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Google Slides Lessons Preview





Saskatchewan Math Curriculum

Number Unit – Grade 7

3-Part Lesson Format

Part 1 – Minds On!

- Learning Goals
- Discussion Questions
- Quotes
- And More!

Learning Goal

We are learning to recall and use division facts for numbers like 2, 5, 10, 3, 4, 6, 7, 8, and 9, and divide by 10, so we can solve problems with numbers quickly and easily.

Discussion Questions

- 1) How can you tell if a number is divisible? – If you look at a number like 24, how can you quickly decide if it is divisible by 2, 3, or 4 without dividing each time? What clues do you notice?
- 2) What's the fastest way to divide? – If you need to solve $72 \div 8$, would you rather skip count, use multiplication, or another strategy? Why?
- 3) Why does dividing by a bigger number make the answer smaller? – If you divide $48 \div 4$, you get 12, but if you divide $48 \div 8$, you get 6. Why does dividing by a bigger number give you a smaller answer?

Divisibility Check

Paste the sticky notes on the specified boards.

45 95 105 135 351 501 81 570 456 3456

Divisible by 5

Divisible by 9

Part 2 – Action!

- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!

- Exit Cards
- Quizzes
- Reflection
- And More!

Divisibility Rules - Word Problems

- 1) Eli says that all numbers divisible by 6 are also divisible by 3. Is Eli correct? Explain why or why not.
- 2) Sorrel says that all odd numbers are not divisible by 2. Is this always true? Explain why.
- 3) Kairo has 96 pencils. He wants to arrange them into equal rows of 7. Will there be any pencils left over? How do you know?



Saskatchewan Math Curriculum

Number Unit – Grade 7

Adding Decimals – Thousandths – No Regrouping

Use the standard algorithm to solve the addition problems below.

	3	3	.	4	6	2
+	4	6	.	5	2	1

	4	1	.	4	6	5
+	3	5	.	0	3	2

	3	1	6	.	4	1
+	1	6	3	.	2	5

	5	3	1	.	2	6
+	2	0	2	.	4	1

	3	3	
x		5	

2)			
	4	1	
x		3	

3)			
	5	7	
x		2	

4)			
	6	8	
x		8	

5)			
	7	7	
x		4	

6)			
	9	9	
x		9	

1)					
	1	3	.	2	6
x					7

2)					
	2	7	.	4	9
x					2

3)					
		4	.	3	3
x					5

4)					
	4	1	.	2	8
x					4

5)					
	6	7	.	9	6
x					8

6)					
	8	9	.	7	8
x					9



Use the standard algorithm to solve the multiplication problems below.



List at least three fractions between the numbers.

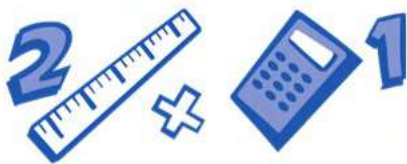
a 2-kilometre race with the following times. Put the cyclists in order from fastest to slowest.

Runner	Kai	Mira	Jalen	Priya	Owen	Ali
Time (s)	10.295	$9\frac{2}{6}$	9.228	10.559	$10\frac{5}{8}$	11.378



Workbook Preview





Grade 7

Strand: Number



	Curriculum Expectations	Pages
N7.1	Demonstrate an understanding of division through the development and application of divisibility strategies for 2, 3, 4, 5, 6, 8, 9, and 10, and through an analysis of division involving zero.	5-14
N7.2	Expand and demonstrate understanding of the addition, subtraction, multiplication, and division of decimals to greater numbers of decimal places, and the order of operations.	15-91
N7.3	Preview of 120 pages from this product that contains 420 pages total.	129, 148, 174
N7.4		130-142, 149-166
N7.5		175-195
N7.6	Demonstrate an understanding of addition and subtraction of integers, concretely, pictorially, and symbolically.	200-216
TQ	Tests and quizzes	92-95, 196-199, 217-218

Divisibility Rules

We can determine whether one whole number is divisible by another without doing division. We can use the following divisibility rules:

- A number is divisible by **2** if the last digit is even (0, 2, 4, 6, or 8)
- A number is divisible by **3** if the sum of the digits is divisible by 3
- A number is divisible by **4** if the last two digits form a number divisible by 4
- A number is divisible by **5** if the last digit is 0 or 5
- A number is divisible by **6** if the number is divisible by both 2 and 3
- A number is divisible by **8** if the number formed by its last three digits is divisible by 8.
- A number is divisible by **9** if the sum of the digits is divisible by 9
- A number is divisible by **10** if the last digit is a 0

Instruction

For each number on the left, place a checkmark under the numbers it is divisible by.

Number	2	3	4	6	8	9	10
1) 65							
2) 20							
3) 105							
4) 81							
5) 120							
6) 548							
7) 423							
8) 657							

Name: _____

6

Curriculum Connection
N7.1

Divisibility Rules – 2 and 3

We can determine whether one whole number is divisible by another without doing division. We can use the following divisibility rules:

- A number is divisible by **2** if the last digit is even (0, 2, 4, 6, or 8)
- A number is divisible by **3** if the sum of the digits is divisible by 3

Part 1 Is the number divisible by 2?

- 1) _____ 2) 953 _____
3) 2 682 _____ 4) 8 694 _____

Part 2 Is the number divisible by 3?

- 1) 268 _____
3) 1 458 _____ 4) 428 _____

Part 3 Which numbers are divisible by 2? Circle them.

41 58 162 247 358 355 583
685 714 805 901 1 025 1 714 2 058

Part 4 Which numbers are divisible by 3? Circle them.

73 58 84 105 215 324 515
645 683 729 806 1358 2355 5484

Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Is the number divisible by 2 or 3?

	Number	Divisible by 2?	Divisible by 3?
1)	5 002		
2)	3 789		
3)	8 136		
4)	10 046		
5)	7 815		
6)	18 029		

Name: _____

Is the number divisible by 2 or 3?

	Number	Divisible by 2?	Divisible by 3?
1)	5 002		
2)	3 789		
3)	8 136		
4)	10 046		
5)	7 815		
6)	18 029		

Name: _____

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Name: _____

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4)	10 046		
5)	7 815		
6)	18 029		

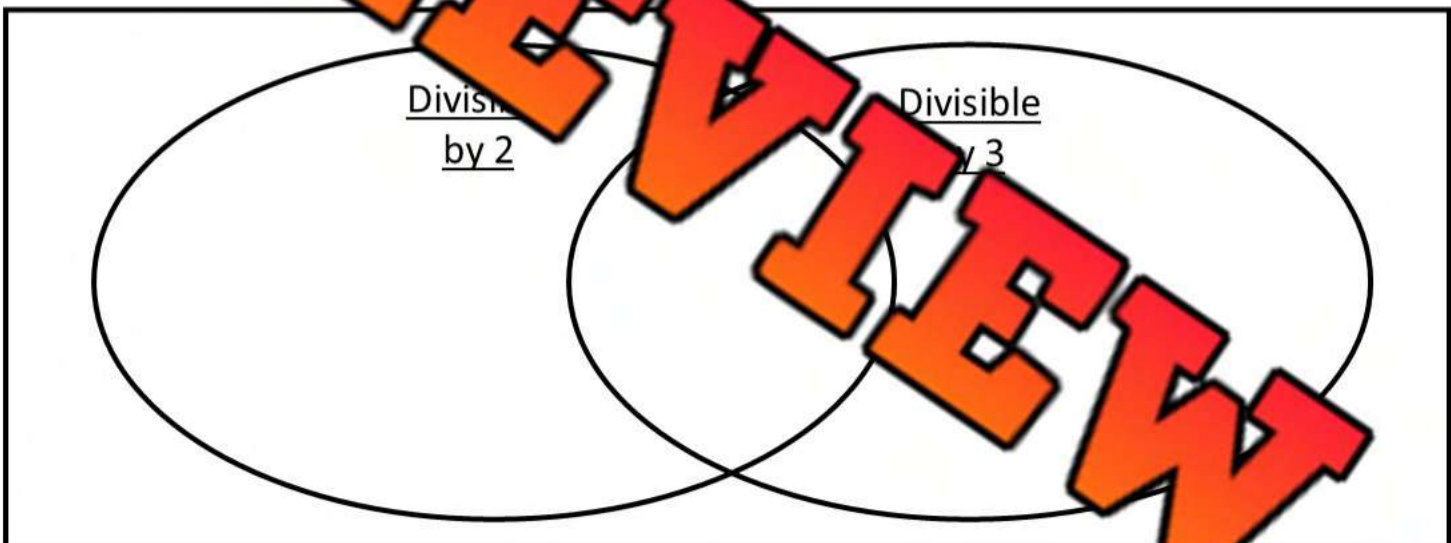
Divisibility Rules – 2 and 3

We can determine whether one whole number is divisible by another without doing division. We can use the following divisibility rules:

- A number is divisible by **2** if the last digit is even (0, 2, 4, 6, or 8)
- A number is divisible by **3** if the sum of the digits is divisible by 3

Part 1 Sort the numbers below using the Venn Diagram.

10		12	18	14	159	2628	153
122	21		40	42	3042	116	10



Part 2 Sort the numbers into the correct categories in the Carroll diagram.

	Less Than 100	More Than 100
Divisible by 2		
Divisible by 3		

Divisibility Rules – 6, 9, and 10

We can determine whether one whole number is divisible by another without doing division. We can use the following divisibility rules:

- A number is divisible by **6** if the number is divisible by both 2 and 3
- A number is divisible by **9** if the sum of the digits is divisible by 9
- A number is divisible by **10** if the last digit is a 0

Part 1 Is the number divisible by 6?

- 1) _____ 2) 741 _____
3) 2472 _____ 4) 4284 _____

Part 2 Is the number divisible by 9?

- 1) 208 _____ 2) 58 _____
3) 2331 _____ 4) 55 _____

Part 3 Is the number divisible by 10?

- 1) 230 _____ 2) 1685 _____
3) 3890 _____ 4) 6101 _____

Part 4 For each number on the left, place a check mark under the numbers it is divisible by:

Number	6	9	10
1) 204			
2) 450			
3) 624			
4) 1250			

Number	6	9	10
5) 2460			
6) 4734			
7) 7530			
8) 9410			

Divisibility Rules – Challenge

Part 1

The number is divisible by...

9 Is divisible by... 2 3 4 5 6 7 8 9 10	27 Is divisible by... 2 3 4 5 6 7 8 9 10	18 Is divisible by... 2 3 4 5 6 7 8 9 10	36 Is divisible by... 2 3 4 5 6 7 8 9 10
135 Is divisible by... 2 3 4 5 6 7 8 9 10	286 Is divisible by... 2 3 4 5 6 7 8 9 10	448 Is divisible by... 2 3 4 5 6 7 8 9 10	
605 Is divisible by... 2 3 4 5 6 7 8 9 10	2854 Is divisible by... 2 3 4 5 6 7 8 9 10	5971 Is divisible by... 2 3 4 5 6 7 8 9 10	
15912 Is divisible by... 2 3 4 5 6 7 8 9 10	22785 Is divisible by... 2 3 4 5 6 7 8 9 10	79568 Is divisible by... 2 3 4 5 6 7 8 9 10	

Part 2

Answer the word problems below.

1)	Why can a number not be divided by 0?
2)	Ben says all odd numbers are divisible by 3. Is he correct? Explain.
3)	Sarah has 193 treats to hand out to her party guests. She wants to put 9 treats in each bag. Will she have any treats left over? Explain.



Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class.

Name: _____

The number is divisible by...

5288 Is divisible by... 2 3 4 5 6 7 8 9 10	7917 Is divisible by... 2 3 4 5 6 7 8 9 10
8867 Is divisible by... 2 3 4 5 6 7 8 9 10	148362 Is divisible by... 2 3 4 5 6 7 8 9 10

Lisa has 1234 candies and wants to make small bags containing 9 candies each. Will there be any candies left over? How do you know?

Name: _____

The number is divisible by...

5288 Is divisible by... 2 3 4 5 6 7 8 9 10	7917 Is divisible by... 2 3 4 5 6 7 8 9 10
8867 Is divisible by... 2 3 4 5 6 7 8 9 10	148362 Is divisible by... 2 3 4 5 6 7 8 9 10

Lisa has 1234 candies and wants to make small bags containing 9 candies each. Will there be any candies left over? How do you know?

Name: _____

The number is divisible by...

5288 Is divisible by... 2 3 4 5 6 7 8 9 10	7917 Is divisible by... 2 3 4 5 6 7 8 9 10
8867 Is divisible by... 2 3 4 5 6 7 8 9 10	148362 Is divisible by... 2 3 4 5 6 7 8 9 10

Lisa has 1234 candies and wants to make small bags containing 9 candies each. Will there be any candies left over? How do you know?

Name: _____

The number is divisible by...

5288 Is divisible by... 2 3 4 5 6 7 8 9 10	7917 Is divisible by... 2 3 4 5 6 7 8 9 10
8867 Is divisible by... 2 3 4 5 6 7 8 9 10	148362 Is divisible by... 2 3 4 5 6 7 8 9 10

Lisa has 1234 candies and wants to make small bags containing 9 candies each. Will there be any candies left over? How do you know?

Mental Math – Adding Decimals – Place Value**Directions:**

1. Add the decimals
2. Add the whole numbers
3. Add the two answers together



$5.54 + 3.72$

$0.04 + 0.02 = 0.06$

$0.5 + 0.7 = 1.20$

$5.00 + 3.00 = 8.00$

$0.06 + 1.20 + 8 = 9.26$

$34 + 1.45$

$0.05 = 0.09$

0.70

2.00

0.09

$3.67 + 4.22$

$5.25 + 4.65$

$16.46 + 5.23$

$25.46 + 12.32$

26.37

$28.56 + 13.26$

$36.34 + 23.26$

Mental Math – Adding Decimals – Adding Chunks

Directions:

1. Keep the bigger number the same
2. Add the other whole number to the bigger number
3. Add the decimal your answer



$$5.53 + 3.74$$

$$5.53 + 3 = 8.53$$

$$8.53 + 0.7 = 9.23$$

$$9.23 + 0.04 = 9.27$$

$$32 + 2.45$$

$$32 + 2 = 34$$

$$34 + 0.45 = 34.45$$

$$34.45 + 0.72 = 35.17$$

$$1.57 + 4.42$$

$$5.64 + 5.34$$

$$14.53 + 6.34$$

$$18.43 + 14.24$$

$$29.34$$

$$34.56 + 12.36$$

$$42.53 + 35.42$$

Adding Decimals – Thousandths – No Regrouping

Instruction

Use the standard algorithm to solve the addition problems below.

1)

$$\begin{array}{r} 53.131 \\ + 32.427 \\ \hline \end{array}$$

2)

$$\begin{array}{r} 44.553 \\ + 21.225 \\ \hline \end{array}$$

3)

$$\begin{array}{r} 31.452 \\ + 12.427 \\ \hline \end{array}$$

4)

$$\begin{array}{r} 56.132 \\ + 31.313 \\ \hline \end{array}$$

5)

$$\begin{array}{r} 42.867 \\ + 24.127 \\ \hline \end{array}$$

7)

$$\begin{array}{r} 72.323 \\ + 26.556 \\ \hline \end{array}$$

8)

$$\begin{array}{r} 31.255 \\ + 41.103 \\ \hline \end{array}$$

9)

$$\begin{array}{r} 60.684 \\ + 22.302 \\ \hline \end{array}$$

10)

$$\begin{array}{r} 44.297 \\ + 32.602 \\ \hline \end{array}$$

11)

$$\begin{array}{r} 73.247 \\ + 21.427 \\ \hline \end{array}$$

12)

$$\begin{array}{r} 24.368 \\ + 24.431 \\ \hline \end{array}$$

13)

$$\begin{array}{r} 32.384 \\ + 15.314 \\ \hline \end{array}$$

14)

$$\begin{array}{r} 46.846 \\ + 41.012 \\ \hline \end{array}$$

15)

$$\begin{array}{r} 38.348 \\ + 41.641 \\ \hline \end{array}$$

16)

$$\begin{array}{r} 63.724 \\ + 34.352 \\ \hline \end{array}$$

17)

$$\begin{array}{r} 63.246 \\ + 4.413 \\ \hline \end{array}$$

18)

$$\begin{array}{r} 14.547 \\ + 24.327 \\ \hline \end{array}$$

19)

$$\begin{array}{r} 63.672 \\ + 36.124 \\ \hline \end{array}$$

20)

$$\begin{array}{r} 42.365 \\ + 53.432 \\ \hline \end{array}$$

Adding Decimals - Regrouping

Part 1

Use the standard algorithm to solve the addition problems below.

