}$ 10) $\frac{2}{6} = \frac{\quad}{60}$ 11) $\frac{6}{5} = \frac{18}{\quad}$ 12) $\frac{4}{7} = \frac{24}{\quad}$

13) $\frac{5}{12} = \frac{\quad}{60}$ 14) $\frac{7}{11} = \frac{28}{\quad}$ 15) $\frac{5}{4} = \frac{35}{\quad}$ 16) $\frac{11}{12} = \frac{\quad}{72}$

17) $\frac{4}{9} = \frac{\quad}{81}$ 18) $\frac{9}{10} = \frac{54}{\quad}$ 19) $\frac{4}{13} = \frac{\quad}{52}$ 20) $\frac{8}{3} = \frac{24}{\quad}$

21) $\frac{3}{10} = \frac{\quad}{60}$ 22) $\frac{5}{2} = \frac{\quad}{12}$ 23) $\frac{9}{12} = \frac{3}{\quad}$ 24) $\frac{5}{\quad} = \frac{30}{54}$

Use your equivalent fraction knowledge and the >, < and = symbols to show which fraction is greater.

25) $\frac{3}{7} \square \frac{10}{14}$ 26) $\frac{2}{3} \square \frac{8}{15}$ 27) $\frac{1}{2} \square \frac{12}{20}$ 28) $\frac{4}{5} \square \frac{16}{20}$

29) $\frac{3}{7} \square \frac{5}{14}$ 30) $\frac{4}{9} \square \frac{8}{18}$ 31) $\frac{1}{6} \square \frac{3}{24}$ 32) $\frac{2}{3} \square \frac{7}{9}$

WEEK 2

Foundational: Fractions

Whole Numbers: 3.NF.2 - Fractions on Number Line // 3.NF.3 - Equivalent Fractions //
Decimals: 4.NF.1 - Simplify Fractions // 4.NF.3c - Convert Mixed Numbers and Fractions

SKILL PRACTICE // Simplify Fractions

Simplify Fractions		Mixed Number → Improper		Improper → Mixed	
1 a. $\frac{13}{39}$	1 b. $\frac{8}{16}$	1 a. $6\frac{2}{9}$	1 b. $\frac{18}{4}$	1 a. $\frac{10}{2}$	1 b. $\frac{18}{4}$
2 a. $\frac{8}{36}$	2 b. $\frac{9}{12}$	2 a. $1\frac{2}{9}$	2 b. $\frac{16}{2}$	2 a. $\frac{17}{11}$	2 b. $\frac{16}{2}$
3 a. $\frac{20}{55}$	3 b. $\frac{12}{30}$	3 a. $5\frac{3}{10}$	3 b. $\frac{7}{4}$	3 a. $\frac{7}{7}$	3 b. $\frac{7}{4}$
4 a. $\frac{2}{34}$	4 b. $\frac{8}{20}$	4 a. $1\frac{3}{6}$	4 b. $\frac{13}{11}$	4 a. $\frac{18}{8}$	4 b. $\frac{13}{11}$
5 a. $\frac{6}{22}$	5 b. $\frac{14}{56}$	5 a. $6\frac{4}{10}$	5 b. $\frac{14}{9}$	5 a. $\frac{9}{4}$	5 b. $\frac{14}{9}$
6 a. $\frac{4}{8}$	6 b. $\frac{12}{28}$	6 a. $4\frac{1}{11}$	6 b. $\frac{16}{3}$	6 a. $\frac{10}{9}$	6 b. $\frac{16}{3}$
7 a. $\frac{20}{44}$	7 b. $\frac{12}{52}$	7 a. $5\frac{4}{8}$	7 b. $\frac{20}{8}$	7 a. $\frac{16}{5}$	7 b. $\frac{20}{8}$
8 a. $\frac{12}{51}$	8 b. $\frac{2}{6}$	8 a. $2\frac{1}{10}$	8 b. $\frac{13}{5}$	8 a. $\frac{18}{11}$	8 b. $\frac{13}{5}$
9 a. $\frac{6}{15}$	9 b. $\frac{3}{12}$	9 a. $4\frac{1}{4}$	9 b. $\frac{2}{2}$	9 a. $\frac{11}{8}$	9 b. $\frac{2}{2}$

WEEK 2

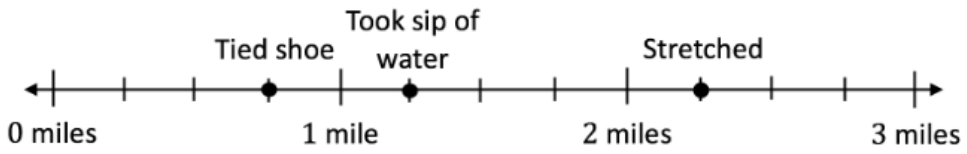
Foundational: Fractions

Whole Numbers: 3.NF.2 - Fractions on Number Line // 3.NF.3 - Equivalent Fractions //
Decimals: 4.NF.1 - Simplify Fractions // 4.NF.3c - Convert Mixed Numbers and Fractions

STANDARD PRACTICE

Fractions on Number Line

The number line represents a 3-mile race Brayden ran over the weekend. The points on the number line show places during the race where Brayden stopped running and the reasons why.



a. What fraction does each tick mark on the number line represent? Enter your answer in fraction form.

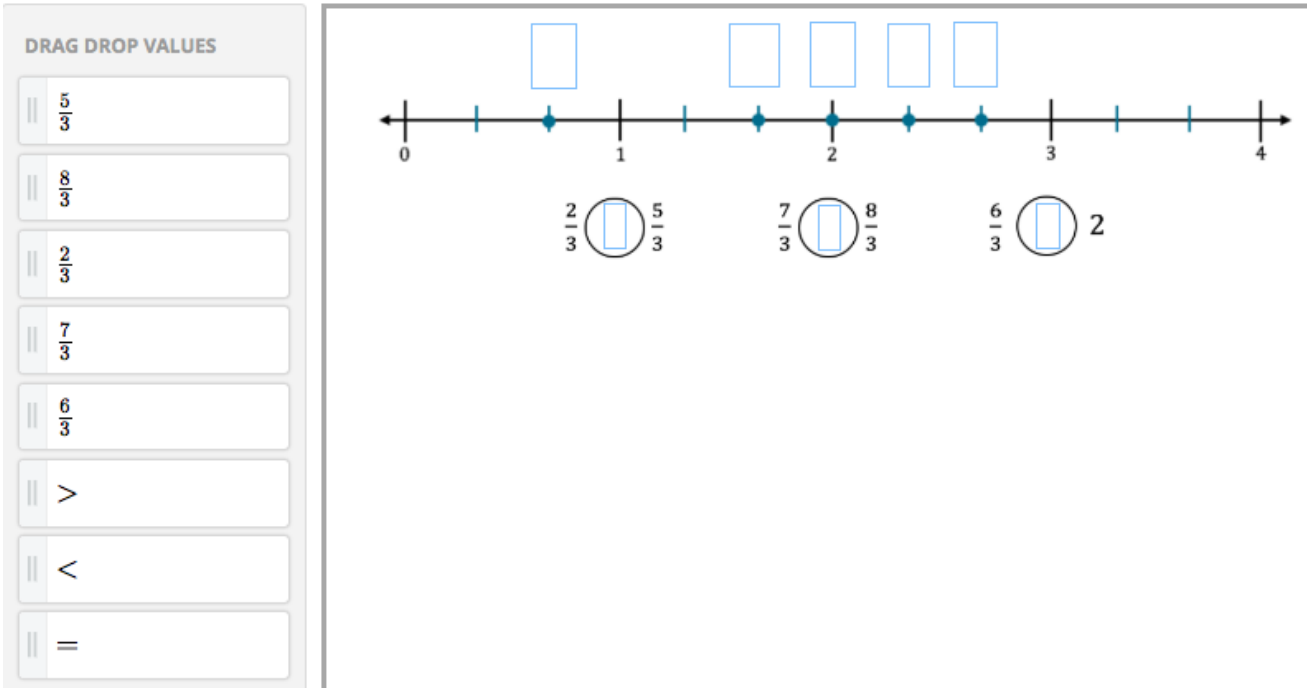
Each tick mark represents ☐ mile.

b. How far into the race were each of Brayden's stops? Enter your answers in fraction form.

- Tied shoe: ☐ miles into the race
- Took sip of water: ☐ miles into the race
- Stretched: ☐ miles into the race

Fractions from left to right

Drag the fractions to their correct location on the number line; then compare them by dragging >, <, or = into the circles.



WEEK 2

Foundational: Fractions

Whole Numbers: 3.NF.2 - Fractions on Number Line // 3.NF.3 - Equivalent Fractions //
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STANDARD PRACTICE

Equivalent Fractions

a.

Dulce drinks $\frac{1}{2}$ of a small glass of orange juice. Kaitlyn drinks $\frac{1}{4}$ of a large glass of orange juice.
Dulce says "I drank more orange juice because $\frac{1}{2}$ is greater than $\frac{1}{4}$.
Do you agree or disagree with Dulce? Select your answer from the drop-down list.

b. Enter $<$, $>$, or $=$ to compare each set of fractions.

$\frac{1}{4}$ ☐ $\frac{1}{2}$

$\frac{1}{8}$ ☐ $\frac{1}{6}$

$\frac{1}{2}$ ☐ $\frac{1}{3}$

$\frac{1}{4}$ ☐ 1 sixth

Add/Subtract Fractions with Like Denominators with Improper Fraction Answers that need to be changed to Mixed Number and Simplified

Find the sum.