1) $\begin{array}{r} 63.722 \\ + 25.43 \\ \hline \end{array}$	2) $\begin{array}{r} 65.458 \\ + 23.323 \\ \hline \end{array}$	3) $\begin{array}{r} 38.345 \\ + 26.537 \\ \hline \end{array}$	4) $\begin{array}{r} 35.256 \\ + 41.632 \\ \hline \end{array}$
5) $\begin{array}{r} 26.456 \\ + 17.33 \\ \hline \end{array}$	6) $\begin{array}{r} 56.28 \\ + 3.5 \\ \hline \end{array}$	7) $\begin{array}{r} 28.265 \\ + 17.632 \\ \hline \end{array}$	8) $\begin{array}{r} 66.574 \\ + 29.213 \\ \hline \end{array}$
9) $\begin{array}{r} 192.673 \\ + 325.235 \\ \hline \end{array}$	10) $\begin{array}{r} 374.214 \\ + 53.523 \\ \hline \end{array}$	11) $\begin{array}{r} 2.5 \\ + 3 \\ \hline \end{array}$	12) $\begin{array}{r} 652.514 \\ + 95.337 \\ \hline \end{array}$

Part 2

Answer the word problems below.

1) Neill just ran a 200m race. He ran the first 100m in 12.326 seconds and the second 100m in 13.63 seconds. How long did it take him to finish the race?



2) Erica's pet snake was 17.425cm long when she got it. The snake grew 4.39cm in the last year. How long is the snake now?



Mental Math – Subtracting Decimals – Counting Up**Directions:**

1. Start with the smaller number
2. Count up from the smaller number to the bigger number to find the difference
3. The difference is the answer

$$7.63 - 2.41$$

2.41 + 0.21 = 2.62
2.62 + 4 = 6.62
6.62 + 0.63 = 7.25
Answer = 5.22

$$4.62 - 3.31$$

$$8.56 - 7.15$$

$$9.67 - 7.15$$

$$13.64 - 11.84$$

$$5.12 - 4.8$$

$$27.37 - 22.83$$

$$37.62 - 32.91$$

Mental Math – Subtracting Decimals – Subtracting Chunks**Directions:**

1. Keep the bigger number the same
2. Subtract the other whole number from the bigger number
3. Subtract the decimal from your answer

$$6.36 - 3.51$$

$$6.36 - 3 = 3.36$$

$$3.36 - 0.50 = 2.86$$

$$2.86 - 0.01 = 2.85$$

$$4.68 - 2.42$$

$$4.68 - 2 = 2.68$$

$$2.68 - 0.4 = 2.28$$

$$2.28 - 0.02 = 2.26$$

$$4.72 - 3.15$$

$$9.25 - 7.1$$

$$16.57 - 11.76$$

$$21.55 - 6.42$$

$$9 - 7.1$$

$$53.68 - 12.72$$

$$77.35 - 45.75$$

Subtracting Decimals – Thousandths – No Borrowing**Instruction**

Use the standard algorithm to solve the subtraction problems below.

1) $\begin{array}{r} 65.755 \\ - 32.523 \\ \hline \end{array}$	2) $\begin{array}{r} 45.362 \\ - 42.212 \\ \hline \end{array}$	3) $\begin{array}{r} 74.968 \\ - 53.733 \\ \hline \end{array}$	4) $\begin{array}{r} 45.479 \\ - 24.331 \\ \hline \end{array}$
5) $\begin{array}{r} 78.79367 \\ - 41.240 \\ \hline \end{array}$	6) $\begin{array}{r} 93.67 \\ - 5 \\ \hline \end{array}$	7) $\begin{array}{r} 76.856 \\ - 24.322 \\ \hline \end{array}$	8) $\begin{array}{r} 91.578 \\ - 81.224 \\ \hline \end{array}$
9) $\begin{array}{r} 782.663 \\ - 642.150 \\ \hline \end{array}$	10) $\begin{array}{r} 962.663 \\ - 821.350 \\ \hline \end{array}$	11) $\begin{array}{r} 83.25 \\ - 2.5 \\ \hline \end{array}$	12) $\begin{array}{r} 550.793 \\ - 30.451 \\ \hline \end{array}$
13) $\begin{array}{r} 337.359 \\ - 214.336 \\ \hline \end{array}$	14) $\begin{array}{r} 548.86 \\ - 436.03 \\ \hline \end{array}$	15) $\begin{array}{r} 557.89 \\ - 442.71 \\ \hline \end{array}$	16) $\begin{array}{r} 74.64 \\ - 454.32 \\ \hline \end{array}$
17) $\begin{array}{r} 593.49 \\ - 452.47 \\ \hline \end{array}$	18) $\begin{array}{r} 845.75 \\ - 523.54 \\ \hline \end{array}$	19) $\begin{array}{r} 357.69 \\ - 132.30 \\ \hline \end{array}$	20) $\begin{array}{r} 546.34 \\ - 226.20 \\ \hline \end{array}$

Subtracting Decimals - Borrowing

Part 1

Use the standard algorithm to solve the subtraction problems below.

1) $\begin{array}{r} 63.743 \\ - 25.61 \\ \hline \end{array}$	2) $\begin{array}{r} 75.475 \\ - 53.743 \\ \hline \end{array}$	3) $\begin{array}{r} 34.463 \\ - 22.632 \\ \hline \end{array}$	4) $\begin{array}{r} 82.542 \\ - 43.535 \\ \hline \end{array}$
5) $\begin{array}{r} 86.276 \\ - 37.33 \\ \hline \end{array}$	6) $\begin{array}{r} 76.46 \\ - 5. \\ \hline \end{array}$	7) $\begin{array}{r} 38.254 \\ - 27.631 \\ \hline \end{array}$	8) $\begin{array}{r} 76.548 \\ - 59.284 \\ \hline \end{array}$
9) $\begin{array}{r} 652.644 \\ - 345.373 \\ \hline \end{array}$	10) $\begin{array}{r} 557.236 \\ - 353.534 \\ \hline \end{array}$	11) $\begin{array}{r} 6. \\ - 3. \\ \hline \end{array}$	12) $\begin{array}{r} 572.589 \\ - 265.323 \\ \hline \end{array}$

Part 2

Answer the word problems below.

1) Wyatt weighed a Blue Jay feather, and it was 2.035 grams. He also weighed a feather from an owl, and it weighed 4.39 grams. How much more did the owl's feather weigh?



2) A 5-dollar bill weighs 1.0243 grams. A Toonie weighs 6.929 grams. How much more does a Toonie weigh?



Multiplication - 2 x 2 Digits

Part 1

Use the standard algorithm to solve the multiplication problems below.

1)			
		6	3
	x		9

2)			
		8	8
	x	5	4

3)			
		4	6
	x	8	3

4)			
		4	8
	x	3	7

5)			
		8	5
	x	7	8

6)			
		8	3
	x	6	

7)			
		8	3
	x		9

8)			
		3	9
	x	6	3

Part 2

Solve the word problems below.

1) Joseph is planning a group trip to a sporting event. He has 31 people going to the event and each person is paying \$64. How much money is Joseph collecting from everyone?



2) Aria hands out a lot of candy on Halloween. She decided to buy 23 boxes of candy. Each box has 95 candies in it. How many candies did she buy in total?



Multiplication – 2 x 2 Digits

Part 1

Use the standard algorithm to solve the multiplication problems below.

1) $\begin{array}{r} 67 \\ \times 5 \\ \hline \end{array}$	2) $\begin{array}{r} 55 \\ \times 33 \\ \hline \end{array}$	3) $\begin{array}{r} 85 \\ \times 62 \\ \hline \end{array}$	4) $\begin{array}{r} 24 \\ \times 15 \\ \hline \end{array}$	5) $\begin{array}{r} 78 \\ \times 44 \\ \hline \end{array}$
6) $\begin{array}{r} 84 \\ \times 54 \\ \hline \end{array}$	7) $\begin{array}{r} 96 \\ \times 54 \\ \hline \end{array}$	8) $\begin{array}{r} 76 \\ \times 95 \\ \hline \end{array}$	9) $\begin{array}{r} 38 \\ \times 22 \\ \hline \end{array}$	10) $\begin{array}{r} 78 \\ \times 25 \\ \hline \end{array}$
11) $\begin{array}{r} 48 \\ \times 67 \\ \hline \end{array}$	12) $\begin{array}{r} 52 \\ \times 41 \\ \hline \end{array}$	13) $\begin{array}{r} 64 \\ \times 32 \\ \hline \end{array}$	14) $\begin{array}{r} 22 \\ \times 32 \\ \hline \end{array}$	15) $\begin{array}{r} 68 \\ \times 53 \\ \hline \end{array}$

Part 2

Solve the word problems below.

1) Harper played 42 games of basketball last season. She scored 17 points per game. How many points did she score in total for the season?



2) Brianna blinks 18 times a minute. How many times does she blink in one hour?



Name: _____

34

Curriculum Connection
N7.2

Multiplication – 2 x 2 Digits

Step 1: Setup up the Area Model

$32 \times 17 = \underline{\hspace{2cm}}$

	30	2
10		
7		

Step 2: Multiply

$32 \times 17 = \underline{\hspace{2cm}}$

	30	2
10	30 x 10 300	10 x 2 20
7	30 x 7 210	7 x 2 14

Step 3: Add

$32 \times 17 = 544$

	30	2
10	300	20
7	210	14

$300 + 210 + 20 + 14 = 544$

Instructions: Use the area model to solve the multiplication problems below.

1) $56 \times \underline{\hspace{2cm}}$

2) $37 \times 53 = \underline{\hspace{2cm}}$

3) $73 \times 41 = \underline{\hspace{2cm}}$

4) $57 \times 36 = \underline{\hspace{2cm}}$

5) $78 \times 56 = \underline{\hspace{2cm}}$

6) $84 \times 64 = \underline{\hspace{2cm}}$

Front-End Estimation – Multiplication Using Decimals

Instruction

Use front-end estimation to round to the nearest whole number.

1) Question	$5.31 \times 5 = ?$
Front-End Estimation Version	$5 \times 5 = 25$

2) Question	$8.82 \times 7 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

3) Question	$6.31 \times 4 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

4) Question	$9.87 \times 8 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

5) Question	$1.83 \times 6 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

6) Question	$19.48 \times 4 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

7) Question	$22.13 \times 9 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

8) Question	$29.94 \times 6 = ?$
Front-End Estimation Version	_____ $\times$ _____ = _____

Front-End Estimation – Multiple Choice

Instruction

Which estimate is the best? Use a front-end estimate to make your choice.

1) 9.34×6 a) 48 b) 54 c) 66 d) 50	2) 7.12×4 a) 32 b) 21 c) 28 d) 35
3) 5.26×6 a) 48 b) 32 c) 52 d) 40	4) 3.45×7 a) 21 b) 28 c) 35 d) 32
5) 8.36×5 a) 48 b) 40 c) 35 d) 32	6) 12.1×6 a) 50 b) 72 c) 66 d) 72
7) 15.37×4 a) 45 b) 30 c) 75 d) 60	8) 25.04×4 a) 90 b) 125 c) 100 d) 110
9) 20.44×6 a) 100 b) 120 c) 80 d) 110	10) 30.51×3 a) 90 b) 60 c) 75 d) 110

Front-End Estimation – Becky’s Shop

Becky runs a bakery where she sells bread, muffins, and cookies. She always uses front-end estimation when charging her customers. They appreciate it because the final price is always underestimated.



Menu	Cost
Bread	\$3.19
Muffins	\$2.25
Cookies	\$1.49

Instruction Use front-end estimation to calculate how much customers owe Becky.

1) One customer purchased 3 loaves of bread and 2 muffins. How much did Becky charge them?

2) A customer ordered 1 cookie and 1 loaf of bread. How much do they owe Becky?

3) A customer ordered 5 of each item on the menu. How much do they owe Becky?

4) A customer used a \$20 bill to buy 4 loaves of bread and 3 cookies. How much change does Becky owe them?

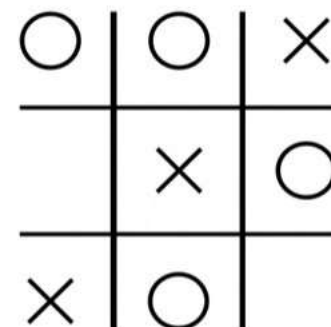
5) A customer ordered 4 muffins and 4 cookies. The customer right after said they wanted the same thing. How much did Becky earn on the 2 sales?

Math Tic-Tac-Toe: 1-Digit Multiplier

Objective

What are we learning about?

To help students practise solving decimal multiplication problems with a 1-digit multiplier in a fun and interactive way through a Tic-Tac-Toe game.



Material

What you will need for the activity.

- Whiteboard or paper
- Markers – other than the different markers
- Math Tic-Tac-Toe grid template (to be drawn on the whiteboard or printed on paper)

Instructions

How you will complete it

1. Find a partner to play the game with.
2. The goal is to solve decimal multiplication problems and place your marker (X or O).
3. One player will be "X" and the other will be "O".
4. Take turns choosing a square and solving the problem in that square.
5. Write down the solution below the equation and place your marker (X or O) in the square.
6. If a player chooses a square and solves the equation incorrectly, they do not get to place their marker in that square. The other player gets a chance to solve it correctly and place their marker.
7. The first player to get three markers in a row (horizontally, vertically, and diagonally) wins the game. Continue playing with different tic-tac-toe grids on the sheet.

Name: _____

Tic-Tac-Toe

Use the following tic-tac-toe grids for the game.

5. 4 3 x 4	7. 6 3 x 7	7. 9 6 x 6
5. 7 2 x 2	3. 2 5 x 4	9. 1 8 x 5
6. 4 1 x 8	2. 6 7 x 9	7. 5 5 x 3

4. 2 2 x 6	5. 3 4 x 7	8. 1 6 x 4
7. 2 5 x 5	6. 4 3 x 3	3. 7 6 x 8
9. 1 8 x 2	2. 4 5 x 9	5. 6 7 x 4

7. 2 2 x 6	5. 7 6 x 2	9. 1 7 x 5
3. 2 7 x 9	6. 4 5 x 4	2. 6 8 x 7

5. 2 2 x 7	8. 1 8 x 6	7. 3 3 x 4
4. 3 4 x 3	5. 7 6 x 2	2. 6 7 x 4

6. 3 8 x 9	7. 2 2 x 3	8. 4 5 x 5
4. 3 4 x 2	5. 7 6 x 8	9. 1 2 x 7
3. 2 7 x 4	6. 4 5 x 6	2. 6 8 x 5

7. 2 2 x 5	8. 1 6 x 3	6. 3 3 x 7
5. 4 5 x 2	4. 3 4 x 8	9. 7 6 x 6
3. 1 8 x 9	6. 4 5 x 4	2. 6 7 x 7

Multiplication – 1-Digit Multiplier – Apple Trees

Instruction

Solve the word problems below.

Ross owns a small apple tree farm. He is trying to figure out how many apples he will grow this summer.

- a) On average, one apple tree has 42 branches. Each branch grows 7 apples on average. How many apples grow on one apple tree?



- b) Ross has 10 apple trees on his small farm. How many apples will he grow this summer?



- c) Ross plans to charge \$2.64 per apple. If he sells 8 apples in a day, how much will he earn per day?



- d) How much will Ross earn per week if he continues to sell 8 apples a day?



- e) Ross expects to grow apples for 9 weeks. How much will he earn after the 9 weeks if he sells 8 apples per day?



Multiplication – 2-Digit Multipliers - Earnings

Instruction

Solve the word problems below.

Kevin is a high-school student who just started a new job. He is excited to start earning money, so he is calculating how much he will make. A schedule of his 6 weeks of work is listed below.



	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Hours	11	13	15	21	22	12

- 1) For his first week of work, Kevin will earn only \$9.25 per hour because he is just being paid a trial rate. How much will he earn in week 1?
- 2) For his second week of work, Kevin begins earning \$14.75 per hour. How much will he earn in week 2?
- 3) How much will Kevin earn in week 3 if he continues earning \$14.75 per hour?
- 4) If Kevin continues earning \$14.75 for weeks 2-6, how much money will he make in his first 6 weeks?



Multiplying Decimals by Benchmark Numbers

Rules

- 1) Any decimal number multiplied by one is that decimal number
- 2) One tenth x one tenth results in a hundredth product
- 3) One tenth x one hundredth results in a thousandths products
- 4) One hundredth x one hundredth results in a ten thousandths product



Instruction Fill in the table below:

	Num	x 1	x 0.1	x 0.01	x 0.001
1)			0.01	0.001	0.0001
2)	0.5				
3)	0.3				
4)	0.2				
5)	0.8				
6)	0.9				
7)	2.4	2.4	0.24	0.024	0.0024
8)	8.6				
9)	15.5				
10)	22.8				
11)	0.01	0.01	0.001	0.0001	0.00001
12)	0.35				
13)	0.95				
14)	1.54				
15)	6.89				
16)	12.85				

Name: _____

48

Curriculum Connection
N7.2

Multiplying Decimals Numbers

Step 1: Setup up the Area Model

$$23.5 \times 0.3 = \underline{\hspace{2cm}}$$

	23	0.5
0.3		

Step 2: Multiply

$$23.5 \times 0.3 = \underline{\hspace{2cm}}$$

	23	0.5
0.3	23×0.3 6.9	23×0.5 0.15

Step 3: Add

$$23.5 \times 0.3 = \underline{7.05}$$

	23	0.5
0.3	23×0.3 6.9	23×0.5 0.15

$$6.90 + 0.15 = 7.05$$

Instructions: Use the area model to solve the multiplication problems below:

1) $17.2 \times 0.5 =$

2) $31.1 \times 0.2 =$

3) $36.5 \times 0.4 =$

4) $44.3 \times$

5) $18.8 \times 0.5 =$

6) $52.6 \times 0.6 =$

Multiplying Decimals Numbers

Part 1

Use the standard algorithm to solve the multiplication problems below.

1) $\begin{array}{r} 5. \\ \times 0.50 \\ \hline \end{array}$	2) $\begin{array}{r} 7.37 \\ \times 50 \\ \hline \end{array}$	3) $\begin{array}{r} 12.17 \\ \times 0.30 \\ \hline \end{array}$	4) $\begin{array}{r} 25.41 \\ \times 0.60 \\ \hline \end{array}$	5) $\begin{array}{r} 32.37 \\ \times 0.40 \\ \hline \end{array}$
6) $\begin{array}{r} 43.53 \\ \times 0.50 \\ \hline \end{array}$	7) $\begin{array}{r} 36.42 \\ \times 0.80 \\ \hline \end{array}$	8) $\begin{array}{r} 56.8 \\ \times 0.60 \\ \hline \end{array}$	9) $\begin{array}{r} 8.48 \\ \times 0.70 \\ \hline \end{array}$	10) $\begin{array}{r} 75.23 \\ \times 0.70 \\ \hline \end{array}$

Part 2

Answer the word problem below.

Ryan bikes for 8.5 hours at a speed of 15.2km per hour. How far did Ryan bike?



Name: _____

54

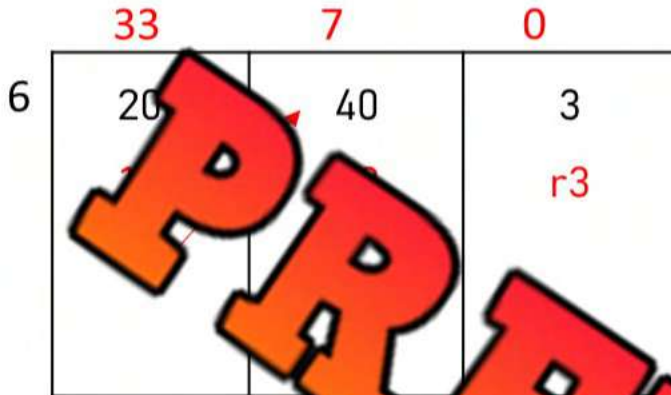
Curriculum Connection
N7.2

Division – Area Model

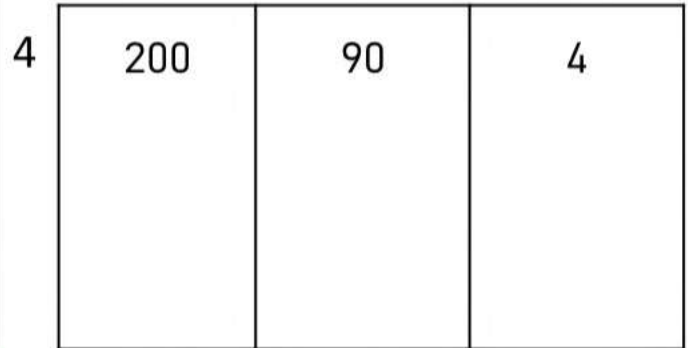
Instruction

Use the area model to answer the division questions below.

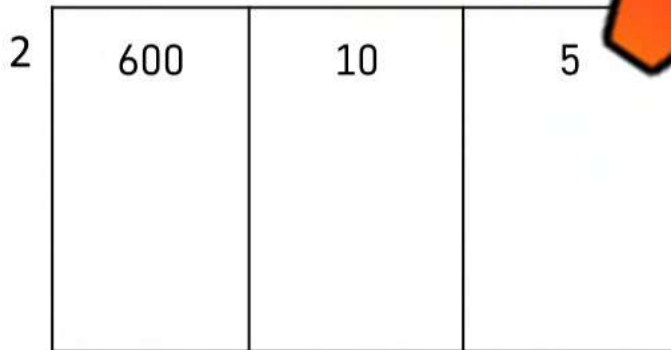
1) $243 \div 6 = 40r3$ (16+4)



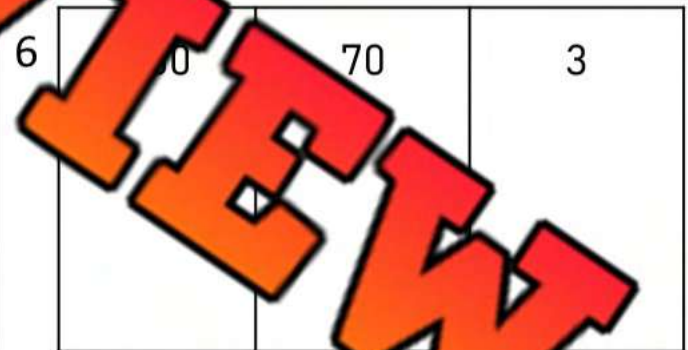
2) $294 \div 4$



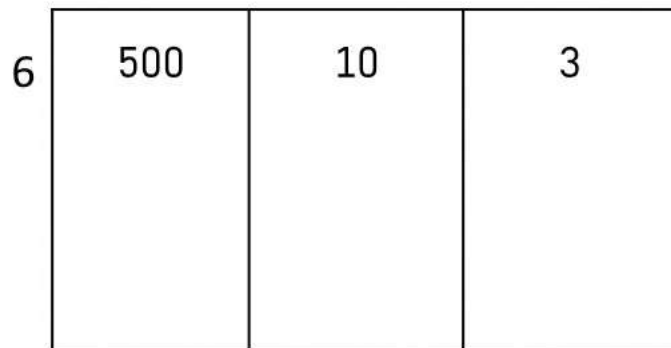
3) $615 \div 2$



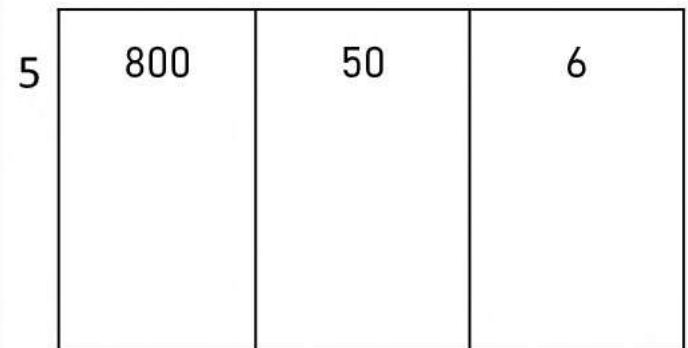
4) $473 \div 6$



5) $513 \div 6$



6) $856 \div 5$



Name: _____

59

Task Cards: Division – 3 by 1 – With Remainders

Objective

What are we learning about?

Students will practice dividing 3-digit numbers by 1-digit numbers and understand the concept of remainders.

Materials

What you will need for the activity.

- 24 task cards
- Answer sheet for answers
- Pen or pencil

$$\begin{array}{r} \text{quotient} \\ \text{divisor} \overline{) \text{dividend}} \\ \hline \text{remainder} \end{array}$$

Instructions

What you will do for the activity

1. Begin by explaining the importance of understanding how to handle remainders in division problems.
2. Organize the students into pairs and provide each pair with their sets of task cards.
3. Give each pair an answer recording sheet to document their answers.
4. Encourage teamwork by having students collaborate on finding solutions.
5. Allow students to select any task card to begin with, emphasizing that they can complete the cards in any order they prefer.
6. Instruct students to record the letter of their chosen answer (A, B, or C) on their answer sheet beside the task card's number.
7. Consider using a timer to create a dynamic challenge, adjusting the duration to fit the lesson's objectives and complexity.
8. After the activity, review the answers collectively, discussing any challenging patterns and strategies used to solve them.
9. Have students reflect on the activity, sharing the methods they applied and obstacles they overcame.

Name: _____

60

Task Cards

Cut out the task cards below.

Card 1:

$$7 \overline{) 831}$$

- a) 118 r6
- b) 117 r5
- c) 118 r5

Card 5:

$$4 \overline{) 574}$$

- a) 143 r3
- b) 143 r2
- c) 144 r1

Card 6:

Lily has \$624 to spend on 7 books. How much can she spend on each book on average? Round your answer to find the best choice.

- a) 88
- b) 89
- c) 90

Card 3:

$$7 \overline{) 489}$$

- a) 69 r5
- b) 70 r0
- c) 69 r6

Card 7:

Emil collected 426 shells and wants to divide them into bags with 7 shells each. How many bags will he have? How many shells will be left over?

- a) 72 r6
- b) 93 r2
- c) 91 r5

Card 4:

A farmer has 932 apples and packs them into bags of 9 apples each. How many bags will there be? How many apples will be left over?

- a) 103 r3
- b) 102 r4
- c) 103 r5

Card 8:

$$5 \overline{) 823}$$

- a) 164 r3
- b) 164 r2
- c) 165 r3

Name: _____

61

Task Cards

Cut out the task cards below.

Card 9:

$$\begin{array}{r} 3 \overline{) 904} \end{array}$$

- a) 301 r1
- b) 300 r2
- c) 302 r0

Card 13:

Olivia has 813 marbles and wants to put them into bags of 9 marbles each. How many bags will she have? How many marbles will be left over?

- a) 90 r2
- b) 90 r3
- c) 90 r1

Card 14:

Mark has \$582 to buy 7 video games. How much can he spend on each game on average? Round your answer to find the best choice.

- a) 58 r3
- b) 60 r2
- c) 58 r2

- a) 85
- b) 84
- c) 83

Card 11:

$$\begin{array}{r} 7 \overline{) 678} \end{array}$$

- a) 96 r6
- b) 97 r5
- c) 95 r7

Card 15:

$$\begin{array}{r} 9 \overline{) 207} \end{array}$$

- a) 207 r1
- b) 237 r1
- c) 238 r3

Card 12:

$$\begin{array}{r} 9 \overline{) 715} \end{array}$$

- a) 79 r4
- b) 79 r5
- c) 80 r3

Card 16:

A bookstore has 723 books and wants to arrange them in shelves with 5 books each. How many books will be on each shelf? How many books will be left over?

- a) 143 r2
- b) 144 r3
- c) 144 r2

Name: _____

62

Task Cards

Cut out the task cards below.

Card 17:

$$\begin{array}{r} 5 \overline{) 827} \end{array}$$

- a) 165 r2
- b) 164 r1
- c) 165 r3

Card 21:

$$\begin{array}{r} 4 \overline{) 476} \end{array}$$

- a) 119 r0
- b) 119 r1
- c) 120 r2

Card 22:

A box contains 867 marbles. If each packet can hold 8 marbles, how many packets will there be? How many marbles will be left?

- a) 108 r3
- b) 108 r4
- c) 109 r2

Card 19:

Jake has 734 candies and wants to distribute them evenly among 6 friends. How many candies will each friend get? How many candies will be left over?

- a) 122 r3
- b) 122 r4
- c) 122 r2

Card 20:

$$\begin{array}{r} 7 \overline{) 883} \end{array}$$

- a) 126 r1
- b) 126 r0
- c) 127 r2

Card 24:

Lily has 784 beads and wants to divide them into boxes of 7 beads each. How many boxes does she need? How many beads will be left over?

- a) 111 r5
- b) 111 r6
- c) 112 r0

Name: _____

63

Curriculum Connection
N7.2

Task Cards: Division

Answers

Record your answers below:

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	

Dividing Decimals – Removing Decimal

When dividing a decimal, we can remove the decimal and treat it as a whole number. We can do this as long as we add the decimal at the end.

Steps:

- 1) Remove the decimal
- 2) Calculate how many times the smaller number (divisor) fits into the dividend
- 3) Use front-end estimation to determine an estimated answer and add the decimal back to your final answer

Instructions: Follow the steps above to calculate the answer.

Question	$3.30 \div 2 = ?$
Step 1 and 2	$330 \div 2 = 165$
Step 3	$3.00 \div 2 = 1.5$ so therefore, put the decimal between the 1 and 6
Answer	<u>1.65</u>

2) Question	$\quad \div \quad = ?$
Step 1 and 2	
Step 3	
Answer	

3) Question	$1.32 \div 4 = ?$
Step 1 and 2	
Step 3	
Answer	

4) Question	$3.45 \div 3 = ?$
Step 1 and 2	
Step 3	
Answer	

Name: _____

67

Curriculum Connection
N7.2

Dividing Decimals – Removing Decimal

Instruction

Follow the steps above to calculate the answer.

1) Question	$5.38 \div 2 = ?$
Step 1 and 2	
Step 3	
Answer	

2) Question	$6.75 \div 5 = ?$
Step 1 and 2	
Step 3	
Answer	

3) Question	$80 \div 4 = ?$
Step 1 and 2	
Step 3	
Answer	

4) Question	$3.12 \div 6 = ?$
Step 1 and 2	
Step 3	
Answer	

5) Question	$8.35 \div 5 = ?$
Step 1 and 2	
Step 3	
Answer	

Division – Decimal Numbers

Part 1 How many times can you divide the bigger number by the smaller number?

1) $2 \overline{) 4.88}$	2) $3 \overline{) 9.63}$	3) $2 \overline{) 8.48}$	4) $4 \overline{) 8.60}$
5) $4 \overline{) 4.88}$	6) $8 \overline{) 4.88}$	7) $5 \overline{) 6.39}$	8) $6 \overline{) 6.48}$

Part 2 Use an area model to solve the word problems below.

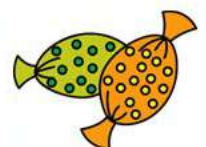
1, An ice cream tub has 2.07kg of ice cream inside. There are 9 servings of ice cream.

a) How many kg of ice cream are there per serving?

b) How many grams are in each serving?



2) A bag of 8 candies weighs 184g. How much does each candy weigh?



Division – Decimal Word Problems

Instruction

Solve the word problems below.

1) Tim bought 6 of the same candies for \$6.48. How much did each candy cost?



2) Shannon bought 8 raffle tickets for \$4.24. How much was each ticket?



3) Leah bought 5 coffees for her friends and herself. The coffees cost her \$10.45. How much money did each coffee cost?



4) Sam paid \$9.36 for 3 ice cream treats. How much did each treat cost?



Dividing Decimals – Scaling by 10

We can make a division statement easier by scaling it to make both numbers whole numbers.

Example:

$70.5 \div 0.5$ can be scaled by 10 (multiplied by 10), so that the question is $705 \div 5 = 141$, therefore, $70.5 \div 0.5 = 141$

***When you scale numbers in a number sentence, we scale them by the same number for both sentences to be equivalent.

Instructions: Scale the division sentence by 10 and then solve.