1. $\frac{3}{4} + \frac{3}{4} =$ _____
2. $\frac{5}{7} + \frac{6}{7} =$ _____
3. $\frac{16}{25} + \frac{12}{25} =$ _____
4. $\frac{23}{100} + \frac{54}{100} =$ _____
5. $\frac{6}{9} + \frac{1}{9} =$ _____
6. $\frac{8}{10} + \frac{4}{10} =$ _____
7. $\frac{4}{6} + \frac{4}{6} =$ _____
8. $\frac{18}{50} + \frac{42}{50} =$ _____
9. $\frac{13}{20} + \frac{11}{20} =$ _____

WEEK 2

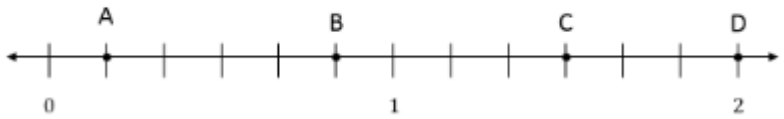
Foundational: Fractions

Whole Numbers: 3.NF.2 - Fractions on Number Line // 3.NF.3 - Equivalent Fractions //
Decimals: 4.NF.1 - Simplify Fractions // 4.NF.3c - Convert Mixed Numbers and Fractions

PRACTICE QUIZ

Fractions on a Number Line

Points A, B, C, and D represent fractions on the number line.



1) This number line is split into fractional intervals of _____*ths*.

   a) The fractional location of Point A is _____.

   b) The fractional location of Point B is _____.

   c) The fractional location of Point C is _____.

   d) The fractional location of Point D is _____.

Equivalent Fractions

Danica and Vincent each buy a pie. Both pies are the same size. Danica eats $\frac{2}{4}$ of her pie and Vincent eats $\frac{4}{8}$ of his pie. Who eats more pie? On paper, draw a number line to show how you know. Then, select your answer.

A Danica eats more pie.

B Vincent eats more pie.

C Danica and Vincent eat the same amount of pie.

Add/Subtract Fractions with Like Denominators with Improper Fraction Answers that need to be changed to Mixed Number and Simplified

$\frac{8}{16} + \frac{10}{16} =$ _____

WEEK 3

Daily Memorization

Multiplication/Division Facts: x6's and x6's

-You will need to have these multiplication facts memorized this week.
-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.
-You can also have someone quiz you with them to make sure you have mastered them!

Multiplication/Division Facts: x6's and x7's

6 × 4	72 ÷ 6	12 × 6	66 ÷ 11	48 ÷ 8	6 × 9	1 × 6	70 ÷ 10	70 ÷ 10	56 ÷ 8	28 ÷ 7	35 ÷ 7
60 ÷ 6	6 × 12	18 ÷ 6	6 × 3	4 × 6	8 × 6	12 ÷ 6	7 × 11	42 ÷ 7	84 ÷ 7	21 ÷ 3	11 × 7
6 × 2	54 ÷ 6	60 ÷ 6	6 ÷ 6	4 × 6	30 ÷ 5	54 ÷ 9	6 × 7	28 ÷ 4	7 × 10	8 × 7	7 ÷ 1
12 ÷ 6	2 × 6	18 ÷ 3	4 × 6	12 ÷ 2	6 × 1	24 ÷ 4	28 ÷ 7	84 ÷ 7	7 × 1	21 ÷ 7	49 ÷ 7
6 × 4	66 ÷ 6	60 ÷ 6	30 ÷ 6	6 ÷ 1	12 ÷ 2	12 × 6	42 ÷ 6	42 ÷ 7	8 × 7	56 ÷ 8	7 × 6
60 ÷ 10	6 × 7	54 ÷ 9	72 ÷ 12	18 ÷ 3	10 × 6	72 ÷ 12	42 ÷ 6	35 ÷ 7	63 ÷ 9	3 × 7	7 × 9
6 × 8	6 × 4	24 ÷ 6	12 ÷ 6	6 × 1	6 × 12	6 × 11	7 × 12	84 ÷ 7	7 × 11	8 × 7	7 × 8
6 × 3	7 × 6	48 ÷ 8	30 ÷ 6	54 ÷ 9	8 × 6	8 × 6	35 ÷ 5	14 ÷ 7	7 × 8	49 ÷ 7	28 ÷ 4
30 ÷ 5	54 ÷ 6	60 ÷ 6	9 × 6	12 ÷ 2	54 ÷ 6	4 × 6	84 ÷ 12	42 ÷ 7	21 ÷ 3	1 × 7	7 × 7
54 ÷ 9	60 ÷ 6	2 × 6	72 ÷ 12	8 × 6	5 × 6	6 × 9	7 × 2	7 × 1	77 ÷ 11	7 × 5	1 × 7

WEEK 3

5.NF.1 - Add & Subtract Fractions with UNlike Denominators

Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. *For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12. (In general, a/b + c/d = (ad + bc)/bd.)*

KhanAcademy: https://www.khanacademy.org/commoncore/grade-5-NF#5.NF.A.1

Reminder: You must demonstrate full conceptual understanding of the standard in addition to procedural mastery of the skill.

NOTES: ***FIRST, change any mixed numbers to improper fractions***

General technique:

1.Find Least Common Denomination (or LCM)
2.Make equivalent fractions using new deno
3.Add the numerators, denominators stay the same

$\frac{1}{6} + \frac{2}{9}$

$3 \cdot \frac{1}{6} + \frac{2}{9} \cdot 2$
$3 \cdot 6 \quad\quad 9 \cdot 2$

Rewrite with a common denominator.
Multiples of 6: 6, 12, 18, 24 . . .
Multiplies of 9: 9, 18 . . .

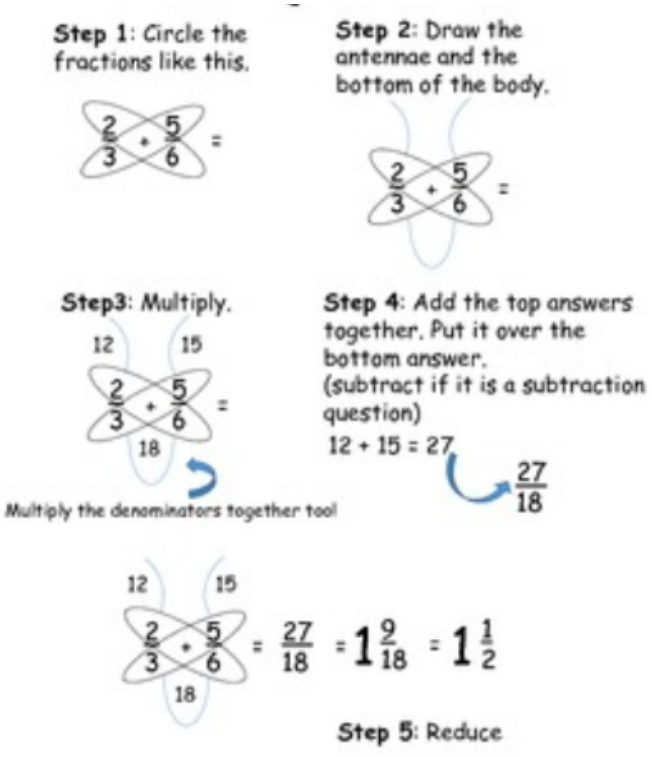
$\frac{3}{18} + \frac{4}{18}$

Add the fractions (add the numerators, the denominator stays the same).

$\frac{7}{18}$

"Trick" technique:

Google: "Butterfly fraction" addition



WEEK 3

5.NF.1 - Add & Subtract Fractions with Unlike Denominators

SKILL PRACTICE

1. $\frac{7}{4} - \frac{8}{5}$

2. $\frac{23}{2} + \frac{9}{4}$

3. $\frac{8}{3} - \frac{3}{2}$

4. $\frac{5}{2} - \frac{13}{12}$

5. $3\frac{1}{3} - 1\frac{7}{8}$

6. $5\frac{3}{4} + 1\frac{7}{8}$

7. $2\frac{1}{2} - 1\frac{4}{7}$

8. $1\frac{10}{11} + 1\frac{6}{11}$

WEEK 3

5.NF.1 - Add & Subtract Fractions with UNlike Denominators

STANDARD PRACTICE

1) Dina added five-sixths of a bag of soil to her garden. Her neighbor Natasha added eleven-eighths bags of soil to her garden. How much more soil did Natasha add than Dina?

2) It took Nick five-thirds of an hour to complete his math homework on Monday, three-fourths of an hour on Tuesday, and five-sixths of an hour on Wednesday. How many hours did he take to complete his homework altogether?

3) Dylan read his book about animals for 2 2/3 hours this week. His sister, Faith, read her football book for 1 1/5 hours this week. How much longer did Dylan read his book than Faith read hers?

4) There were $24\frac{1}{4}$ crates of tomatoes in the barn but $7\frac{3}{5}$ crates of tomatoes were rotten and had to be thrown out. Joe sold $8\frac{1}{3}$ crates and canned $7\frac{5}{6}$ crates of tomatoes. How many crates of tomatoes were left?

WEEK 3

5.NF.1 - Add & Subtract Fractions with UNlike Denominators

PRACTICE QUIZ

Hailey has 3 cats: Bonnie, Muffin and Baby.