1) Original	$10.5 \div 0.5 =$
Scaled by 10	
2) Original Question	$10.3 =$
Scaled by 10	
3) Original Question	$8.8 \div$
Scaled by 10	
4) Original Question	$12.6 \div 0.6 =$
Scaled by 10	
5) Original Question	$21.7 \div 0.7 =$
Scaled by 10	

Dividing Decimals – Scaling by 100

Instruction

Scale the division sentence by 100 and then solve.

1) Original Question	$2.34 \div 0.18 =$
Scaled by 10	
2) Original Question	$5.5 \div 0.25 =$
Scaled by 10	
3) Original Question	$6.12 \div 0.36 =$
Scaled by 10	
4) Original Question	$1 \div 0.01 =$
Scaled by 10	

Word Problems

Answer the word problems below.

1) Roman bought 9.12kg of canned tomatoes. Each can holds 0.48kg. How many cans did he buy?



2) Lillian returned a bag of cans and received \$4.85. She received \$0.05 for each can she returned. How many cans did she return?



Dividing Whole Numbers by Tenths

When dividing a whole number by a decimal, it is easiest to get rid of the decimal number. We can do this by multiplying both numbers by 10 or more depending on how small the decimal is. For a decimal number to the tenth, we multiply by 10.

Directions – $180 \div 0.3$

- 1) $0.3 \times 10 = 3$
- 2) Since we multiplied the decimal by 10, we must also multiply the other number by 10. So $180 \times 10 = 1800$
- 3) So now we have $1800 \div 3$ (they are both 10 times larger)
- 4) $1800 \div 3 = 600$ and therefore $180 \div 0.3 = 600$

Instruction: Write the answer in the box below:

	Question	Decimal	Whole Number x 10	New Question	Answer
1)	$150 \div 0.2$	2	1500	$1500 \div 2 =$	750
2)	$200 \div 0.4$				
3)	$100 \div 0.5$				
4)	$360 \div 0.3$				
5)	$390 \div 0.6$				
6)	$420 \div 0.7$				
7)	$450 \div 0.2$				
8)	$400 \div 0.8$				

Dividing Decimals by Whole Numbers

Instruction

Use the area model to answer the division questions below. #1 is done for you.

1) $0.844 \div 4$

0.844 is really 844 thousandths

4	80	40	4
			1

Therefore, 0.844 divided into 4 is 0.211
thousandths or 0.211

2) $0.224 \div 2$

2	200	20	4

3) $0.363 \div 3$

3	300	60	3

$0.396 \div 4$

4	400	90	6

5) $0.455 \div 5$

5	400	50	5

6) $0.488 \div 8$

8	400	80	8

Order of Operations - Decimals

Instruction

Find out the value of the variables using BEDMAS.

1) $2 \times (2.5 + 5) =$	2) $4 \times (10 - 7.5) =$	3) $5 \times 4 + (10.5 + 4) =$
4) $(15.7 \times 2) =$	5) $8.5 - 4.2 + (3 \times 5) =$	6) $5 \times (3.5 + 3.5) =$
7) $48 \div (9.5 - 3.5) =$	8) $7.2 \div 2.5 =$	9) $32.3 + (9 \div 3) =$
10) $4 \times (22 \div 5.5) =$	11) $45 \div 15 \times 3.3 =$	12) $5 \div 2.5 \times (2 + 1.5) =$

Word Problems

Answer the word problems below.

1) Lindsay ordered two slices of pizza and soda for lunch. A slice of pizza is \$2.50, and a soda is \$2.00. Lindsay did the math below. What did she do wrong?

$$\$2.50 + \$2.00 \times 2 = ?$$

$$\$4.50 \times 2 = \$9.00$$



2) John bought 2 pieces of bubble gum for \$0.20 each and 3 chocolate bars for \$0.70 each. How much did he spend? Write the equation.



Order of Operations – Decimals – Who's Right?

Instruction

Walker and Hugh both answered the questions below. Circle who's right:

	Question	Walker's Answer	Hugh's Answer
1	$1.5 + 3.5 \times 4$	15.5	20
2	2.3×3	19.5	11.1
3	$- 4$	5.8	19.6
4	$2.2 \times 3 + 12.5$	9.1	18.1
5	$15 \div 2.5 \times (1.5 + 2.5)$	24	
6	$81 \div 9 + (6.5 - 2.3)$	12.2	13.2
7	$10(15 - 2.5)$	147.5	125
8	$(25 - 20) \div 2.5 + 12$	14	12

Addition/Subtraction/Multiplication/Division - Quiz

Part 1

Complete the addition, subtraction, multiplication and division questions.

1)

	6	1	.	1	8	5	
+	2	5		6	0	3	

2)

	3	5	5	.	5	1	9
+	2	8	2	.	5	2	6

3)

	5	6	4	.	6	8	7
+	3	2	9	.	2	7	1

4)

	6	6	4	.	0	7	
-	4	2	0	.	0	2	3

5)

	6	2			4	6	5
-	5	4			7	3	

6)

	8	2	8	.	6	3	5
-	5	5	9	.	4	5	3

7)

		4	5	1
x			.	4

8)

		7	3	4
x			.	2

9)

					3	8	
x				7		6	

11)

.2	)	11	

12)

2	)	1.4	

13)

.6	)	12	

14)

4	)	4.8	

Part 2

Answer the word problems below.

1) Dane just ran a 400m race. He ran the first 200m in 31.326 seconds and the second 200m in 33.79 seconds. How long did it take him to finish the race?



2) George lives 10.455km away from school. Kennedy lives 12.192km away from school. How much further does Kennedy live away from school?



3) Blair works as a cashier last week earning \$14.32 per hour. How much did he earn?



4) Lucas walked 96.48 metres on his first lap. He came down to reset 4 times. On average, how far did Lucas walk each time with the cone down to reset?



Part 3

For each number on the left, place a check mark under the number it is divisible by.

Number	2	4	6
1) 12			
2) 34			
3) 384			
4) 448			

Number	3	5	7
5) 66			
6) 145			
7) 406			
8) 1 410			

Part 4

Find out the value of the variables using BEDMAS.

1) $2 \times (3.5 + 5) =$	2) $3 \times (12.5 - 7.5) =$	3) $3 \times 6 + (13.5 + 4.1) =$
4) $(15.2 + 3) \times 2 =$	5) $9.5 - 4.5 + (3 \times 5) =$	6) $4 \times (5.5 + 3.5) =$
7) $42 \div (9.5 - 3.5) =$	8) $7 \times 5 - 2.5 =$	9) $35.3 + (11 \div 2.2) =$

Part 5

Paul and Gary both answered the question. Who is right?

	Question	Paul's Answer	Gary's Answer
1	$2.5 + 4.5 \times 4$	20.5	28
2	$6.7 + 2.1 \times 2$	17.6	10.9
3	$14.3 - 4.2 \times 2$	20.2	5.9

Part 6

Write the equation that represents the word problem.

1) Ben went for 2 different runs yesterday. He ran 2.2km each run. Today, he ran an additional 5.2km. How many total kilometres did he run?



2) Carl bought 5 bottles of cola. Each bottle contains 1.5L of cola. He also bought 3 bottles of lemonade. Each bottle of lemonade is 2.5L. How many total litres of drinks did he buy?



3) Mary slept for 8.5 hours on Monday, Tuesday and Wednesday. She slept for 6.5 hours on Thursday and Friday. On Saturday and Sunday, she slept for 8 hours. How many total hours did Mary sleep for the week?



4) Levi has \$342.25 in his bank account. He worked for 5 hours today earning \$10.50 an hour. After work, Levi spent \$52.75 on a new controller for his video game system. How much money does he have left?



Generating Fractions Between Whole Numbers

Practice

List at least three fractions between the numbers.

1)

1

2

Fractions

2)

2

3

Fractions

3)

4

5

Fractions

Word Problems

Solve the problems below.

1) Daniel thinks $3\frac{3}{4}$ is between 2 and 3. Is he right? Explain why or why not.

2) Thomas said he has listed all the fractions between 1 and 2. Is he right? Explain why or why not. His list is written below.

$$1\frac{1}{8}, 1\frac{2}{8}, 1\frac{3}{8}, 1\frac{4}{8}, 1\frac{5}{8}, 1\frac{6}{8}, 1\frac{7}{8}, 1\frac{8}{8}$$

Generating Fractions Between Fractions

Practice

List at least two fractions between the numbers.

1)

$$1\frac{1}{2}$$

2

Fractions

2)

$$\frac{1}{12}$$

$$\frac{9}{12}$$

Fractions

3)

$$\frac{1}{3}$$

$$\frac{2}{3}$$

Fractions

4)

$$\frac{3}{6}$$

$$\frac{4}{5}$$

Fractions

5)

$$\frac{2}{5}$$

$$\frac{2}{3}$$

Fractions

Place Value Using Decimals

Decimal numbers are any numbers that represent a value less than one. We use a decimal point to represent that a number can be less than one. We would represent a single cookie with the number 1, but we can still represent a quarter of a cookie by writing 0.25. The 0 is the whole number, while the numbers to the right of the decimal show how large the part of the whole is.

PLACE VALUE

9	3	1	.	6	4	2	
Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

Part 1 Write the name of the place value for the underlined number?

1) 7 72 <u>8</u> .122	2) 9 4 <u>4</u> .2	3) 4 35 <u>2</u> .427	4) 1 713.68 <u>8</u>
5) 6 412. <u>4</u> 33	6) 2 45 <u>4</u> .72	7) <u>2</u> 926	8) 4 <u>3</u> 57.926
9) 2 364.52 <u>1</u>	10) 7 247.71 <u>1</u>	11) 2 5 <u>2</u> .1	12) 2 4 <u>7</u> 9.542

Part 2 Fill in the place value table for the numbers below

1) 5 731.538							
Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

2) 3 272.319							
Thousands	Hundreds	Tens	Ones	Decimal	Tenths	Hundredths	Thousandths

Counting by Hundredths – Decimals Pattern

Instruction

Continue counting by hundredths by filling in the missing boxes.

[illegible]

Comparing Decimals

Part 1

Compare the following numbers:

1) 0.125 < 0.252	2) 0.453 0.642	3) 0.237 0.648
4) 0.367 0.410	5) 0.034 0.200	6) 0.547 0.546
7) 2.257 2.256	8) 0.14 0.214	9) 1.008 1.010
10) 4.507 4.272	11) 5.624 5.46	12) 5.649 5.615
13) 8.055 8.145	14) 9.307 9.99	15) 7.01 7.491

Part 2

Compare the following numbers:

- Nick and Ryan both ran in the 200 metre race last week. Nick ran it in 31.505 seconds and Ryan ran it in 31.550 seconds. Who ran it faster?
- Lamelo Ball scores 18.652 points a game while his brother Lonzo Ball scores 18.634 points a game. Who scores more points a game?
- Jacob jumped 4.043m in long jump. Owen jumped 4.101m. Who jumped further?



Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Compare the following numbers:

1) 57.358 57.3792) 0.537 0.54

Answer the word problem below:
Liam's weight is 45.89 kilograms.
Noah's weight is 45.879 kilograms.
Who weighs more?

Name: _____

Compare the following numbers:

1) 57.358 57.3792) 0.537 0.54

Answer the word problem below:
Liam's weight is 45.89 kilograms.
Noah's weight is 45.879 kilograms.
Who weighs more?

Name: _____

Compare the following numbers:

1) 57.358 57.3792) 0.537 0.54

Answer the word problem below:
Liam's weight is 45.89 kilograms.
Noah's weight is 45.879 kilograms.
Who weighs more?

Name: _____

Compare the following numbers:

1) 57.358 57.3792) 0.537 0.54

Answer the word problem below:
Liam's weight is 45.89 kilograms.
Noah's weight is 45.879 kilograms.
Who weighs more?

Ordering Decimals

Part 1Order the numbers below from least to greatest:

1) 0.123, 0.39, 0.41, 0.113

_____, _____, _____, _____

2) 0.327, 0.32, 0.35, 0.326

_____, _____, _____, _____

3) 0.42, 0.4, 0.44

_____, _____, _____, _____

4) 1.554, 1.51, 1.5, 1.516

_____, _____, _____, _____

5) 13.46, 13.3, 13.2, 13.232, 13.238, 13.241

_____, _____, _____, _____, _____, _____

Part 2Order the numbers below from least to greatest:

1) 0.25, 0.261, 0.253, 0.24

_____, _____, _____, _____

2) 0.33, 0.3, 0.34, 0.34

_____, _____, _____, _____

3) 2.41, 2.419, 2.323, 2.42

_____, _____, _____, _____

4) 4.122, 4.13, 4.14, 4.232

_____, _____, _____, _____

5) 12.51, 12.29, 12.3, 12.23

_____, _____, _____, _____

6) 19.8, 19.7, 19.645, 19.71

_____, _____, _____, _____

Converting Fractions and Decimals

Part 1

Fill in the table with the converted decimal and fraction.

Fraction	Decimal
	.10
	.20
50/100	
	.70
80/100	
	.90
100/100	

Fraction	Decimal
15/100	
	.28
36/100	
	.48
	.62
68/100	
	.82

Part 2

Convert the following fractions and decimals.

0.22 = /100	0.51 = /100	0.44 = /100	0.88 = /100
42/100 =	66/100 =	39/100 =	97/100 =
31/100 =	72/100 =	0.81 = /100	0.91 = /100

Generating Decimals Between Whole Numbers

Practice

List at least three decimals between the numbers.

1)

1



2

Decimals

2)

2



3

Fractions

3)

4



5

Fractions**Word Problems**

Solve the riddles below.

- 1) Write a decimal that is larger than 9 but less than 10.
- 2) Write a decimal that is larger than 49 but less than 50.
- 3) Write a decimal that is larger than 99 but less than 100.
- 4) Write a decimal that is larger than 999 but less than 1000.

Ordering Fractions, Decimals, and Whole Numbers

Part 1

Circle the larger value:

1) 0.5	$\frac{2}{6}$	2) 0.25	1	3) 0.75	$\frac{7}{8}$	4) 0.5	$\frac{4}{7}$
5) 0.33	$\frac{3}{5}$	6) 0.66	$\frac{2}{6}$	7) $\frac{4}{8}$	0.45	8) $\frac{3}{9}$	0.50
9) $\frac{5}{8}$	0.4	10) $\frac{9}{10}$	0.8	11) $\frac{4}{5}$	0.65	12) 0.25	$\frac{1}{8}$
13) 0.2	$\frac{2}{5}$	14) 0.9	$\frac{5}{8}$	15) 0.75	$\frac{2}{4}$	16) $\frac{7}{8}$	0.25
17) $\frac{8}{8}$	0.1	18) 0.2	$\frac{2}{5}$	19) $\frac{1}{6}$	0.1	20) 0.4	$\frac{5}{6}$

Part 2

Compare the values by filling in the box with <, >, =

1) 0.150	<	$\frac{1}{4}$	2) 0.450	<math>\frac{5}{6}</math>	3) 0.9	<math>\frac{1}{6}</math>
4) $\frac{2}{3}$		0.75	5) 0.285		6) 0.5	<math>\frac{3}{5}</math>
7) 0.85		$\frac{2}{4}$	8) 0.750		9) 0.250	<math>\frac{2}{10}</math>
10) $\frac{4}{5}$		0.66	11) $\frac{1}{3}$		12) 0.750	<math>\frac{2}{4}</math>
13) 0.95		$\frac{9}{10}$	14) 0.66		15) 0.418	<math>\frac{2}{5}</math>

Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Circle the larger value.

1) $\frac{6}{9}$ 0.766

2) 0.529

3) 0.813 $\frac{8}{10}$

Name: _____

Circle the larger value.

1) $\frac{6}{9}$ 0.766

2) 0.529 $\frac{3}{5}$

3) 0.813 $\frac{8}{10}$

Name: _____

Circle the larger value.

1) $\frac{6}{9}$ 0.766

2) 0.529 $\frac{3}{5}$

3) 0.813 $\frac{8}{10}$

Name: _____

Circle the larger value.

1) $\frac{6}{9}$ 0.766

2) 0.529 $\frac{3}{5}$

3) 0.813 $\frac{8}{10}$

Ordering Fractions, Decimals, and Whole Numbers

Part 1

Put the integers and decimals in order from least to greatest.

1)	2.485, 2.406, $\frac{1}{5}$, 0.485, 1, 4, $\frac{1}{4}$
2)	0.217, 1, $\frac{2}{5}$, 0.325, 0, 0.475, $\frac{3}{6}$
3)	5, 1.5, $1\frac{1}{3}$, 2.25, 1, 2, $2\frac{3}{5}$
4)	3.5, $\frac{2}{5}$, 4.25, 2.5, 4.5, $\frac{13}{2}$
5)	1.666, 2.33, $\frac{1}{4}$, $1\frac{1}{2}$, 4.5, 1.25

Part 2

Answer the word problems.

1) Jason is trying to decide which bag of coffee beans to buy. The bags are the same price but are listed in different measurements. Put the options in order from least to greatest.

Option	A	B	C	D	E	F
Size	1.5kg	$1\frac{1}{4}$ kg	2kg	1.99kg	$2\frac{3}{6}$ kg	2.4kg

2) A team of basketball players have their 3-point shooting stats listed in the table. Put the players in order from worst percentage to best.

Player	Chloe	Sofia	Lily	Mila	Ellie	Luna
Size	0.25	0.168	$\frac{2}{10}$	$\frac{4}{9}$	0.525	$\frac{15}{20}$

Ordering Fractions, Decimals, and Whole Numbers**Instruction**

Put the integers, decimals, and fractions in order from least to greatest.

1) $\frac{2}{3}$, 0.25, 0.01, 3, $\frac{1}{2}$

2) $\frac{4}{9}$, 0.07, 1, $\frac{3}{4}$

3) $\frac{1}{2}$, 0.6, 2, 5

4) $\frac{5}{6}$, 0.40, 0.6, 1, $\frac{2}{4}$

5) $\frac{3}{5}$, 0.75, 0.05, 2, $\frac{1}{5}$

6) $\frac{4}{7}$, 0.25, 0.008, 3, $\frac{2}{4}$

7) $\frac{4}{5}$, 0.6, 0.06, 5, $\frac{2}{7}$

8) $\frac{5}{8}$, 1, 0.03, 0.003, $\frac{4}{5}$

9) $\frac{4}{5}$, 0.75, 0.03, 2, $\frac{3}{6}$

10) $\frac{4}{10}$, 0.5, 0.75, 5, $\frac{1}{4}$

11) $\frac{3}{4}$, 0.4, 0.01, 1, $\frac{5}{8}$

12) 0.666, 0.01, 1, $\frac{2}{4}$

13) 0.1, 2, $\frac{1}{5}$

14) $\frac{6}{8}$, 2, 2.1, 0.988, $\frac{9}{3}$

15) $\frac{7}{8}$, 2, 1.005, 0.54, $\frac{8}{3}$

16) $\frac{2}{5}$, 1.42, 0.333, 1, $\frac{10}{4}$

Name: _____

124

Treasure Hunt: Fraction, Decimal, and Whole Number

Objective

What are we learning about?

Students will practise ordering fractions, decimals, and whole numbers from least to greatest in a fun and interactive way.

Materials

What you will need for the activity.

- 20 index cards
- Markers or pens
- Tape
- Timer (optional)
- Small prizes (optional)



Instructions

How you will complete the activity.

1. Write a set of fractions, decimals, and whole numbers on 20 index cards. Each card should have one decimal number (or use the cards with numbers already on them).
2. Tape the cards in various locations around the classroom to ensure the numbers are visible but not too easy to find.
3. Explain to the students that they will be going on a treasure hunt for the decimal number cards. They should not move the cards when they find them; instead, they should write the numbers on the top part of their page.
4. Once all the cards are found and recorded, students must write the numbers in order, from least to greatest on the bottom part of their page.
5. Allow students to move around the room individually to find the numbers.
6. Set a timer to add excitement and challenge (optional).
7. After the hunt, gather the students and discuss the correct order of the decimal numbers. Award small prizes to students who correctly ordered their numbers (optional).

Name: _____

125

Curriculum Connection
N7.3

Index Cards

Cut out the index cards below.

0.5

$\frac{1}{3}$

3.14

$\frac{9}{10}$

0.9

4

$\frac{5}{4}$

PREVIEW

Name: _____

126

Curriculum Connection
N7.3

Index Cards

Cut out the index cards below.

11

0.333

2.5

$\frac{3}{2}$

3

1.5

$\frac{7}{8}$

2.25

PREVIEW

Name: _____

127

Curriculum Connection
N7.3

Index Cards

Cut out the index cards below.

0.1

$\frac{4}{5}$

10.1

9.99

1.5

1.

$\frac{1}{20}$

11.5

PREVIEW

Fractions, Decimals, and Whole Numbers – Word Problems

Instruction

Answer the questions below.

- 1) Four friends worked a week at a farm collecting strawberries. They made \$1000 total. Some of the friends worked harder than others. A breakdown of how much each friend earned is below.

Friend	Colton	Hudson	Joel
Earnings	\$115.75	\$319.75	\$239/1000

Order the friends from who made the most money to who made the least.



- 2) The girls' basketball team kept stats for their games. Their shooting stats are listed below.

Alex	Hanna	Rebecca	Courtney	Brianna
0.325	30/90	0.367	2/3	4/15



Rank the girls in order from the best shooter to the worst shooter.

- 3) Brian is shopping for tomato soup.

Option	A	B	C	D
Size	0.5L	$1\frac{2}{4}$ L	3L	$\frac{18}{4}$ L
Price	\$4	\$8	\$20	\$22



- Rank the options in order from smallest to largest.
- Explain which can of soup Brian should buy? Make sure to look at the prices.

Name: _____

130

Curriculum Connection
N7.4

Fractions, Decimals, and Percents

Part 1

Fill in the table with the converted decimal, fraction, and percent.

Fraction	Decimal	Percent
100/1000		10.0%
200/1000		20.0%
300/1000	0.300	%
400/1000		40.0%
500/1000		%
		60.0%
	0.700	%
	0.800	%
900/1000		%
	1.000	%

Part 2

Convert the following fractions, decimals and percentages.

138/1000 = %	536/1000 = 0.	42.4% = /1000	798/1000 = %
56.2% = /1000	161/1000 = %	871/1000 = 0.	0.938 = %
0.356 = %	0.682 = %	71.4% = 0.	782/1000 = 0.

Name: _____

131

Fraction/Decimal/Percent Bottle Flip Challenge

Objective

What are we learning about?

To practise and reinforce understanding of converting between fractions, decimals, and percents through the engaging and physically active bottle flip game.



Materials

What you will need for the activity.

- Plastic bottles (one per pair/group) filled to approximately one-third with water (or use cups with water)
- Set of fraction, decimal, and percent conversion question cards
- Answer sheet for each group

Instructions

How you will complete the activity

1. Start with a short lesson on converting between fractions, decimals, and percents.
2. Arrange the students into pairs or small groups and give each a bottle and a set of question cards to each.
3. Each pair or group receives an answer sheet to record their answers.
4. Explain the rules: One student draws a question card and tries to solve the conversion problem between fractions, decimals, or percents.
5. Once they believe they have the correct answer, they write it down on their answer sheet.
6. The student then gets to attempt a bottle flip. A successful flip means they get a point; an unsuccessful flip means they need to try to solve another question card before flipping again.
7. Alternate turns within each group or pair until they have completed all the question cards.
8. Groups or pairs tally their successful flips and compare with the rest of the class to determine the winning team.
9. Go through the answer sheet with the class to ensure understanding and correct any misconceptions.

Name: _____

132

Curriculum Connection
N7.4

Questions

Cut out the questions below and use them for the game.

$$\frac{25}{1000} = \underline{\hspace{1cm}}\%$$

$$\frac{805}{1000} = 0 \underline{\hspace{1cm}}$$

$$42.3\% = 0. \underline{\hspace{1cm}}$$

$$67\% = \underline{\hspace{1cm}}/1000$$

$$0.406 = \underline{\hspace{1cm}}\%$$

$$0 \underline{\hspace{1cm}}\%$$

$$79.5\% = 0. \underline{\hspace{1cm}}$$

$$89.2\% = \underline{\hspace{1cm}}/1000$$

$$\frac{325}{1000} = \underline{\hspace{1cm}}\%$$

$$\frac{41}{1000} = 0 \underline{\hspace{1cm}}$$

$$25\% = 0. \underline{\hspace{1cm}}$$

$$54.8\% = \underline{\hspace{1cm}}/1000$$

$$0.234 = \underline{\hspace{1cm}}\%$$

$$0.58 = \underline{\hspace{1cm}}\%$$

$$67.4\% = 0. \underline{\hspace{1cm}}$$

$$74.1\% = \underline{\hspace{1cm}}/1000$$

PREVIEW

Name: _____

133

Questions

Cut out the questions below and use them for the game.

A tank is filled with 45 out of 60 liters of water. What is the fraction, decimal, and percent?

A class of 30 students, 21 brought their lunch. What is the fraction, decimal, and percent for the students who brought lunch?

A car travelled 250 kilometres out of a 400-kilometre trip. What is the fraction, decimal, and percent for the distance travelled?

A store sold 120 out of 200 apples. What is the fraction, decimal, and percent for the apples that are sold?

A field has 15 out of 25 flowers blooming. What is the fraction, decimal, and percent for the blooming flowers?

A computer processed 18 out of 24 tasks. What is the fraction, decimal, and percent for the completed task?

A library has 75 out of 120 books checked out. What is the fraction, decimal, and percent for the checked-out books?

A movie was watched by 200 out of 300 students. What is the fraction, decimal, and percent for the people who watched the movie?

A bakery sold 45 out of 60 loaves of bread. What is the fraction, decimal, and percent for the sold loaves of bread?

A race was completed by 12 out of 20 runners. What is the fraction, decimal, and percent for the runners who completed the race?

A farm harvested 80 out of 240 tomatoes. What is the fraction, decimal, and percent for the tomatoes that were harvested?

A school has 90 out of 150 students in a club. What is the fraction, decimal, and percent for the students who are in a club?

A phone battery is charged to 80 out of 100 percent. What is the fraction, decimal, and percent for the charged amount?

A concert was attended by 450 out of 600 people. What is the fraction, decimal, and percent for the people who attended the concert?

A survey showed that 160 out of 200 people liked ice cream. What is the fraction, decimal, and percent for the people who liked ice cream?

Name: _____

134

Curriculum Connection
N7.4

Conversions Bottle Flip Challenge

Answers

Record your answers below.

1	
2	
3	
4	
5	
6	
7	
8	

9	
10	
11	
12	
13	
14	
15	
16	

Name: _____

135

Curriculum Connection
N7.4

Conversions Bottle Flip Challenge

Answers

Record your answers below.

17	
18	
19	
20	
21	
22	
23	
24	

25	
26	
27	
28	
29	
30	
31	
32	

Successful Flips Tally	
# of Wrong Answers	
Final Score: Successful Flips – Wrong Answers	

Name: _____

140

Curriculum Connection
N7.4

Class List – Decimal, Fraction, Percent

Mrs. Hansen just finished marking a math test. Her class list with the results of the test are below. She has simplified some of the fractions, and some students wrote a different test, meaning they are out of a different total.

Grades
 A = 80% and up
 B = 70%–79%
 C = 60% – 69%
 D = 50% – 59%
 F = 49% or less

Instruction

Fill in the class list



Student	Mark	Decimal	Percent	Grade
Madison				
Stella	7/100			
Matthew	9/10			
Eli	7/10			
John	1/2			
Kai	1/4			
Ivy	4/4			
Everly	1/5			
Bella	75/100			
Skylar	95/100			
Leah	8/10			
Roman	1/8			
Adrian	1/10			
Easton	4/5			
Savannah	15/18			

Sport Statistics – Fractions, Decimals, and Percents

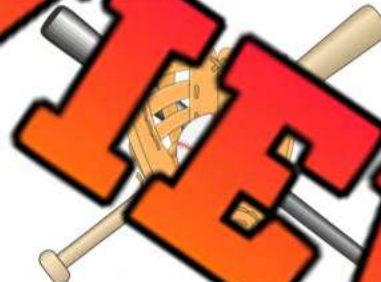
Information

Baseball Statistics – 2020 Regular Season Offensive Statistics

1) Mike Trout had 200 at bats in 2020. He had $\frac{56}{200}$ hits, $\frac{42}{200}$ runs, and $\frac{18}{200}$ home runs. This means for every 200 at bats, he would have 56 hits, 42 runs, and 18 home runs.

	Hits	Runs	Home Runs
Totals - Fraction	$\frac{56}{200}$	$\frac{42}{200}$	$\frac{18}{200}$
Decimal to thousandths			
Percent			

a) If Trout had 100 at bats, how many hits would he have? _____



2) Mookie Betts had 300 at bats in 2020. He had $\frac{99}{300}$ hits, $\frac{57}{300}$ runs, and $\frac{27}{300}$ home runs. This means for every 300 at bats, he would have 99 hits, 57 runs, and 27 home runs.

	Hits	Runs	Home Runs
Totals - Fraction	$\frac{99}{300}$	$\frac{57}{300}$	$\frac{27}{300}$
Decimal to thousandths			
Percent			

a) If Betts had 100 at bats, how many hits would he have? _____

Sport Statistics – Fractions, Decimals, and Percents

Information

Basketball Statistics – Shooting Percentages

1) LeBron James and the LA Lakers won a Championship title in 2020. Find out his shooting percentages by filling in the table below.

	2-pointers	3-pointers	Free Throws
Fraction	214/382	44/119	108/150
Decimal			
Percent			

a) If James had taken only 100 2-pointers, how many would he have made?

b) If James had taken 300 3-pointers, how many would he have made?

c) If LeBron had taken 550 free throws, how many would he have made?



2) Luca Doncic had a great 2021 season with the Dallas Mavericks. His stats for the regular season are listed below.

	2-pointers	3-pointers	Free Throws
Fraction	647/1351	192/548	471/711
Decimal			
Percent			

a) If Luca had only taken 100 free throws, how many would he have made?

b) If Luca had taken 1000 3-pointers, how many would he have made?

c) If Luca had taken 850 free throws, how many would he have made?



Terminating and Repeating Decimal

Terminating Decimal

- Decimals that come to an end

Example - $2/4 = 0.5$

Repeating Decimal

- Decimals that never end

Example - $2/3 = 0.66666... \text{ or } 0.\overline{6}$

We can use a line over the repeating number or number pattern to show it repeats forever.

Part 1 Write the decimal a repeating or terminating decimal?

1) 0.6		6) 0.9	
2) 0.3		7) $0.\overline{72}$	
3) $0.\overline{7}$		8) $0.41\overline{6}$	
4) 0.25		9) $0.\overline{8}$	
5) $0.\overline{6}$		10) 0.8	

Part 2 Write the decimals below - use a line to show repeating decimals.

1) $\frac{1}{3} = 0.\overline{3}$	2) $\frac{6}{10} =$	3) $\frac{1}{2} =$
4) $\frac{2}{3} =$	5) $\frac{8}{11} =$	6) $\frac{3}{9} =$
7) $\frac{1}{4} =$	8) $\frac{11}{12} =$	9) $\frac{4}{12} =$
10) $\frac{3}{5} =$	11) $\frac{4}{6} =$	12) $\frac{1}{12} =$
13) $\frac{5}{8} =$	14) $\frac{1}{8} =$	15) $\frac{7}{8} =$

Name: _____

145

Curriculum Connection
N7.3

Terminating and Repeating Decimal

Part 1

Write the decimal number as it would show on a calculator. Stop after 8 decimal points.

1) $0.\overline{4}$	
2) $0.\overline{001}$	
3) $0.\overline{7}$	
4) $0.\overline{12345678}$	
5) 0.6	

6) 0.9	
7) $0.\overline{285714}$	
8) 0.265615	
9) $0.\overline{85}$	
10) $0.\overline{27}$	

Part 2

Write your own examples of terminating and repeating decimals.

Terminating Decimals	Repeating Decimals

Part 3

Define the terms below in your own words.

Terminating Decimal	
Repeating Decimal	

Word Problems – Missing Percentages

Questions

What percentage is missing?

1) In a class, 63% of students take a bus to school and 14% get a drive from their parents. What percentage of students walk to school?



2) In a survey of 7 students, 23% thought math was fun and 42% thought math was boring. What percentage of students disliked math?



3) A shop sells 3 types of donuts. They tracked their sales last week and found out that 38% of the donuts sold were chocolate, and 21% were vanilla. What percentage of the donuts sold were other flavors?



4) In a candy survey, respondents were asked what candy was their favourite. They could choose from 4 different options – hard candies, lollipops, gum, or gummies. 18% chose gum, 27% chose hard candies, and 35% chose lollipops. What percentage chose gummies?