1. Hailey feeds them Cat Cookies brand cat food.
Each day Bonnie eats $\frac{1}{2}$ of the box, Muffin eats $\frac{1}{8}$ of the box and Baby eats $\frac{1}{4}$ of the box. What fraction of a whole box do the cats eat, in all, each day?

2. Muffin and Baby spend much of each day sleeping.
Muffin sleeps for $\frac{3}{5}$ of the day and Baby sleeps for $\frac{7}{10}$ of the day.
Which of the two cats sleeps for longer? How much longer does it sleep each day?

3. Hailey's cats often share a carton of cat milk. Bonnie always drinks $\frac{1}{3}$ of the carton, Muffin always drinks $\frac{5}{12}$ of the carton, and Baby always drinks $\frac{1}{6}$ of the carton.
What fraction of the carton of cat milk is left over?

4. Hailey's cats love to jump in and out of their cat door. Yesterday the cat door was used 100 times by her cats. Bonnie used it for $\frac{1}{4}$ of the times and Muffin used it for $\frac{3}{10}$ of the times. How many times did Baby use the cat door? Explain how you figured it out.

WEEK 4

Daily Memorization

Multiplication/Division Facts: x8's and x9's

-You will need to have these multiplication facts memorized this week.
-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.
-You can also have someone quiz you with them to make sure you have mastered them!

Multiplication/Division Facts: x8's and x9's

8 ÷ 1	5 × 8	96 ÷ 12	8 × 7	3 × 8	11 × 8	2 × 9	5 × 9	4 × 9	45 ÷ 9	12 × 9	81 ÷ 9
24 ÷ 3	8 × 10	72 ÷ 9	96 ÷ 8	32 ÷ 4	32 ÷ 8	90 ÷ 10	9 × 4	1 × 9	36 ÷ 9	99 ÷ 11	45 ÷ 5
8 × 8	72 ÷ 8	96 ÷ 8	56 ÷ 8	24 ÷ 8	96 ÷ 12	27 ÷ 3	72 ÷ 9	6 × 9	72 ÷ 9	7 × 9	12 × 9
32 ÷ 8	48 ÷ 8	11 × 8	24 ÷ 8	8 × 8	8 × 5	99 ÷ 11	9 × 12	27 ÷ 3	27 ÷ 9	18 ÷ 2	12 × 9
8 ÷ 1	88 ÷ 8	16 ÷ 2	9 × 8	8 × 11	80 ÷ 8	9 × 4	9 × 4	9 × 2	9 × 2	9 × 9	12 × 9
48 ÷ 8	9 × 8	8 × 8	3 × 8	2 × 8	8 × 12	9 ÷ 9	9 × 10	10 × 9	54 ÷ 6	9 × 6	9 × 7
1 × 8	1 × 8	5 × 8	8 × 6	8 × 5	8 × 7	108 ÷ 12	9 × 6	18 ÷ 2	5 × 9	9 × 8	45 ÷ 5
8 × 5	16 ÷ 8	6 × 8	48 ÷ 6	96 ÷ 12	8 × 10	9 × 9	12 × 9	36 ÷ 4	81 ÷ 9	9 × 1	27 ÷ 3
40 ÷ 5	56 ÷ 7	64 ÷ 8	8 ÷ 8	8 × 1	8 ÷ 8	45 ÷ 5	81 ÷ 9	9 × 7	90 ÷ 9	108 ÷ 12	72 ÷ 9
11 × 8	56 ÷ 7	8 ÷ 8	8 × 8	8 × 10	40 ÷ 5	81 ÷ 9	81 ÷ 9	9 × 11	45 ÷ 9	45 ÷ 9	90 ÷ 10

WEEK 4

6.NS.1 - Fraction Division

Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.

For example, create a story context for (2/3) ÷ (3/4) and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that (2/3) ÷ (3/4) = 8/9 because 3/4 of 8/9 is 2/3. (In general, (a/b) ÷ (c/d) = ad/bc.) How much chocolate will each person get if 3 people share 1/2 lb of chocolate equally? How many 3/4-cup servings are in 2/3 of a cup of yogurt? How wide is a rectangular strip of land with length 3/4 mi and area 1/2 square mi?.

KhanAcademy: https://www.khanacademy.org/commoncore/grade-6-NS#6.NS.A.1

Reminder: You must demonstrate full conceptual understanding of the standard in addition to procedural mastery of the skill.

NOTES:

6.NS.1 Fraction Division

1. KEEP the first fraction the same
   (make sure it's a fraction!)
2. CHANGE to multiplication *(instead of division)*
3. FLIP the second fraction into its reciprocal (multiplicative inverse)
4. MULTIPLY straight across

DO NOT USE MIXED NUMBERS!

→ Instead, change mixed numbers to improper fractions by…

1. Multiply the denominator (bottom number) by the whole number, that gives you a product (answer to multiplication)
2. Add that product to the numerator (top number), that gives you a sum (answer to addition)
3. Use the sum as your new numerator and keep the denominator the same

WHOLE NUMBERS SHOULD BE WRITTEN AS FRACTIONS, TOO!

→ Change it to look like a fraction by placing it over a 1 (dividing by 1)

Example: Instead of 5, change it to be written as $\frac{5}{1}$

WEEK 4

6.NS.1 - Fraction Division

SKILL PRACTICE

Divide. Reduce to lowest terms.

1. $\frac{1}{2} \div \frac{4}{5}$

2. $\frac{4}{5} \div \frac{1}{2}$

3. $\frac{3}{10} \div \frac{9}{10}$

4. $\frac{3}{5} \div 6$

5. $7 \div \frac{1}{7}$

6. $1 \div \frac{1}{8}$

7. $5 \div \frac{2}{3}$

8. $6\frac{2}{5} \div 20$

9. $2\frac{3}{4} \div \frac{22}{25}$

10. $3\frac{4}{5} \div 1\frac{2}{15}$

WEEK 4

6.NS.1 - Fraction Division

STANDARD PRACTICE *Hint: Start with what you have.*

1) How many one-third cup servings are in 6 cups of pecans?

2) A pet store had 4 cats to feed. If they only had one-fifth of a bag of cat food and each cat got the same amount, what fraction of the bag would each cat get?

3) A farmer was dividing up his one-third of an acre of land between his 5 children. Since each child got the same amount of land, what fraction of the acre did each get?

4) A store had 4 boxes of video games. How many days would it take to sell the games if each day they sold one-fifth of a box?

5) An artist was able to draw one-seventh of a picture every hour. If he needed to paint 8 pictures for an art show, how many hours would it take him?

6) A moving company had one-sixth of a ton of weight to move across town. If they wanted to split it equally amongst 4 trips, how much weight would they have on each trip?

7) How many $\frac{1}{4}$ teaspoon doses are in $\frac{7}{8}$ teaspoon of medicine?

8) Mia has $\frac{7}{8}$ pound of bird food. She puts an equal portion into 4 bird feeders. How much bird food, in pounds, does she put into each bird feeder?

WEEK 4

6.NS.1 - Fraction Division

PRACTICE QUIZ

1) Maggie's time card showed that she worked 20 hours worth of life-guarding at the pool. If each shift only lasts $\frac{4}{5}$ of an hour, how many shifts did Brandy work?

2) To prepare a batch of cookies a factory uses $\frac{4}{5}$ barrels of oatmeal in each batch. The factory used $4\frac{4}{5}$ barrels of oatmeal on Monday. The number of batches of cookies made by the factory on Monday were _____.

3) Spencer has $3\frac{1}{2}$ cups of sugar in a bag. The recipe Jeff is making needs $\frac{2}{3}$ cup of sugar per serving. How much sugar will be left in the bag after Jeff makes 1 serving using the recipe? Express your answer as a mixed number in simplest form.

WEEK 5

Daily Memorization

Multiplication/Division Facts: x11's and x12's

-You will need to have these multiplication facts memorized this week.
-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.
-You can also have someone quiz you with them to make sure you have mastered them!

Multiplication/Division Facts: x11's and x12's

2 × 11	121 ÷ 11	66 ÷ 6	5 × 11	3 × 11	66 ÷ 11	12 × 6	12 × 2	6 × 12	108 ÷ 12	120 ÷ 10	96 ÷ 8
11 × 12	44 ÷ 4	11 × 2	110 ÷ 11	2 × 11	1 × 11	96 ÷ 8	12 × 5	132 ÷ 12	24 ÷ 2	12 × 6	12 × 5
11 × 9	121 ÷ 11	4 × 11	11 × 10	6 × 11	11 × 6	12 ÷ 12	12 × 8	72 ÷ 12	12 × 4	12 ÷ 1	60 ÷ 12
11 × 11	1 × 11	11 × 7	5 × 11	11 × 5	11 ÷ 11	12 × 7	132 ÷ 12	1 × 12	48 ÷ 4	12 × 12	72 ÷ 6
44 ÷ 4	77 ÷ 7	66 ÷ 11	11 × 6	44 ÷ 11	99 ÷ 11	120 ÷ 10	7 × 12	11 × 12	12 × 1	12 × 8	120 ÷ 12
121 ÷ 11	77 ÷ 7	11 × 4	7 × 11	6 × 11	11 × 11	108 ÷ 12	12 × 11	12 × 5	6 × 12	7 × 12	48 ÷ 12
11 × 1	11 × 2	3 × 11	88 ÷ 11	22 ÷ 11	66 ÷ 11	96 ÷ 12	1 × 12	12 × 8	108 ÷ 9	10 × 12	12 × 6
33 ÷ 11	110 ÷ 10	44 ÷ 4	11 × 10	99 ÷ 9	1 × 11	12 × 10	12 × 10	120 ÷ 10	12 × 6	12 × 8	12 × 4
77 ÷ 11	8 × 11	66 ÷ 6	11 × 10	11 × 2	6 × 11	12 × 4	9 × 12	72 ÷ 6	1 × 12	12 × 12	12 × 12
11 ÷ 11	132 ÷ 11	8 × 11	88 ÷ 11	44 ÷ 11	22 ÷ 11	120 ÷ 12	12 × 11	12 × 3	8 × 12	120 ÷ 10	12 × 6

WEEK 5

6.NS.4 - Least Common Multiple (LCM), Greatest Common Factor (GCF), and Distributive Property

Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1-100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2)..*

KhanAcademy: https://www.khanacademy.org/commoncore/grade-6-NS#6.NS.B.4

Reminder: You must demonstrate full conceptual understanding of the standard in addition to procedural mastery of the skill.