5) The Alberta Ministry of Transportation studied which fuel Albertans used for their vehicles. There were 3 options – gas, diesel, or electric. 75% used gas, 18% used diesel and 4% used electricity. What percentage of vehicles use gas?



6) A zoo has monkeys, zebras, pandas, and snakes. Of all the animals, 23% are monkeys, 29% are zebras, and 26% are pandas. What percentage of the animals are snakes?



7) Zoe spends 3 hours on 5 social media apps each day. She spends 28% of the 3 hours on Instagram, 15% on Facebook, 22% on TikTok, and 17% on Snapchat. What percent does she spend on YouTube?



Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

What percentage is missing?

In a market survey, people were asked their preferred type of fruit. They could choose from apples, bananas, oranges, or grapes. 34% preferred apples, 29% preferred bananas, and 20% preferred oranges. What percentage preferred grapes?

Name: _____

What percentage is missing?

In a market survey, people were asked their preferred type of fruit. They could choose from apples, bananas, oranges, or grapes. 34% preferred apples, 29% preferred bananas, and 20% preferred oranges. What percentage preferred grapes?

Name: _____

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Name: _____

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Name: _____

151

Math Basketball: Missing Percentages Challenge

Objective

What are we learning about?

To reinforce students' understanding and application of calculating missing percentages through engaging word problems and a fun basketball shooting game.



Materials

What you will need for the activity.

- Small ball (e.g., ping pong ball) x number of groups
- Trash can (or something to serve as the hoop)
- Index cards with missing percentage word problems
- Marker or pen
- Timer or stopwatch

Instructions

How you will complete the activity.

1. Arrange the classroom so that there is enough space for multiple teams to work simultaneously. Place a desk about 6 feet away from the trash can.
2. Place a stack of index cards with problems on the desk.
3. Provide each team with a recording sheet and a pen.
4. Divide the students into teams of about five members.
5. Each team stands in a line behind their respective desk.
6. The first student in line flips over an index card and solves the problem.
7. Once the answer is recorded, the student attempts to shoot the ping pong ball into the bin.
8. If the student makes the shot, they place a tally mark on the team's tally sheet for a point. If they miss, no tally is given.
9. The student then goes to the end of the line, and the next student steps up to the desk to repeat the process.
10. The activity continues until all index cards have been solved.
11. Once all index cards are completed, the teacher collects the recording sheets and reviews the answers with the class.
12. For each incorrect answer, the team loses one point.
13. The team with the highest number of points after deductions is declared the winner.

Name: _____

152

Index Cards

Use the following table for the game.

In a test, 25% of the questions were true/false, 50% were multiple choice. What percentage were other types?

In a poll, 36% of people preferred summer, 29% preferred winter. What percentage preferred other seasons?

A survey showed that 32% of people like chocolate ice cream, 48% like vanilla. What percentage like other flavors?

At a school fair, 15% of items were sold for games, 35% for food. What percentage were sold for other items?

A company discovered that 60% of employees commute by car, 25% by bike. What percentage use other means?

During a survey, 33% of respondents liked action movies, 44% liked comedies. What percentage liked other genres?

A fitness center reported that 40% of members prefer cardio exercises, 35% prefer weight training. What percentage prefer other activities?

In a computer lab, 50% of the computers are used for coding, 20% for design. What percentage are used for other purposes?

In a city, 35% of the population uses public transportation, 50% uses personal vehicles. What percentage uses other forms of transportation?

During a festival, 25% of visitors attended concerts, 55% attended food stalls. What percentage attended other events?

A research found that 45% of people prefer dogs, 40% prefer cats. What percentage prefer other pets?

A bookstore reported that 55% of books sold were novels, 35% were self-help books. What percentage were other genres?

Name: _____

153

Index Cards

Use the following table for the game.

Marry has a monthly budget of \$1200. She spends 30% on rent, 20% on groceries, 15% on transportation, and 10% on entertainment. What percentage does she spend on savings?

A school's budget of \$500,000 is allocated as follows: 40% for salaries, 25% for supplies, 15% for maintenance, and 10% for extracurricular activities. What percentage is left for other expenses?

In a survey of respondents prefer apples, 25% prefer bananas, 20% prefer oranges, and 15% prefer grapes. What percentage prefer other fruits?

A company distributes 40% of its annual profits to shareholders, 30% to reinvestment, 10% to employee bonuses, and 5% to charity. What percentage is left undistributed?

During a fundraiser, 30% of the total \$1000 was raised from donations, 25% from a charity auction, 15% from a book sale, and 10% from a raffle. What percentage was raised from other sources?

A farmer's market has 50% of its stalls selling vegetables, 30% selling fruits, 10% selling baked goods, and 5% selling dairy products. What percentage is selling other items?

An online store's revenue comes from 35% electronics, 25% clothing, 20% home goods, and 15% books. What percentage comes from other categories?

In a marathon, 60% of participants were adults, 20% were teenagers, 10% were seniors, and 3% were children. What percentage were from other age groups?

A smartphone battery usage shows that 40% is used by the screen, 25% by apps, 20% by connectivity, and 10% by standby. What percentage is used by other functions?

A family spends 35% of their income on housing, 25% on food, 20% on transportation, and 15% on utilities. What percentage is spent on other expenses?

A cinema found that 60% of tickets sold were for action movies, 25% for dramas. What percentage were for other genres?

At a zoo, 45% of animals are mammals, 30% are birds. What percentage are other types?

Word Problems - Percentages

Instruction

Answer the word problems below.

- 1) The grade 7s voted on where their class trip would be. There were 5 options and students could only vote for one option. The results are below:

- a) What percentage of students chose Mini-golf?

Movie Theatre	15%
Amusement Park	23%
Hockey Arena - Skating	18%
Shopping Mall	31%
Mini-Golf	

- b) If there were 70 students, how many chose going to the amusement park?



- 2) In a math test, the percentage of grade 7 students who scored an A, B, C, D, and F is listed below.

- a) What percentage of students received an F?

A	22%
B	35%
C	27%
D	12%
F	

- b) If 50 students took the test, how many kids got an F?



- 3) Ryan surveyed his grade 7 classmates, asking about their favourite food. He tallied his results as percentages.

- a) What percentage of students liked pizza the best?

Pizza	
Subs	21%
Steak	12%
Chicken	18%
Tacos	17%

- b) If Ryan surveyed 25 students, how many chose pizza?



Word Problems – Missing Percentages

Questions

What percentage is missing?

1) A survey found out the most popular genre of music. The options were rap, pop, rock, country and jazz. What percent chose jazz?



Rap	1/4
Pop	25%
Rock	22%
Country	1/5
Jazz	

2) A survey was conducted to determine which sport was the most popular. The options were hockey, basketball, soccer, football, and gymnastics. What percent chose gymnastics?



Hockey	1/2
Basketball	17%
Soccer	1/10
Football	13%
Gymnastics	

3) Scott's website is used by different technologies. Of 2300 people that access his website weekly, the data shows how many were using their phone, computer, or tablet. What percentage of people use their tablet to access Scott's website?



Phone	3/4
Computer	17%
Tablet	

4) Courtney does 4 different workouts. She either runs, bikes, lifts weights, or uses a rowing machine. The amount she does each workout is listed in the table. What is the percentage of workouts where she chooses rowing?



Running	34%
Bike	5/20
Weights	31%
Rowing	

5) Nolan plays baseball. As a batter, he can get a single, double, triple, homerun, or out. His batting statistics are listed in the table. What percentage of 'at Bats' does he get out?



Single	1/4
Double	18%
Triple	1/20
Homerun	11%
Out	

Mental Math – Calculating Percentages – 10%, 15%

Percents represent a rate out of 100 in relation to a whole. Therefore, we can represent 10% as 0.10 and 15% as 0.15.

Hint – To mentally calculate 15%...

1. Determine 10% of the number
2. Find half of the answer (5%)
3. Add the 5% to the 10%

Example

1. $210 \times 0.10 = 21.0$
2. Half of 21.0 = 10.5
3. $21.0 + 10.5 = 31.5$
4. Therefore, 15% of 210 = 31.5

**SPECIAL
OFFER**



Instruction

	Number	0.05 (Half)	15%
1)	100	5	15
2)	200		
3)	400		
4)	500		
5)	120		
6)	180		
7)	240		
8)	310		
9)	450		
10)	680		

Mental Math – Calculating Percentages – 25%, 50%

Percents represent a rate out of 100 in relation to a whole. 50% represents half of a number and 25% is a quarter of a number.

Steps – Calculating 50%...

1. Find half of the number

Example – 50% of 148

1. Divide the number 148 in half
(148 ÷ 2 = 74)
2. 50% of 148 = 74

Steps – Calculating 25%

1. Find out what 50% of the number is by halving the number
2. Halve the number one more time

Example – 25% of 188

1. $188 \div 2 = 94$
2. $94 \div 2 = 47$

Part 1 _____ of numbers below?

- | | |
|---------------|---------------|
| 1) 24 _____ | 3) 76 _____ |
| 4) 128 _____ | 6) 212 _____ |
| 7) 264 _____ | 8) 410 _____ |
| 10) 550 _____ | 11) 636 _____ |

Part 2 _____ Fill in the table below.

	Number	50%	25%
1)	100		
2)	200		
3)	240		
4)	164		
5)	188		
6)	264		

	Number	50%	25%
7)	348		
8)	414		
9)	560		
10)	644		
11)	828		
12)	940		

Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Fill in the table below:

		50%	25%
1)	376		
2)	464		
3)	780		
4)	940		
5)	1012		
6)	1460		

Name: _____

Fill in the table below:

	Number	50%	25%
1)	376		
2)	464		
3)	780		
4)	940		
5)	1012		
6)	1460		

Name: _____

Fill in the table below:

	Number	50%	25%
1)	376		
2)	464		
3)	780		
4)	940		
5)	1012		
6)	1460		

Name: _____

Fill in the table below:

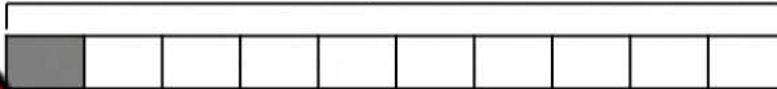
	Number	50%	25%
1)	376		
2)	464		
3)	780		
4)	940		
5)	1012		
6)	1460		

Mental Math – Calculating Percentages – Visuals

When we want to find the percent of a number, scaling up and down is the best way.

For example, a shirt costs \$80 at regular price. To calculate a sale price, we can scale 10% up and down. First, 10% of 80 is 8 which means 20% is 16 and 30% is 24.

\$80

**Practice**

Solve the problems below:

1) Tom is shopping for headphones. He finds a pair he likes for \$70.00. They are on sale for 15% off. How much will he save before tax?



2) Lindsay is out shopping for a new winter coat. She finds one for \$90.00 plus an additional 20% off. How much will the coat cost before tax?



3) Joe brings \$100 to the mall to buy some new speakers. He finds some for \$78.00 with an additional 35% off.

- How much will the speakers cost before tax?
- With tax costing 15%, how much will the speakers cost?
- How much of the \$100 will Joe have when he leaves the mall?



Determining Sales Tax

When we pay for something, we need to pay tax. Tax is an extra cost placed on a good or service that goes to the government. In Saskatchewan, we pay 11% tax.

When we purchase something, we should add 11% to the product price, so we know if we can afford it. We can do this by using a calculator or by using mental math. Follow these steps:

Calculating Sales Tax

1. Divide the price by 10 (example - $\$32.00 \div 10 = \3.20) to determine 10% of the cost
2. Divide the number by 10 to get 1% of the cost ($3.20 \div 10 = \$0.32$)
3. Add the two numbers to the second number to get the 11% tax cost ($3.20 + 0.32 =$
4. Add the tax cost to the product price to get the total price ($\$32.00 + 3.52 = \35.52)

Alberta	Ontario	British Columbia	New Brunswick	Saskatchewan
5%	13%	7%	15%	11%

Instruction

Fill in the table below to determine the sales tax in Saskatchewan

#	Product Price	10%	1%	Tax Cost	Total Price
1	\$20.00	\$2.00	\$0.20	\$2.20	\$22.20
2	\$10.00				
3	\$30.00				
4	\$40.00				
5	\$50.00				
6	\$60.00				
7	\$25.00				
8	\$100.00				
9	\$42.00				
10	\$88.00				

Determining Sales Tax – Word Problems

Instruction

Answer the word problems below.

1) Kayden has a \$10 bill and wants to know if he can afford a burger and fry meal that costs \$8.00 before taxes. Calculate the total cost of the meal after adding 11% tax. Can he afford the meal?



Bonus: How much money does he have left?

2) Dexter wants to buy a video game that costs \$100 and the game costs \$85.00 before tax. How much will the game cost after 11% tax?

Bonus: How much money will he have left if he buys the game?



3) Mya is thinking of purchasing a new pair of headphones that cost \$110.00. She only has \$65.00. Does she have enough money to buy them after a 11% tax is added? Explain.



Calculating Percents of a Value

Instruction

Answer the word problems below:

1) Jane has a 40-litre fish tank filled with water. She needs to replace 35% of the water with fresh water. How many litres of water does she need to replace?



2) The population of a small town was 12,000. The town's population has increased by 8% over the last year. How many residents have moved into the town?



3) John has a collection of 220 stamps. He decided to sell 10% of his collection to a friend. How many stamps did John sell?



4) During a clearance sale, a clothing store offers a 40% discount on all its items. If a jacket originally costs \$120, what will be the price of the jacket after the discount is applied?



Converting Mixed Numbers to Improper Fractions

Instruction

Convert the mixed numbers to improper fractions.

1) $6\frac{3}{4} =$	2) $5\frac{1}{5} =$	3) $7\frac{4}{6} =$
4) $4\frac{4}{4} =$	5) $2\frac{4}{8} =$	6) $6\frac{2}{5} =$
7) $7\frac{2}{6} =$	8) $4\frac{3}{4} =$	9) $4\frac{3}{5} =$
10) $6\frac{2}{4} =$	11) $4\frac{1}{4} =$	12) $9\frac{2}{5} =$

Ordering

Put the fractions in order from least to greatest.

1) $6\frac{3}{4}$ $\frac{20}{4}$ $5\frac{1}{5}$ $\frac{26}{3}$ $4\frac{1}{4}$	_____
2) $3\frac{2}{3}$ $\frac{23}{5}$ $2\frac{3}{6}$ $\frac{31}{4}$ $7\frac{3}{9}$	_____
3) $9\frac{5}{5}$ $\frac{17}{3}$ $4\frac{4}{7}$ $\frac{19}{5}$ $4\frac{6}{12}$	_____

Converting Improper Fractions to Mixed Numbers

Instruction

Convert the improper fractions to mixed numbers.

1) $\frac{16}{5} =$

2) $\frac{13}{4} =$

3) $\frac{13}{3} =$

4) $\frac{15}{5} =$

5) $\frac{15}{2} =$

6) $\frac{11}{3} =$

7) $\frac{24}{4} =$

8) $\frac{15}{6} =$

9) $\frac{13}{5} =$

10) $\frac{26}{3} =$

11) $\frac{14}{4} =$

12) $\frac{5}{6} =$

13) $\frac{36}{4} =$

14) $\frac{41}{7} =$

15) $\frac{1}{6} =$

16) $\frac{46}{5} =$

17) $\frac{63}{8} =$

18) $\frac{47}{4} =$

19) $\frac{71}{4} =$

20) $\frac{55}{6} =$

21) $\frac{75}{2} =$

Adding Fractions With Common Denominators

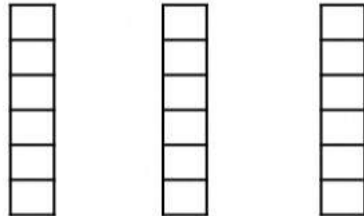
Instruction

Add the fractions below using the models.