NOTES:

6.NS.4 Greatest Common Factor

1. Factors - List all the factors (numbers you multiply to make a product)
2. Common - Circle any factors that are common
3. Greatest - Identify the common factor with the greatest value

Word Problem Tips!

- Greatest number of
- Divide into groups
- Split evenly
- Identical groups
- Same groups
- No leftovers
- Answer the question being asked!

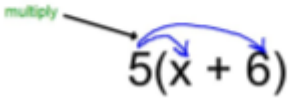
Greatest Common Factor

The GCF is the largest factor shared between two or more numbers

24	18	9	20
1x24 = 24	1x18 = 18	1x9 = 9	1x20 = 20
2x12 = 24	2x9 = 18	3x3 = 9	2x10 = 20
3x8 = 24	3x6 = 18		4x5 = 20
4x6 = 24			
1, 2, 3, (6) GCF = 6		(1) GCF = 1	

When using the DISTRIBUTIVE PROPERTY to expand an expression, be sure to multiply the outside term by EVERYTHING on the inside.

*There is an *invisible* multiplication between the number on the outside and the parenthesis*



5x + 30

6.NS.4 Least Common Multiple

1. Multiples - List all the multiples
2. Common - Circle any multiples that are common
3. Least - Identify the common multiple with the least value

USED FOR FINDING LEAST COMMON DENOMINATOR WHEN ADDING/SUBTRACTING FRACTIONS WITH UNLIKE DENOS

Word Problem Tips!

- At the SAME time
- Answer the question being asked!

Multiples of 3:
(0), 3, 6, 9, (12), 15, 18, 21, (24) ...

Multiples of 4:
(0), 4, 8, (12), 16, 20, (24), 28 ...

The LCM of 3 and 4 is 12.

WEEK 5

6.NS.4 - Least Common Multiple (LCM), Greatest Common Factor (GCF), and Distributive Property

SKILL PRACTICE

Find the LCM.

1) 4 and 10 2) 6 and 10 3) 4 and 12 4) 12, 15, and 20

GCF

1) 8 and 12 2) 7 and 35 3) 36 and 54 4) 24, 60, and 72

Use the distributive property to rewrite the expression.

Example: $2(4 - y) = \underline{8 - 2y}$

multiply 2 by everything inside parentheses

1. $5(x + 3)$
2. $4(2 + m)$
3. $6(v + 4)$
4. $2(b - 5)$

Use the GCF to rewrite the expression.

Example: $6x + 15 = \underline{3(2x + 5)}$

First find GCF of 6 and 15 = 3

1. $48 + 6m$
2. $20r + 16z$
3. $14n + 12p$
4. $36 - 9z$

WEEK 5

6.NS.4 - Least Common Multiple (LCM), Greatest Common Factor (GCF), and Distributive Property

STANDARD PRACTICE

2. Norma is buying hot dogs and hot dog buns for a street party. Hot dogs are sold in packages of 8 and buns in packages of 12.

What is the *least* number of packages of hot dogs and hot dog buns that Norma can buy to have an equal number of hot dogs and buns?

A. 2 packages of hot dogs and 2 packages of hot dog buns

B. 3 packages of hot dogs and 2 packages of hot dog buns

C. 4 packages of hot dogs and 5 packages of hot dog buns

D. 5 packages of hot dogs and 4 packages of hot dog buns

3. What is the *greatest* common factor of 21, 35 and 63?

A. 1

B. 3

C. 7

D. 9

15. Which expression correctly illustrates the GCF being factored out of the expression 72 + 40?

A. 2(36 + 20)

B. 4(18 + 10)

C. 6(12 + 7)

D. 8(9 + 5)

5. A restaurant sells fried chicken in a 12-piece bucket. The restaurant also sells 8 biscuits in a box. Joe wants to have the same number of biscuits as he has pieces of fried chicken.

How many buckets of chicken and boxes of biscuits should Joe buy?

A. 4 buckets of chicken and 3 boxes of biscuits

B. 3 buckets of chicken and 4 boxes of biscuits

C. 3 buckets of chicken and 2 boxes of biscuits

D. 2 buckets of chicken and 3 boxes of biscuits

13. For an end-of-year party, Mrs. Smith purchased 98 stickers and 56 lollipops. Each student will receive an equal number of stickers and an equal number of lollipops. There will be no stickers or lollipops leftover.

Based on this information, what is the *greatest* number of students Mrs. Smith can have in her class?

A. 28 students

B. 26 students

C. 16 students

D. 14 students

WEEK 5

6.NS.4 - Least Common Multiple (LCM), Greatest Common Factor (GCF), and Distributive Property

PRACTICE QUIZ

1. Kevin is planting 15 bushes and 9 trees in a row. If he wants all the rows to be exactly the same, with no plants left over, what is the greatest number of rows Kevin can plant?

2) Brett, Lucy, and Donnie are each making trips carrying bags of mulch from the back loading dock to the front of the store. It takes Brett 3 minutes to make a trip, Lucy 5 minutes to make a trip, and Donnie 6 minutes to make a trip. How many minutes will pass until they all arrive back at the same exact time?

3) Use the distributive property to rewrite the expression 9(6+5) as the sum of 54 and another whole number.

4) Riley is packing 24 notebooks, 56 pencils, and 96 erasers equally into as many backpacks as possible. What is the greatest number of backpacks that Riley can pack the items into?

PRACTICE QUIZ

Daily Memorization -- Weeks 1-5

Multiplication and Division Facts 0-12

Mixed Problems 5 Minute Drill

4 x 6	6 x 4	44 ÷ 11	3 x 11	6 x 4	1 ÷ 1	32 ÷ 4	24 ÷ 2	36 ÷ 12	4 ÷ 2
4 x 8	6 x 2	90 ÷ 10	16 ÷ 8	99 ÷ 11	7 ÷ 7	9 x 8	6 x 2	40 ÷ 8	90 ÷ 10
9 x 7	10 x 6	5 x 1	10 x 10	3 x 10	10 x 1	55 ÷ 5	15 ÷ 5	1 x 8	54 ÷ 9
4 x 1	2 x 8	8 x 2	12 ÷ 12	63 ÷ 7	21 ÷ 7	11 ÷ 1	11 x 4	4 ÷ 4	132 ÷ 11
5 ÷ 5	49 ÷ 7	80 ÷ 8	72 ÷ 9	1 x 7	24 ÷ 3	6 x 7	9 x 10	11 ÷ 1	120 ÷ 10
9 x 2	10 x 4	6 x 8	9 x 8	56 ÷ 7	1 x 2	48 ÷ 6	33 ÷ 3	108 ÷ 12	3 x 1
10 x 6	48 ÷ 12	3 x 9	11 x 7	32 ÷ 4	2 x 3	10 x 1	1 x 5	1 x 9	36 ÷ 3
40 ÷ 5	60 ÷ 12	5 x 12	24 ÷ 12	54 ÷ 6	36 ÷ 3	2 x 11	11 x 5	1 x 9	18 ÷ 9
8 x 5	4 x 1	4 x 2	24 ÷ 6	10 x 9	56 ÷ 8	3 x 2	32 ÷ 8	12 x 4	11 x 2
81 ÷ 9	63 ÷ 9	12 x 6	8 ÷ 2	24 ÷ 2	20 ÷ 2	40 ÷ 8	10 x 5	9 x 7	2 x 7

WEEK 6

Daily Memorization

6.RP.3 - Equivalent Percents, Decimals, Fractions

Tenths & Fifths

-You will need to have these benchmark fractions, decimals, percents memorized this week.

-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.

-You can also have someone quiz you with them to make sure you have mastered them!

MEMORIZE the equivalent decimal & percent for each fraction below:

Tenths (10th's)

Fraction	Decimal	Percent
1/10	0.1	10%
2/10 =1/5	0.2	20%
3/10	0.3	30%
4/10 = 2/5	0.4	40%
5/10	0.5	50%
6/10 = 3/5	0.6	60%
7/10	0.7	70%
8/10 = 4/5	0.8	80%
9/10	0.9	90%
10/10 =1	1	100%

Fifths (5th's)

Fraction	Decimal	Percent
1/5	0.2	20%
2/5	0.4	40%
3/5	0.6	60%
4/5	0.8	80%
5/5 =1	1	100%

WEEK 6

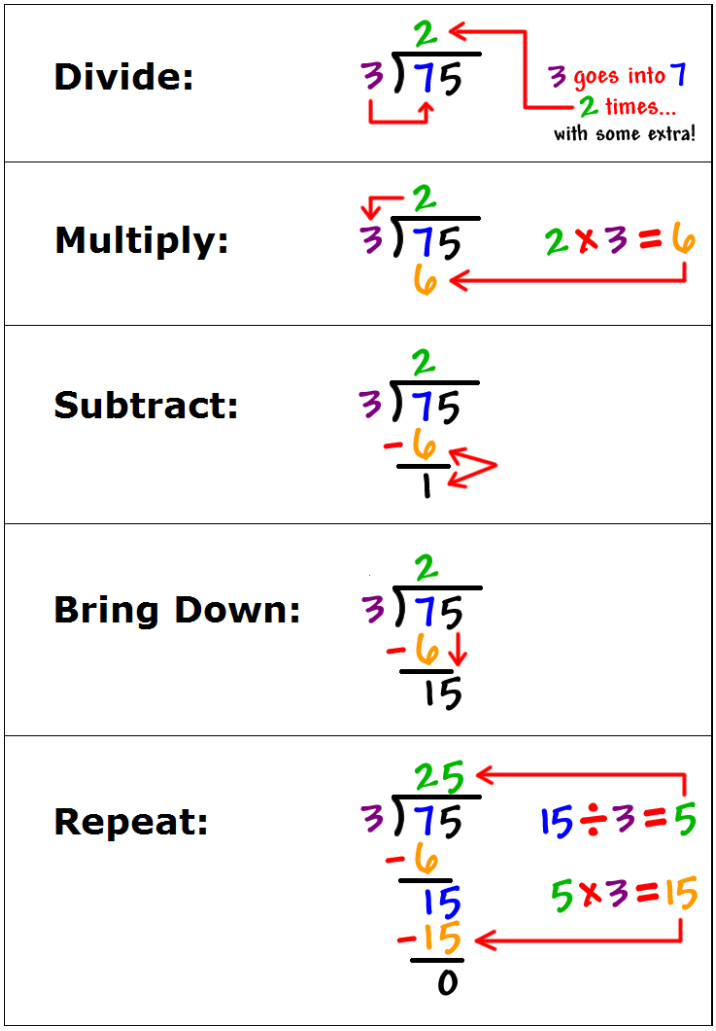
6.NS.2 - Fluent Long Division

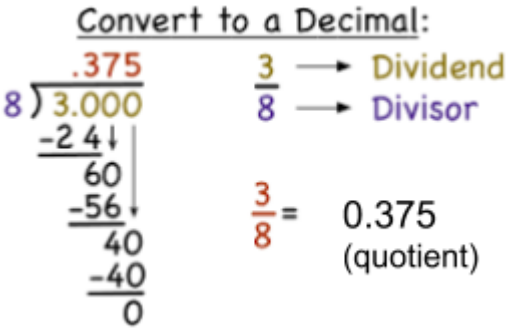
Fluently divide multi-digit numbers using the standard algorithm.

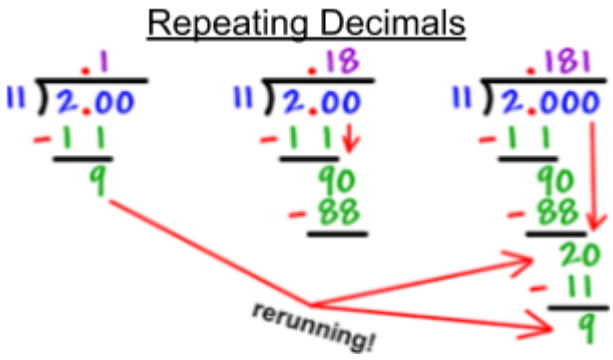
KhanAcademy: https://www.khanacademy.org/commoncore/grade-6-NS#6.NS.B.2

Reminder: You must demonstrate <u>full conceptual understanding</u> of the standard <u>in addition to procedural mastery</u> of the skill.

NOTES: **In 6th grade we will transition from writing remainders to instead using decimals or fractions (placing the remainder as a numerator over the original denominator/divisor)**





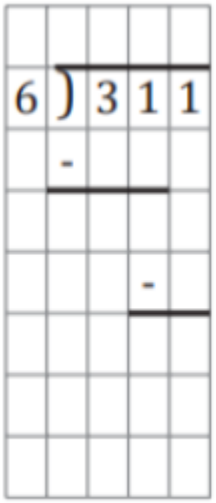


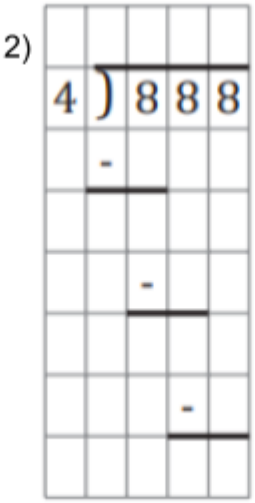
So to change $\frac{2}{11}$ from a fraction into a decimal, divide 2 by 11 and you will notice that the 18 keeps repeating after the decimal. We write this as $\frac{2}{11} = 0.\overline{18}$ with the line (vinculum) over the 18 to signify that those two numbers are repeating forever and ever.

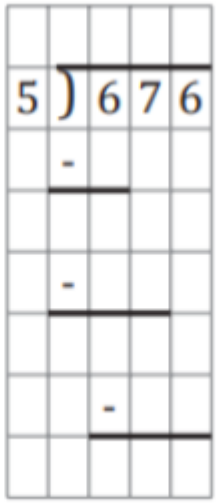
WEEK 6

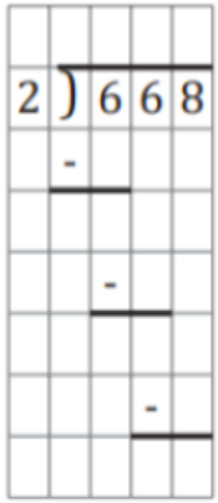
6.NS.2 - Fluent Long Division

SKILL PRACTICE. Write remainders as fractions. Write all fractions in simplest form.

1) 

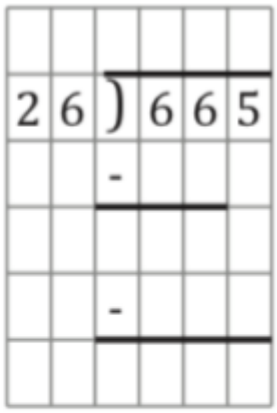
2) 

3) 

4) 

5) 

6) 

7) 

8) $813\overline{)82001}$

9) $151\overline{)78054}$

10) $716\overline{)23155}$

WEEK 6

6.NS.2 - Fluent Long Division

STANDARD PRACTICE

1) *The Ivy Hill Sunshine Club collected 524 cans for a canned food drive. The cans were then split up equally into 8 boxes.*

Part A

How many cans were in each box? ☐

Part B

How many cans were left over after the boxes were filled?

2) **Part A**

The sixth grade students at MJS are going on a field trip. There are 12 sixth grade classes at the school. Each class has 24 students. What is the total number of 6th grade students at the school? Record only the number in the box below.

☐

Part B

The students will be riding on school buses. Each bus can hold 34 students. If all of the sixth-graders from Part A are going on the field trip, how many buses will be needed? Record only the number in the box below.

☐

3) If 10 pounds of ice cream are separated into 15 bowls, how much ice cream would be in each bowl?

- (A) One and one-half pounds
- (B) One-half of a pound
- (C) Two-thirds of a pound
- (D) Three-quarters of a pound

WEEK 6

6.NS.2 - Fluent Long Division

PRACTICE QUIZ

1) Evaluate $34,992 \div 81 =$_____

2) An expression is shown: $1608 \div 268$
What is the value of the expression?

3) Twenty-one boxes hold a total of 294 textbooks. If each box contains the same number of textbooks, how many textbooks are in each box?

WEEK 7

Daily Memorization

6.RP.3 - Equivalent Percents, Decimals, Fractions

Eighths, Fourths, and Halves

-You will need to have these benchmark fractions, decimals, percents memorized this week.

-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.

-You can also have someone quiz you with them to make sure you have mastered them!

MEMORIZE the equivalent decimal & percent for each fraction below:

Eighth's (8th's)

Fraction	Decimal	Percent
1/8	0.125	12.5%
2/8 = 1/4	0.25	25%
3/8	0.375	37.5%
4/8 = 1/2	0.5	50%
5/8	0.625	62.5%
6/8 = 3/4	0.75	75%
7/8	0.875	87.5%
8/8 = 1	1	100%

Fourth's (4th's)

Fraction	Decimal	Percent
1/4	0.25	25%
2/4 = 1/2	0.5	50%
3/4	0.75	75%
4/4 = 1	1	100%

Halves (½'s)

Fraction	Decimal	Percent
1/2	0.5	50%
2/2 = 1	1	100%

WEEK 7

6.NS.3 - Decimal Operations

Fluently add, subtract, multiply, and divide multi-digit decimals using the standard algorithm.

KhanAcademy: https://www.khanacademy.org/commoncore/grade-6-NS#6.NS.B.3

Reminder: You must demonstrate full conceptual understanding of the standard in addition to procedural mastery of the skill.

NOTES:

6.NS.3 Decimal Addition and Subtraction

LINE UP THE DECIMALS!! in order to align the place values of digits
Hint: Treat decimals like money. $5 = $5.00

6.NS.3 Decimal Multiplication ×

1. Remove the decimals from each factor
2. Count the total decimal place values removed
3. Multiply like normal
4. Place the decimal back into the product using the total number of decimal place values removed

6.NS.3 Decimal Division ÷

When there is a decimal in the divisor, you must make some changes to align your decimal before dividing.