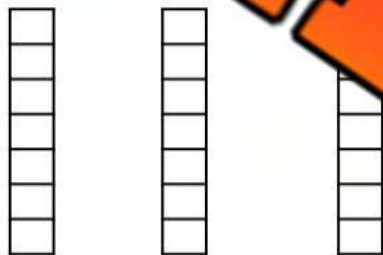
1) $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$



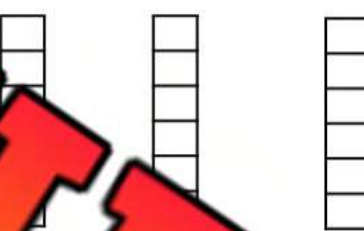
2) $\frac{4}{6} + \frac{1}{6} = \underline{\hspace{1cm}}$



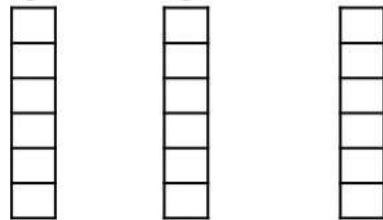
3) $\frac{2}{7} + \frac{\hspace{1cm}}{7} = \underline{\hspace{1cm}}$



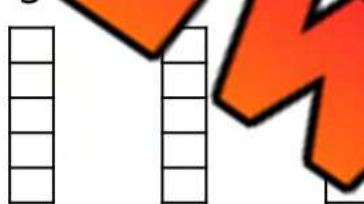
4) $\frac{2}{6} + \frac{2}{6} = \underline{\hspace{1cm}}$



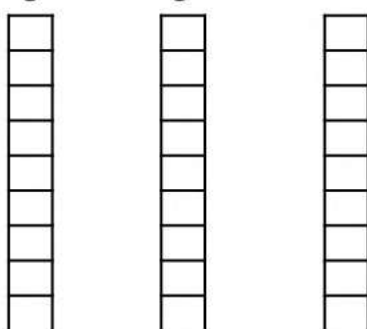
5) $\frac{4}{6} + \frac{1}{6} = \underline{\hspace{1cm}}$



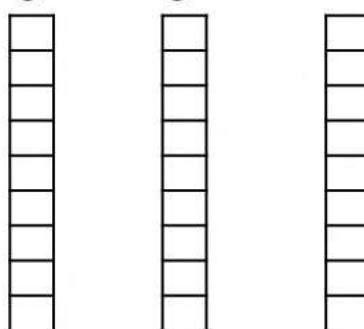
6) $\frac{2}{5} + \frac{2}{5} = \underline{\hspace{1cm}}$



7) $\frac{3}{9} + \frac{2}{9} = \underline{\hspace{1cm}}$



8) $\frac{5}{9} + \frac{3}{9} = \underline{\hspace{1cm}}$

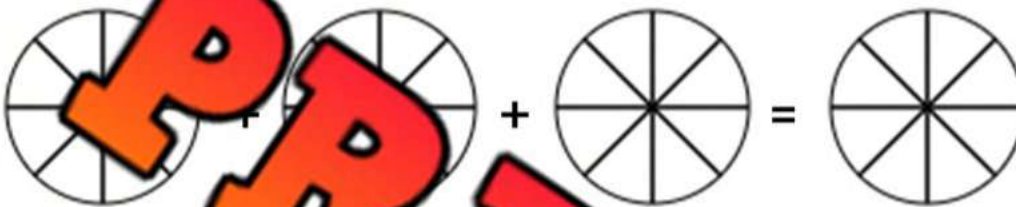


Adding Fractions With Common Denominators

Instruction

Solve the word problems.

1) At the end of the birthday party, there were 3 pizza boxes left. The first box has $\frac{3}{8}$ slices left. The second box had $\frac{2}{8}$ slices left and the third box had $\frac{1}{8}$ slices remaining. How much pizza is left in total?



2) Rachel and her sister went on an egg hunt. There were 30 eggs in total. Rachel found $\frac{17}{30}$ eggs and her sister found $\frac{8}{30}$ eggs. What fraction of the total eggs were found?



3) In a bag of 20 jelly beans, $\frac{5}{20}$ are green and $\frac{8}{20}$ are red. How many out of the 20 jelly beans are green and red?



Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Solve the word problem below.

Out of 40 students, $\frac{12}{40}$ participate in the math club and $\frac{15}{40}$ participate in the science club. What fraction of the students participate in either club?

Name: _____

Solve the word problem below.

Out of 40 students, $\frac{12}{40}$ participate in the math club and $\frac{15}{40}$ participate in the science club. What fraction of the students participate in either club?

Name: _____

Solve the word problem below.

Out of 40 students, $\frac{12}{40}$ participate in the math club and $\frac{15}{40}$ participate in the science club. What fraction of the students participate in either club?

Name: _____

Solve the word problem below.

Out of 40 students, $\frac{12}{40}$ participate in the math club and $\frac{15}{40}$ participate in the science club. What fraction of the students participate in either club?

Adding Fractions With Unlike Denominators

Instruction

Add the fractions below

1) $\frac{2}{4} + \frac{1}{2} = \frac{2}{4} + \frac{2}{4} = \frac{4}{4}$

2) $\frac{1}{4} + \frac{4}{8} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

3) $\frac{1}{2} + \frac{1}{6} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

4) $\frac{4}{6} + \frac{1}{2} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

5) $\frac{1}{4} + \frac{3}{8} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

6) $\frac{4}{4} + \frac{2}{7} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

7) $\frac{3}{6} + \frac{6}{12} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

8) $\frac{1}{4} + \frac{1}{2} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

9) $\frac{3}{15} + \frac{4}{5} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

10) $\frac{10}{20} + \frac{8}{40} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

11) $\frac{5}{12} + \frac{2}{4} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

12) $\frac{6}{18} + \frac{5}{9} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

13) $\frac{1}{4} + \frac{5}{16} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

14) $\frac{3}{7} + \frac{6}{14} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

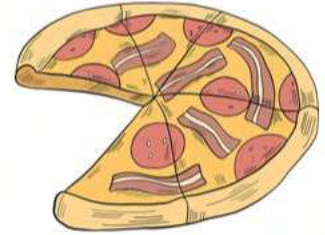
Cooking With Fractions - Adding

Instruction

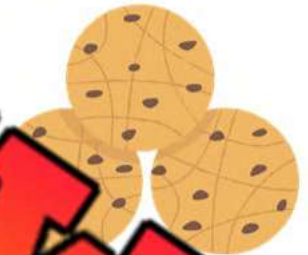
Solve the word problems.



1) Kelly is making 5 pizzas. She needs $\frac{2}{3}$ of a cup of flour for each pizza. How many cups of flour does she need in total?



2) A cookie recipe calls for $\frac{3}{8}$ of a cup of white sugar and $\frac{1}{2}$ of a cup of brown sugar. How much sugar in total does the cookie recipe use?



3) A smoothie calls for $\frac{3}{5}$ of a banana, $\frac{8}{10}$ of a peach, and $\frac{1}{2}$ of a kiwi. How many pieces of fruit are in the smoothie?



Subtracting Fractions – Common Denominators

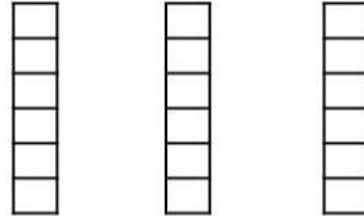
Instruction

Subtract the fractions below using the models.

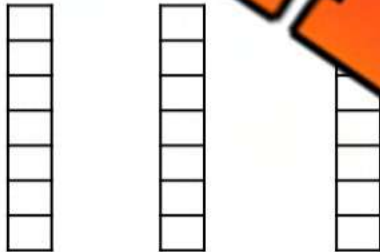
1) $\frac{4}{4} - \frac{2}{4} = \frac{2}{4}$



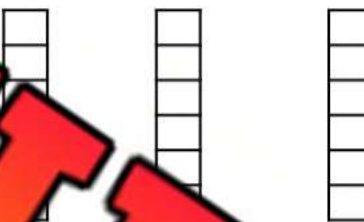
2) $\frac{5}{6} - \frac{3}{6} = \underline{\hspace{1cm}}$



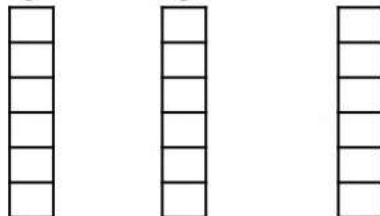
3) $\frac{5}{7} - \frac{\hspace{1cm}}{7} = \underline{\hspace{1cm}}$



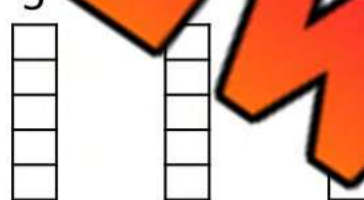
4) $\frac{6}{6} - \frac{3}{6} = \underline{\hspace{1cm}}$



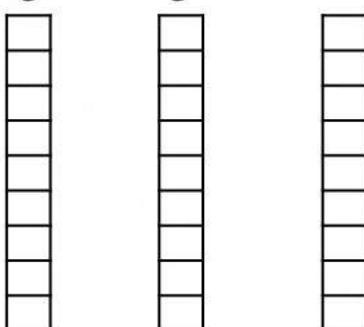
5) $\frac{5}{6} - \frac{1}{6} = \underline{\hspace{1cm}}$



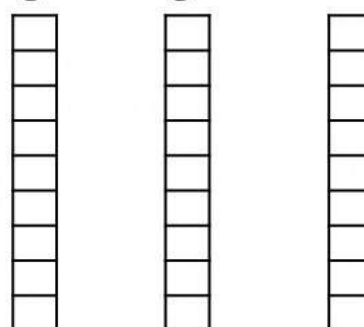
6) $\frac{\hspace{1cm}}{5} - \frac{3}{5} = \underline{\hspace{1cm}}$



7) $\frac{8}{9} - \frac{3}{9} = \underline{\hspace{1cm}}$



8) $\frac{7}{9} - \frac{2}{9} = \underline{\hspace{1cm}}$



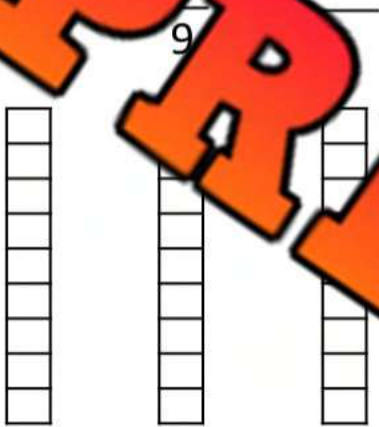
Exit Cards

Cut Out

Cut out the exit cards below and have students complete them at the end of class.

Name: _____

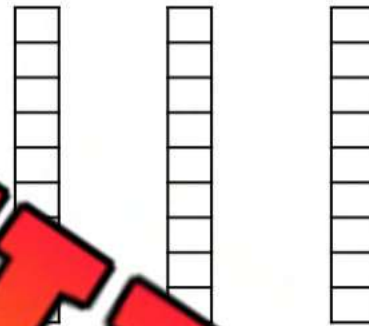
Subtract the fractions below using the models.



Name: _____

Subtract the fractions below using the models.

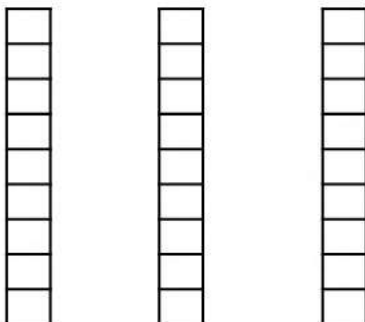
$$\frac{6}{9} - \frac{4}{9} = \underline{\quad}$$



Name: _____

Subtract the fractions below using the models.

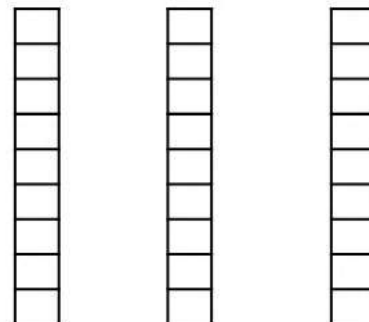
$$\frac{6}{9} - \frac{4}{9} = \underline{\quad}$$



Name: _____

Subtract the fractions below using the models.

$$\frac{6}{9} - \frac{4}{9} = \underline{\quad}$$



Subtracting Fractions With Common Denominators

Instruction

Subtract the fractions below.

1) $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$

2) $\frac{5}{5} - \frac{1}{5} = \underline{\hspace{1cm}}$

3) $\frac{4}{9} - \frac{1}{9} = \underline{\hspace{1cm}}$

4) $\frac{6}{9} - \frac{3}{9} = \underline{\hspace{1cm}}$

5) $\frac{4}{7} - \frac{2}{7} = \underline{\hspace{1cm}}$

6) $\frac{5}{6} - \frac{3}{6} = \underline{\hspace{1cm}}$

7) $\frac{6}{9} - \frac{2}{9} = \underline{\hspace{1cm}}$

8) $\frac{7}{8} - \frac{1}{8} = \underline{\hspace{1cm}}$

9) $\frac{5}{6} - \frac{4}{6} = \underline{\hspace{1cm}}$

10) $\frac{4}{6} - \frac{3}{6} = \underline{\hspace{1cm}}$

11) $\frac{3}{4} - \frac{2}{4} = \underline{\hspace{1cm}}$

12) $\frac{9}{10} - \frac{3}{10} = \underline{\hspace{1cm}}$

13) $\frac{8}{8} - \frac{5}{8} = \underline{\hspace{1cm}}$

14) $\frac{7}{7} - \frac{6}{7} = \underline{\hspace{1cm}}$

Subtracting Fractions With Common Denominators

Instruction

Solve the word problems.

1) Steven is having a birthday party. He cuts his cake into 10 slices. He hands out $\frac{6}{10}$ slices of cake. Write the subtraction equation using fractions below. Then solve the equation.



2) Brian took 40 dollars to the store. He spent $\frac{15}{40}$ on a new book. How many dollars out of the 40 dollars does he have left?



3) Kate got 70 candies when she went Trick-or-Treating on Halloween. She ate $\frac{13}{70}$ candies when she got home. How many does she have now out of 70?



Unit Test – Percent, Decimals, and Fractions

Part 1

Fill in the table below.

	Number	$\times 0.01$	1%	$\times 0.10$	10%	$\times 0.05$	15%
1)	100						
2)	50						
3)							

Part 2

Solve the problems below.

1) Carter found a pair of shoes that cost \$85. He is lucky because they are an additional 15% off.

- a) How much will the shoes be after the discount?
- b) How much will they cost Carter with a 5% sales tax (after the discount)?



2) Eva wants to buy a new book, but she only has \$10 in her purse. The book is priced at \$8.25.

- a) What will the book cost with 5% tax added?
- b) How much money will she have left?



Part 3 Answer the word problems below.

The grade 7s voted on their favourite gym class game. The results are presented in the table below.

a) What percentage of students chose soccer?

b) If there are 25 students chosen for the survey, how many chose dodgeball as their favourite?

Basketball	11%
Badminton	23%
Volleyball	18%
Dodgeball	32%
Soccer	

**Part 4** Is the decimal a repeating or terminating decimal?

1) 0.5		4) 0.75	
2) 0.2		5) $0.\overline{3}$	
3) $0.\overline{12}$		6) $0.41\overline{6}$	

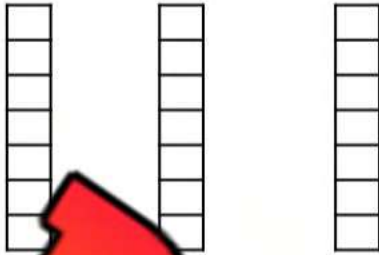
Part 5 Write the decimals below – use a line to show repeating decimals.

1) $\frac{1}{4} =$	2) $\frac{7}{10} =$	3) $\frac{1}{7} =$
4) $\frac{2}{3} =$	5) $\frac{4}{11} =$	6) $\frac{3}{9} =$
7) $\frac{1}{5} =$	8) $\frac{11}{12} =$	9) $\frac{4}{12} =$
10) $\frac{3}{5} =$	11) $\frac{4}{6} =$	12) $\frac{1}{12} =$

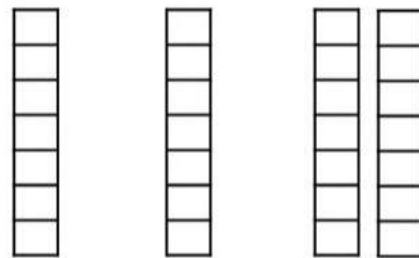
Part 6

Add the fractions below.