1. Move the decimal in the divisor to make it a whole number
2. Count the number of decimal place value jumps and move the decimal in the dividend the same number of times as the divisor
3. Move the decimal up into the quotient
4. Divide like using long division algorithm

WEEK 7

6.NS.3 - Decimal Operations

SKILL PRACTICE

Adding

1) 2.4 + 3.3 =

2) 12.7 + 2.8 =

3) 6.72 + 5 =

4) 245.987 + 16.204 =

5) 34.69 + 72.507 =

Subtracting

1) 7.4 - 3.3 =

2) 15.7 - 2.8 =

3) 6.79 - 5 =

4) 45.53 - 16.69 =

5) 94.609 - 72.517 =

WEEK 7

6.NS.3 - Decimal Operations

SKILL PRACTICE

Multiplying

1) 2.4 x 0.3=

2) 12.7 x 0.05 =

3) 6.72 x 10 =

4) 0.024 x 0.62 =

5) 4.8 x 5.9 =

Dividing

1) 0.24 ÷ 0.3=

2) 0.125 ÷ 0.5 =

3) 68.5 ÷ 10 =

4) 12.4 ÷ 1.2 =

5) 4.8 ÷ 0.04 =

WEEK 7

6.NS.3 - Decimal Operations

STANDARD PRACTICE

1) Suppose you buy 5 pounds of apples for $1.29 per pound. How much money would you spend on the apples?

2) In order to train for a 5k, you have decided to do a practice run of 3.1 miles and have already run 1.56 miles. How many more miles do you need to run?

3) Mrs. Jones wants to hike two trails. The length of one trail is 6.706km. The length of the other trail is 9.0704km. What is the total length of the two trails?

4) Whole Foods had pineapples on sale for $1.20 per pound. Tony spent $5.28 on pineapples. How many pounds of pineapples did he buy?

5) A hat costs $10.95 and a T-shirt costs $14.20. How much change will you receive if you pay for both items with a $50 bill?

6) A shelf used to store DVDs is 60.96cm wide. If each DVD is 1.5cm wide, what is the maximum number of DVDs that can be stored on the shelf?

7) A toy boat costs $3.88 and a ball costs $1.29. If Jabre buys 2 toy boats and 3 balls, how much total money will she spend?

8) Tom had $84.50 and then spent $12.25 for a music CD, $17.85 for a gift, and $15.45 for gasoline. How much did he have left?

WEEK 7

6.NS.3 - Decimal Operations

PRACTICE QUIZ

The table shows the average price of gold (in dollars per ounce) for several years.

Year	1970	1980	1990	2000	2010
Average price (dollars per ounce)	36.02	615.00	383.51	279.11	1224.53

1. Find the quotient of the averages prices of gold in 2010 and 1970. What does the quotient mean?

2. A miner found three pieces of gold in an underground mine in 1970.
The pieces weighed 0.080 ounce, 0.122 ounce, and 0.096 ounce.

2a. Find the total weight of the gold that was found in the underground mine in 1970.

2 b. Find the total value (in dollars) of the gold when it was mined.

2 c. About how much more was the gold worth in 2010 than in 1970?

WEEK 8

Daily Memorization

6.RP.3 - Equivalent Percents, Decimals, Fractions

Thirds

-You will need to have these benchmark fractions, decimals, percents memorized this week.

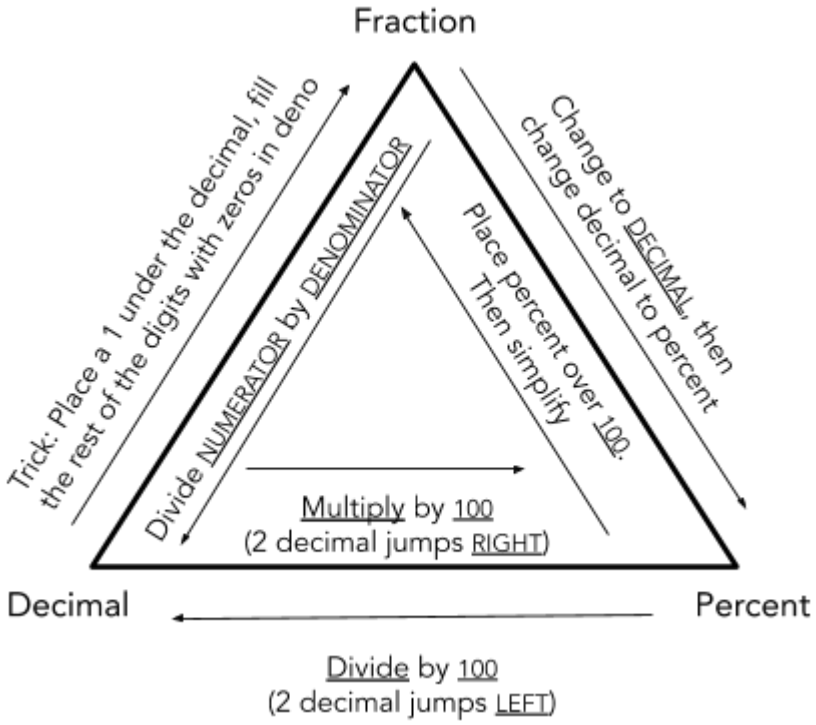
-The best way to memorize these is to create flashcards and practice them for 10 minutes each day.

-You can also have someone quiz you with them to make sure you have mastered them!

MEMORIZE the equivalent decimal & percent for each fraction below:

Thirds (3rd's)

Fraction	Decimal	Percent
1/3	0.3 repeating	33 ⅓ %
2/3	0.6 repeating	66 ⅔ %
3/3 = 1	1	100%



KhanAcademy.org has a ton of practice with "Percent, fraction, decimal conversions"

WEEK 8

6.EE.1 - Order of Operations & Exponents

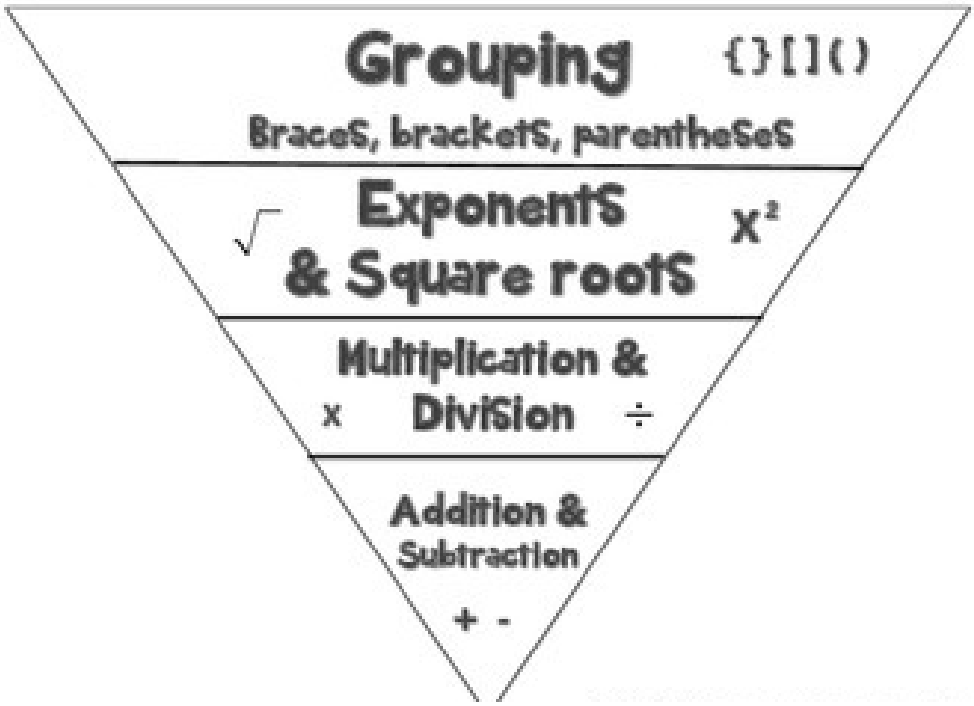
Write and evaluate numerical expressions involving whole-number exponents.

KhanAcademy: https://www.khanacademy.org/commoncore/grade-6-EE#6.EE.A.1

Reminder: You must demonstrate full conceptual understanding of the standard in addition to procedural mastery of the skill.

NOTES: Follow the steps of the pyramid from top to bottom!

Greatly Excuse My Dear Aunt Sally



Powers	Words	Expression	Value
2^5	2 to the fifth power.	2 × 2 × 2 × 2 × 2	32
3^2	3 to the second power or 3 squared.	3 × 3	9
10^3	10 to the third power or 10 cubed.	10 × 10 × 10	1,000

WEEK 8

6.EE.1 - Order of Operations & Exponents

SKILL PRACTICE // Exponents

Rewrite the number as a multiplication problem.

1) 9^4
2) 4^2
3) 4^3
4) 6^3
5) 8^3

Rewrite the multiplication problem in exponential notation.

6) $4\times4\times4\times4\times4$
7) 9×9
8) 4×4
9) $3\times3\times3\times3$
10) $5\times5\times5\times5\times5$

Solve the problems.

11) 2^2
12) 8^3
13) 9^3
14) 6^2
15) 6^3
16) What is 8 to the power of two?
17) What is 5 squared?
18) What is 2 to the power of three?
19) What is 3 cubed?
20) What is 7 to the power of two?

WEEK 8

6.EE.1 - Order of Operations & Exponents

SKILL PRACTICE // Order of Operations

Whole Numbers

1) 36 x 3 + (56 ÷ 7) – 65

2) 6 × [(34 – 26) + 3]

3) 26 x 3 + [(56 ÷ 7) – 5]

4) [(14 + 7) + (66 ÷ 6)] ÷ 4

Whole Numbers with Exponents

5) $8 \times (13 - 2) - 3^2$

6) $(9 - 2)^2 + (10 \div 2)$

7) $(8 - 4)^2 + (12 - 15 \div 5)$

8) $(6 \times 9 + 3^2) + 3$

WEEK 8

6.EE.1 - Order of Operations & Exponents

STANDARD PRACTICE

Evaluate each expression.

1. $3 \times 5 + 2 \times 8 + 2$

2. $(\$1.75 + 2 \times \$0.25 + 5 \times \$0.05) \times 24$

3. $(2 \times 6) + (8 \times 4) + 1$

4. $\big((8 \times 1.95) + (3 \times 2.95) + 10.95\big) \times 1.06$

5. $\big((12 \div 3)^2 - (18 \div 3^2)\big) \times (4 \div 2)$

WEEK 8

6.EE.1 - Order of Operations & Exponents

PRACTICE QUIZ

1. **Evaluate this expression:** $39 \div (2 + 1) - 2 \times (4 + 1)$.

2. **Evaluate this expression:** $12 \times (3 + 2^2) \div 2 - 10$.

3. **Evaluate this expression:** $12 \times (3 + 2)^2 \div 2 - 10$.

PRACTICE QUIZ

Daily Memorization -- Weeks 6-8

6.RP.3 - Equivalent Percents, Decimals, Fractions

Fraction *SIMPLEST FORM ONLY*	Decimal	Percent
		30%
$\frac{1}{4}$		
$\frac{7}{10}$		
		60%
	0.8	
$\frac{2}{5}$		
		20%
$\frac{5}{8}$		
$\frac{3}{8}$		
$\frac{7}{8}$		
$\frac{1}{8}$		
$\frac{2}{3}$		
	0.75	75%
		5%
	1.05	

ANSWER KEY #1

Skill / Standard Practice + Daily Memorization

WEEK 1 // 4.NBT.4 / 5.NBT.5 / 5.NBT.4 / 5.NBT.3

SKILL

Rounding

1) 8.5
2) 100
3) 310.3
4) 6
5) 7
6) 9.7
7) 118.38
8) 90.7
9) 65.9
10) 71
11) 76.68
12) 815.76
13) 877.7
14) 12.26
15) 16
16) 96
17) 2.41
18) 3.99
19) 76
20) 716.51

Comparing

1) 6.81 > 6.37
2) 6.32 < 6.5
3) 2.216 > 2.149
4) 6.48 < 6.99
5) 5.75 = 5.750
6) 2.59 < 2.684
7) 8.538 > 8.122
8) 6.81 > 6.1

Expand

1) 2 × 100 + 3 × 10 + 1 + (8 × 1⁄ 10) + (5 × 1⁄ 100) + (6 × 1⁄) 1000
2) 3 + (6 × 1⁄10) + (1 × 1⁄100) + (1 × 1⁄1000)
3) 3 × 100 + 6 × 10 + 2 + (7 × 1⁄10) + (2 × 1⁄100)
4) 7 × 10 + 9 + (5 × 1⁄10) + (6 × 1⁄100) + (4 × 1⁄1000)
5) 4 × 10 + 2 + (1 × 1⁄ 10)

STANDARD

Whole Numbers

1) 83 x 504 = 41832 He owns 41,832 cards.
2) The other team is extra information. 150 – 60 = 90 He got 90 yards running.
3) The July temperature is extra information. 90 – 15 = 75 It was 75 degrees today.
4) 80 – 20 – 25 – 8 = 27 She has $27 left.
5) 1,000,000 – 999 – 22,222 = 976,779 You have $976,779 left.
6) 1,882 + 25 = 1,907 She was 25 in 1,907.
7) 11 days x 24 hours per day = 264 total hours. 264 hours x 60 minutes per hour = 15840 total minutes. She must wait 15,840 minutes.

Decimals

1) C 2) D 3) D 4) B 5) 870
6) 1,050 7) 1,270 8) 300 9) 107.315 10) 820,040.05

WEEK 2 // 3.NF.2 / 3.NF.3 / 4.NF.1 / 4.NF.3c

SKILL

Fractions on Number Line

1) 8 2) $\frac{4}{8} = \frac{1}{2}$ 3) $\frac{8}{8} = 1$ 4) $\frac{1}{8}$ 5) 4 6) $\frac{2}{4} = \frac{1}{2}$ 7) $\frac{0}{3} = 0$ 8) $\frac{1}{3}$
9) B 10) D 11) A 12) D 13) D 14) C 15) A 16) B

Equivalent Fractions

1) 9	2) 8	3) 16	4) 20	5) 27	6) 6	7) 54	8) 70
9) 24	10) 20	11) 15	12) 42	13) 25	14) 44	15) 28	16) 66
17) 36	18) 60	19) 16	20) 9	21) 18	22) 30	23) 4	24) 9
25) <	26) >	27) <	28) =	29) >	30) =	31) >	32) <

Simplifying Fractions		Mixed → Improper		Improper → Mixed	
1 a. $\frac{1}{3}$	1 b. $\frac{1}{2}$	1 a. $\frac{10}{2}$	1 b. $\frac{18}{4}$	1 a. $6\frac{2}{9}$	1 b. $4\frac{7}{9}$
2 a. $\frac{2}{9}$	2 b. $\frac{3}{4}$	2 a. $\frac{17}{11}$	2 b. $\frac{16}{2}$	2 a. $1\frac{2}{9}$	2 b. $5\frac{2}{9}$
3 a. $\frac{4}{11}$	3 b. $\frac{2}{5}$	3 a. $\frac{7}{7}$	3 b. $\frac{7}{4}$	3 a. $5\frac{3}{10}$	3 b. $1\frac{3}{4}$
4 a. $\frac{1}{17}$	4 b. $\frac{2}{5}$	4 a. $\frac{18}{8}$	4 b. $\frac{13}{11}$	4 a. $1\frac{3}{6}$	4 b. $5\frac{7}{12}$
5 a. $\frac{3}{11}$	5 b. $\frac{1}{4}$	5 a. $\frac{9}{4}$	5 b. $\frac{14}{9}$	5 a. $6\frac{4}{10}$	5 b. $5\frac{2}{6}$
6 a. $\frac{1}{2}$	6 b. $\frac{3}{7}$	6 a. $\frac{10}{9}$	6 b. $\frac{16}{3}$	6 a. $4\frac{1}{11}$	6 b. $3\frac{5}{9}$
7 a. $\frac{5}{11}$	7 b. $\frac{3}{13}$	7 a. $\frac{16}{5}$	7 b. $\frac{20}{8}$	7 a. $5\frac{4}{8}$	7 b. $6\frac{3}{12}$
8 a. $\frac{4}{17}$	8 b. $\frac{1}{3}$	8 a. $\frac{18}{11}$	8 b. $\frac{13}{5}$	8 a. $2\frac{1}{10}$	8 b. $1\frac{2}{5}$
9 a. $\frac{2}{5}$	9 b. $\frac{1}{4}$	9 a. $\frac{11}{8}$	9 b. $\frac{2}{2}$	9 a. $4\frac{1}{4}$	9 b. $3\frac{2}{4}$

STANDARD

Fractions on Number Line a) $\frac{1}{4}$ b) Tied Shoe = $\frac{3}{4}$ Water = $\frac{5}{4} = 1\frac{1}{4}$ Stretched = $\frac{9}{4} = 2\frac{1}{4}$

Fractions from left to right: $\frac{2}{3}$, $\frac{5}{3}$, $\frac{6}{3}$, $\frac{7}{3}$ $\frac{2}{3} < \frac{5}{3}$ $\frac{7}{3} < \frac{8}{3}$ $\frac{6}{3} = 2$

Equivalent Fractions a) disagree b) $\frac{1}{4} < \frac{1}{2}$ $\frac{1}{8} < \frac{1}{6}$ $\frac{1}{2} > \frac{1}{3}$ $\frac{1}{4} > \frac{1}{6}$

Simplifying Fractions & Convert Mixed/Improper

1. $\frac{3}{4} + \frac{3}{4} = 1\frac{1}{2}$ 2. $\frac{5}{7} + \frac{6}{7} = 1\frac{4}{7}$ 3. $\frac{16}{25} + \frac{12}{25} = 1\frac{3}{25}$

4. $\frac{23}{100} + \frac{54}{100} = \frac{77}{100}$ 5. $\frac{6}{9} + \frac{1}{9} = \frac{7}{9}$ 6. $\frac{8}{10} + \frac{4}{10} = 1\frac{1}{5}$

7. $\frac{4}{6} + \frac{4}{6} = 1\frac{1}{3}$ 8. $\frac{18}{50} + \frac{42}{50} = 1\frac{1}{5}$ 9. $\frac{13}{20} + \frac{11}{20} = 1\frac{1}{5}$