1) $\frac{2}{7} + \frac{4}{7} = \underline{\quad}$



2) $\frac{6}{7} + \frac{4}{7} = \underline{\quad}$



3) $\frac{3}{6} + \frac{6}{12} = \underline{\quad}$

4) $\frac{1}{4} + \frac{4}{8} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

5) $\frac{1}{2} + \frac{4}{6} = \underline{\quad} + \underline{\quad} = \underline{\quad}$

Part 7

Subtract the fractions below.

1) $\frac{5}{5} - \frac{4}{5} = \underline{\quad}$

2) $\frac{5}{5} - \frac{1}{5} = \underline{\quad}$

3) $\frac{9}{4} - \frac{2}{4} = \underline{\quad}$

4) $\frac{6}{9} - \frac{3}{9} = \underline{\quad}$

5) $\frac{3}{4} - \frac{3}{8} = \underline{\quad} - \underline{\quad} = \underline{\quad}$

6) $\frac{10}{14} - \frac{3}{7} = \underline{\quad} - \underline{\quad} = \underline{\quad}$

7) $\frac{5}{6} - \frac{6}{12} = \underline{\quad} - \underline{\quad} = \underline{\quad}$

8) $\frac{11}{16} - \frac{3}{8} = \underline{\quad} - \underline{\quad} = \underline{\quad}$

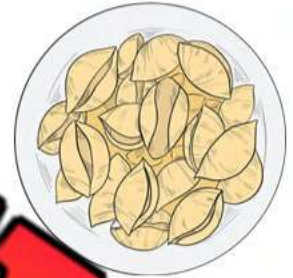
Part 8

Solve the word problems.

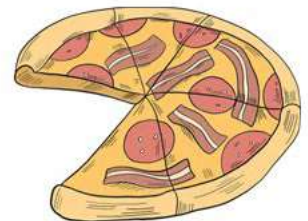
1) A cake recipe calls for $\frac{6}{8}$ of a cup of white sugar and $\frac{3}{4}$ of a cup of brown sugar. How much sugar in total does the cookie recipe use?



2) Brian made $\frac{1}{2}$ of a kg of pasta. His guests ate $\frac{2}{4}$ of a kg. How much pasta is left?



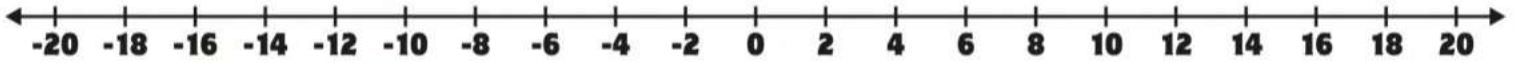
3) Nicole had $\frac{6}{12}$ of a pizza leftover from last night. The next day, she ate $\frac{1}{3}$ of the pizza. How much pizza is left?



Graphing Integers & Opposite Integers

Part 1

Graph each integer by writing the letter on the number line.



a) 0

e) -18

i) 3

m) -6

b) -17

j) 15

n) -7

c) 10

k) 20

o) -10

d) 18

L) -3

p) 17

Part 2

(hint: an opposite is a positive and a negative pair, for e.g. 3 and -3)
Which letter pairs are opposites?

1) _____

5) _____

2) _____

6) _____

3) _____

7) _____

4) _____

8) _____

Part 3

Write the opposite integer below:

1) 8

4) 14

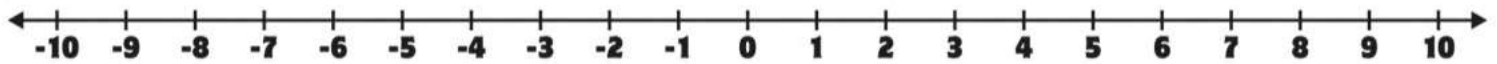
2) 12

5) -4

3) -18

6) -10

Ordering Integers – Greatest to Least

**Part 1**

Circle the largest integer.

1) 5, 4, -7, -4, 3	2) -4, -8, -2, -3, 0
3) 1, -2, 4	4) -6, 4, -2, -3, 6
5) 10, -1	6) 12, 7, -7, -9, 0

Part 2

Circle the smallest integer.

1) 8, 3, -5, -10, -9	2) -2, 0, 7, -9
3) 0, -2, -1, 2, -4	4) -12, -4, -3
5) 13, -10, -12, -5, 0	6) -4, -6,

Part 3

Arrange the integers from greatest to least.

1) -7, 2, -5, -8, 5	2) 0, -5, 11, -11, -7
3) 4, -5, -7, 5, -6	4) -3, -9, -8, -10, 6

Adding Integers – Zero Pairs



+	+	+	-	-	-	
+	+	+	-	-	-	
+		+				

8 + (-6) = 2



Question: Cross out the zero pairs. What is left?

1) $\begin{matrix} (+) & (-) & (+) \\ (+) & (+) & (+) \\ (+) & (+) & (+) \\ (+) & (+) & (+) \end{matrix}$ _____ + _____ = _____	2) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (-) & (-) & (-) \\ (-) & (-) & (-) \end{matrix}$ _____ + _____ = _____	3) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & \end{matrix}$ _____ + _____ = _____
4) $\begin{matrix} (-) & (-) & (-) \\ (-) & (-) & (-) \\ (-) & (-) & \end{matrix}$ _____ + _____ = _____	5) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (-) & (-) & (-) \\ (-) & (-) & (-) \end{matrix}$ _____ + _____ = _____	6) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (-) & (-) & (-) \\ (-) & (-) & (-) \end{matrix}$ _____ + _____ = _____
7) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (+) & (+) & \end{matrix}$ _____ + _____ = _____	8) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (+) & (+) & \end{matrix}$ _____ + _____ = _____	9) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (-) & (-) & (-) \\ (-) & (-) & (-) \end{matrix}$ _____ + _____ = _____
10) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & \end{matrix}$ _____ + _____ = _____	11) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & (+) \\ (+) & (+) & \end{matrix}$ _____ + _____ = _____	12) $\begin{matrix} (+) & (+) & (+) \\ (+) & (+) & \end{matrix}$ _____ + _____ = _____

Golf – Adding Integers – Zero Pairs

Word Problems

Solve the word problems below using counter chips.

- 1) Alice played 2 rounds of golf. Her final scores for both rounds are on the scorecard. What is the total score for the two rounds?



Round	Score
1	-6
2	+9
Total Score	

Equation: _____ = _____

- 2) Theo played 3 rounds of golf. His final scores for all three rounds are on the scorecard. What is his total score?



Round	Score
1	-5
2	-3
3	+5
Total Score	

Equation: _____ + _____ + _____ = _____

- 3) Leah played 4 rounds of golf. Her final scores are on the scorecard. What is her total score?

R1	R2	R3	R4
-4	4	-2	-4



Equation: _____ + _____ + _____ + _____ = _____

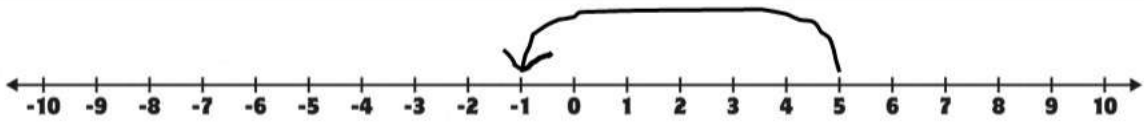
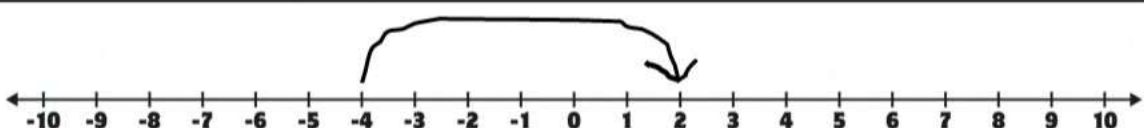
- 4) Miles played 4 rounds of golf. His final scores are written on the scorecard. What is his total score?

R1	R2	R3	R4	Total Score
8	3	-6	-5	

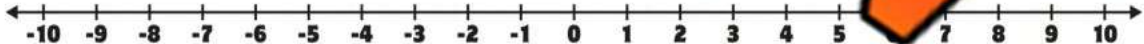
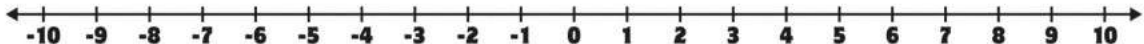
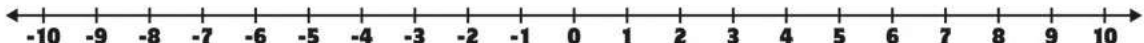
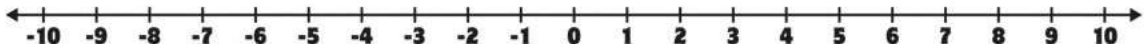


Equation: _____ + _____ + _____ + _____ = _____

Adding Integers – Using Number Lines

$5 + (-6) = -1$	
$-4 + 6 = 2$	

Instructions Use the number lines to solve the questions.

1) $8 + (-3) =$	
2) $-9 + 5 =$	
3) $8 + (-3) =$	
4) $-10 + 6 =$	
5) $9 + (-17) =$	
6) $-8 + 11 =$	
7) $8 + (-14) =$	
8) $-9 + 12 =$	

Adding Integers – Using Number Lines

-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	----	----	----	----	----	----	----

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
---	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----

Part 1

Solve the questions below.

1) $5 + (-)$	6) $-15 + 11 + (-5)$
2) $18 + (-6) + 7$	7) $17 + (-6) + (-8)$
3) $-12 + 5 + (-6)$	8) $-15 + (-5) + 11 + (-7)$
4) $13 + (-6) + (-4)$	9) $11 + (-7) + (-5)$
5) $-11 + 4 + (-2)$	10) $10 + (-7) + 7$

Part 2

Answer the word problems below. Write the equation.

- You take 9 steps forwards, 7 steps backwards, another 5 steps forwards, and another 4 steps forwards. How many steps have you taken?
- The Big Dipper rollercoaster climbs straight up 30m above ground level before it drops 18m. Next, it climbs another 22m before it drops 17m. When the ride is over, the participants are how much higher than ground level?



Adding Integers - Rules

Adding Integers Rules

$\oplus + \oplus = \oplus$ Adding 2 positive integers will always give a positive answer

$\ominus + \ominus = \ominus$ Adding 2 negative integers will always give a negative answer

$\oplus + \ominus = \ominus$ Adding integers with different signs $\rightarrow$ use the larger number

$\ominus + \oplus = \ominus$ Adding integers with different signs $\rightarrow$ use the larger number

*** If the integers have the same sign, add them and keep the sign

*** If the integers have different signs, subtract them and use the sign of the larger number

Part 1 Use the rules to answer the 1-step questions below.

1) $42 + (-13)$		5) $-121 + 5$	
2) $57 + (-66)$		6) $(-5) + (-26)$	
3) $-132 + (-112)$		7) $11 + (-4)$	
4) $(+33) + (+86)$		8) $-328 + 1$	

Part 2 Simplify the multi-step questions and use the rules to find the answer.

1) $16 + (-11) + (-17)$		4) $42 + 35 + (-28) + (-55)$	
2) $37 + (-26) + 28$		5) $68 + (-75) + (-33) + 91$	
3) $-82 + (-42) + (-35)$		6) $-108 + 85 + (-72) + (132)$	

Subtracting Integers – Keep, Flip, Change

Subtraction Integers Rules

To subtract integers, it is easiest to change the operation to addition and then follow the addition rules. We can do this by using the rule – Keep, Flip, Change. We keep the first number the same, flip the operation from subtraction to addition, and then change the third number's sign.

Example: $5 - (-6) = ?$ becomes $5 + 6 = 11$

Keep the
first
integer

Flip the
operation

Change the
sign of the next
integer

Part 1

Write the equations and solve the problems.

1) $8 - (-9) =$

6) $(+37) - (+41) =$

2) $24 - (-11) =$

7) $(+5) - (+23) =$

3) $(-11) - 8 =$

8) $(-1) - (-8) =$

4) $(-23) - 13 =$

9) $(-53) - (-10) =$

5) $(-31) - (-12) =$

10) $88 - (-57) =$

Part 2

Answer the word problem below. Write the equation for each question.

The highest recorded temperature on Earth is 56°C . The lowest recorded temperature is -89°C . What is the difference between these two temperatures?



Subtracting Integers – Riddle

Instruction

Write the letters above the answers at the bottom to solve the riddle.

E) $10 - (-4) =$

N) $(+17) - (+30) =$

P) $(-15) - (-8) =$

E) $(+61) - (+38) =$

L) $(-18) - 7 =$

O) $(-36) - (-20) =$

N) $(-12) - 17 =$

E) $(-1) - (-1) =$

V) $43 - (-18) =$

A) $(+63) - (+53) =$

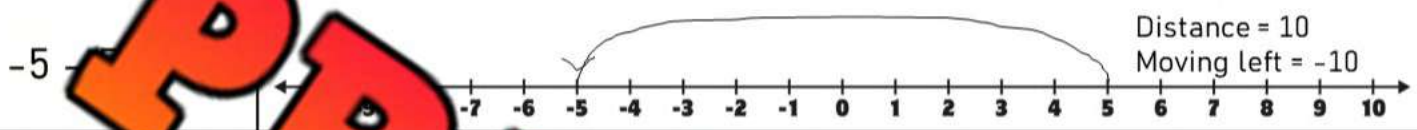
What begins with an E but only has one letter?

10 -13_____
14 -29_____
61_____
23_____
-25_____
-16_____
0_____
15

Subtracting Integers – Number Line

Follow these steps to use a number line for solving subtraction questions involving integers.

- 1) Determine how far the numbers are on a number line (-5 and 5 has a distance of 10 in total – magnitude of 10)
- 2) The direction you move **from** the **second** number to the **first** number will tell you which sign to use. When we move left, we are moving in a negative direction (-) and when we move right, we are moving in a positive direction (+)



Instruction: Use the number line to solve the questions.

1) $6 - (-3) =$



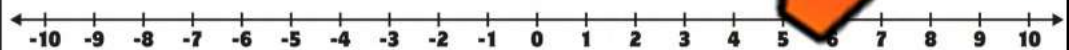
2) $-4 - 5 =$



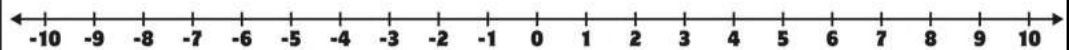
3) $7 - (-3) =$



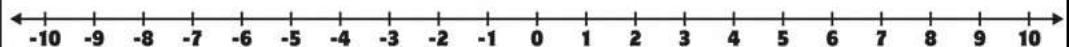
4) $-6 - 1 =$



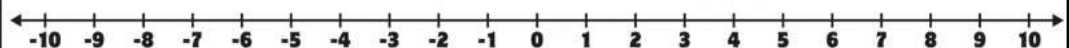
5) $0 - (-9) =$



6) $-7 - (-4) =$



7) $(-10) - (-1) =$



Name: _____

217

Curriculum Connection
TQ

Integers Quiz

Part 1

Arrange the integers from least to greatest.

1) 5, 3, -6, -9, 7

2) -4, 4, 8, 2, -9

Part 2Use $<$, $>$, $=$ to compare the integers below.

1) 8

4

3) -7

3

4) -5

-4

1

6

6) -3

-7

Part 3

Solve the questions below.

1) $3 + (-7) =$

2) $5 + (-7) =$

3) $5 + (-3) =$

4) $(-5) + 9 =$

5) $(-2) + 7 =$

6) $(-5) +$

Kennedy played 3 rounds of golf. Her final scores for both rounds are on the scorecard. What is her total score for the two rounds?



Equation: _____ + _____ + _____ = _____

Round	Score
1	-8
2	-4
3	+6
Total Score	

1) $9 - (-11) =$

2) $(-25) - 13 =$

3) $26 - (-15) =$

4) $(+48) - (+13) =$

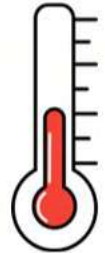
5) $(-17) - 9 =$

6) $31 - 49 =$

Part 4

Solve the word problems.

1) The temperature is -11 degrees Celsius. Overnight, the temperature will drop another 15 degrees. What will be the temperature after the drop? Use a negative integer.



2) A hot air balloon is at 200 metres in the air. It then rises 90 metres and then descends 500 metres. What is its net change in altitude from its original position? Use a negative integer.



3) A hotel has 5 basement floors. It is at the ground floor and then rises 9 floors. Then it descends 13 floors. What floor is it on now? Use a negative integer.