WEEK 3 // 5.NF.1

SKILL

1) $\frac{3}{20}$
2) $\frac{55}{4} = 13\frac{3}{4}$
3) $\frac{7}{6} = 1\frac{1}{6}$
4) $\frac{55}{4} = 13\frac{3}{4}$
5) $\frac{35}{24} = 1\frac{11}{24}$
6) $\frac{61}{8} = 7\frac{5}{8}$
7) $\frac{13}{14}$
8) $\frac{38}{11} = 3\frac{5}{11}$

STANDARD

1) $\frac{13}{24}$
2) $\frac{39}{12} = 3\frac{1}{4}$
3) $\frac{22}{15} = 1\frac{7}{15}$
4) $\frac{29}{60}$

WEEK 4 // 6.NS.1

SKILL

1) $\frac{5}{8}$ 2) $\frac{8}{5} = 1\frac{3}{5}$ 3) $\frac{30}{90} = \frac{1}{3}$ 4) $\frac{3}{30} = \frac{1}{10}$ 5) 49
6) 8 7) $7\frac{1}{2}$ 8) $\frac{32}{100} = \frac{8}{25}$ 9) $\frac{275}{88} = 3\frac{1}{8}$ 10) $\frac{285}{12} = 23\frac{3}{4}$

STANDARD

1) 18 2) $\frac{1}{20}$ 3) $\frac{1}{15}$ 4) 20 5) 56
6) $\frac{1}{24}$ 7) $3\frac{1}{2}$ 8) $\frac{7}{32}$

WEEK 5 // 6.NS.4

SKILL

LCM:	1) 20	2) 30	3) 12	4) 60	
GCF:	1) 4	2) 7	3) 18	4) 12	
Use distributive:	1. 5x+15	2. 8+4m	3. 6v+24	4. 2b-10	
Use GCF:	1. 6(8+m)	2. 4(5r+4z)	3. 2(7n+6p)	4. 9(4-z)	

STANDARD

2) B 3) C 5) D 13) D 15) D

WEEK 6 // 6.NS.2

SKILL

1) $51\frac{5}{6}$ 2) 222 3) $135\frac{1}{5}$ 4) 334 5) $26\frac{10}{12} = 26\frac{5}{6}$

6) $10\frac{8}{28} = 10\frac{2}{7}$ 7) $25\frac{15}{16}$ 8) $100\frac{701}{813}$ 9) $516\frac{138}{151}$ 10) $32\frac{243}{716}$

STANDARD

1) There were 65 cans in each box and 4 cans left over after the boxes were filled.

2) Part A: 288 students PartB: 9 busses (must round up to a whole bus)

3) C

WEEK 7 // 6.NS.3

SKILL

Add	1) 5.7	2) 15.5	3) 11.72	4) 262.191	5) 107.197
Subtract	1) 4.1	2)12.9	3) 1.79	4) 28.84	5) 22.092
Multiply	1) 0.72	2) 0.635	3) 67.2	4) 0.01488	5) 28.32
Divide	1) 0.8	2) 0.25	3) 6.85	4) $10.\overline{3}$	5) 120

STANDARD

1) Multiply	$6.45
2) Subtract	1.54miles
3) Add	15.7764km
4) Divide	4.4 pounds
5) Add, then Subtract	$24.85
6) Divide, then round	40 DVDs (cost $40.46)
7) Multiply, then Add	$11.63 total (2boats=$7.76 and 3balls=$3.87)
8) Add, then Subtract	$38.95 left

WEEK 8 // 6.EE.1

SKILL

Exponents

1) 9x9x9x9	2) 4x4	3) 4x4x4	4) 6x6x6	5) 8x8x8
6) 4^5	7) 9^2	8) 4^2	9) 3^4	10) 5^5
11) 4	12) 512	13) 729	14) 36	15) 216
16) 64	17) 25	18) 8	19) 27	20) 49

OOO//Whole Numbers

1) 51 2) 66 3) 81 4) 8

OOO//Whole Numbers with Exponents

5) 79 6) 54 7) 25 8) 66

STANDARD

1) 33 2) $60 3) 45 4) 37.524 5) 28

ANSWER KEY #2

PRACTICE QUIZZES

WEEK 1 // 4.NBT.4 / 5.NBT.5 / 5.NBT.4 / 5.NBT.3

1) 10,225 2) 787,536 3) $2,016 4a) 113 4b) 113.3 4c) 113.29

5) 90.98 > 90.9 > 90.089 > 90 > 89.89

WEEK 2 // 3.NF.2 / 3.NF.3 / 4.NF.1 / 4.NF.3c

Fractions on a Number Line 1) sixths 1a) $\frac{1}{6}$ 1b) $\frac{5}{6}$ 1c) $\frac{9}{6} = 1\frac{1}{2}$ 1d) $\frac{12}{6} = 2$

Equivalent Fractions C. Danica and Vincent eat the same amount of pie.

Simplifying Fractions & Convert Mixed/Improper $1\frac{1}{8}$

WEEK 3 // 5.NF.1

1. $\frac{7}{8}$ 2. Baby by $\frac{1}{10}$ of a day 3. $\frac{1}{12}$ 4. 45 times

WEEK 4 // 6.NS.1

1. 25 shifts 2. 6 batches 3) $2\frac{5}{6}$ cups

WEEK 5 // 6.NS.4

1) 3 rows 2) 30 minutes 3) 54+45 4) 8 backpacks

WEEK 6 // 6.NS.2

1) 432 2) 6 3) 14

WEEK 7 // 6.NS.3

1. Divide. Gold price in 2010 is about 34 times the price in 1974.

2a. Add. 0.298oz

2b. Multiply. $10.73

2c. Subtract. $354.18

WEEK 8 // 6.EE.1

1) 3 2) 32 3) 140

ANSWER KEY #2

PRACTICE QUIZZES
Daily Memorization

MEMORIZATION WEEKS 1-5 // Basic Facts

4 x 6 = 24	6 x 4 = 24	44 ÷ 11 = 4	3 x 11 = 33	6 x 4 = 24	1 ÷ 1 = 1	32 ÷ 4 = 8	24 ÷ 2 = 12	36 ÷ 12 = 3	4 ÷ 2 = 2
4 x 8 = 32	6 x 2 = 12	90 ÷ 10 = 9	16 ÷ 8 = 2	99 ÷ 11 = 9	7 ÷ 7 = 1	9 x 8 = 72	6 x 2 = 12	40 ÷ 8 = 5	90 ÷ 10 = 9
9 x 7 = 63	10 x 6 = 60	5 x 1 = 5	10 x 10 = 100	3 x 10 = 30	10 x 1 = 10	55 ÷ 5 = 11	15 ÷ 5 = 3	1 x 8 = 8	54 ÷ 9 = 6
4 x 1 = 4	2 x 8 = 16	8 x 2 = 16	12 ÷ 12 = 1	63 ÷ 7 = 9	21 ÷ 7 = 3	11 ÷ 1 = 11	11 x 4 = 44	4 ÷ 4 = 1	132 ÷ 11 = 12
5 ÷ 5 = 1	49 ÷ 7 = 7	80 ÷ 8 = 10	72 ÷ 9 = 8	1 x 7 = 7	24 ÷ 3 = 8	6 x 7 = 42	9 x 10 = 90	11 ÷ 1 = 11	120 ÷ 10 = 12
9 x 2 = 18	10 x 4 = 40	6 x 8 = 48	9 x 8 = 72	56 ÷ 7 = 8	1 x 2 = 2	48 ÷ 6 = 8	33 ÷ 3 = 11	108 ÷ 12 = 9	3 x 1 = 3
10 x 6 = 60	48 ÷ 12 = 4	3 x 9 = 27	11 x 7 = 77	32 ÷ 4 = 8	2 x 3 = 6	10 x 1 = 10	1 x 5 = 5	1 x 9 = 9	36 ÷ 3 = 12
40 ÷ 5 = 8	60 ÷ 12 = 5	5 x 12 = 60	24 ÷ 12 = 2	54 ÷ 6 = 9	36 ÷ 3 = 12	2 x 11 = 22	11 x 5 = 55	1 x 9 = 9	18 ÷ 9 = 2
8 x 5 = 40	4 x 1 = 4	4 x 2 = 8	24 ÷ 6 = 4	10 x 9 = 90	56 ÷ 8 = 7	3 x 2 = 6	32 ÷ 8 = 4	12 x 4 = 48	11 x 2 = 22
81 ÷ 9 = 9	63 ÷ 9 = 7	12 x 6 = 72	8 ÷ 2 = 4	24 ÷ 2 = 12	20 ÷ 2 = 10	40 ÷ 8 = 5	10 x 5 = 50	9 x 7 = 63	2 x 7 = 14

MEMORIZATION WEEKS 6-8 // PDFs

Fraction *simplest*	Decimal	Percent
$\frac{1}{3}$	$0.\overline{3}$	$33.\overline{3}\%$
$\frac{1}{4}$	0.25	25%
$\frac{7}{10}$	0.7	75%
$\frac{3}{5}$	0.6	60%
$\frac{4}{5}$	0.8	80%
$\frac{2}{5}$	0.4	40%
$\frac{1}{5}$	0.2	20%
$\frac{5}{8}$	0.625	62.5%
$\frac{3}{8}$	0.375	37.5%
$\frac{7}{8}$	0.875	87.5%
$\frac{1}{8}$	0.125	12.5%
$\frac{2}{3}$	$0.\overline{6}$	$66.\overline{6}\%$
$\frac{3}{4}$	0.75	75%
$\frac{1}{20}$	0.05	5%
$1\frac{1}{20}$	1.05	105%