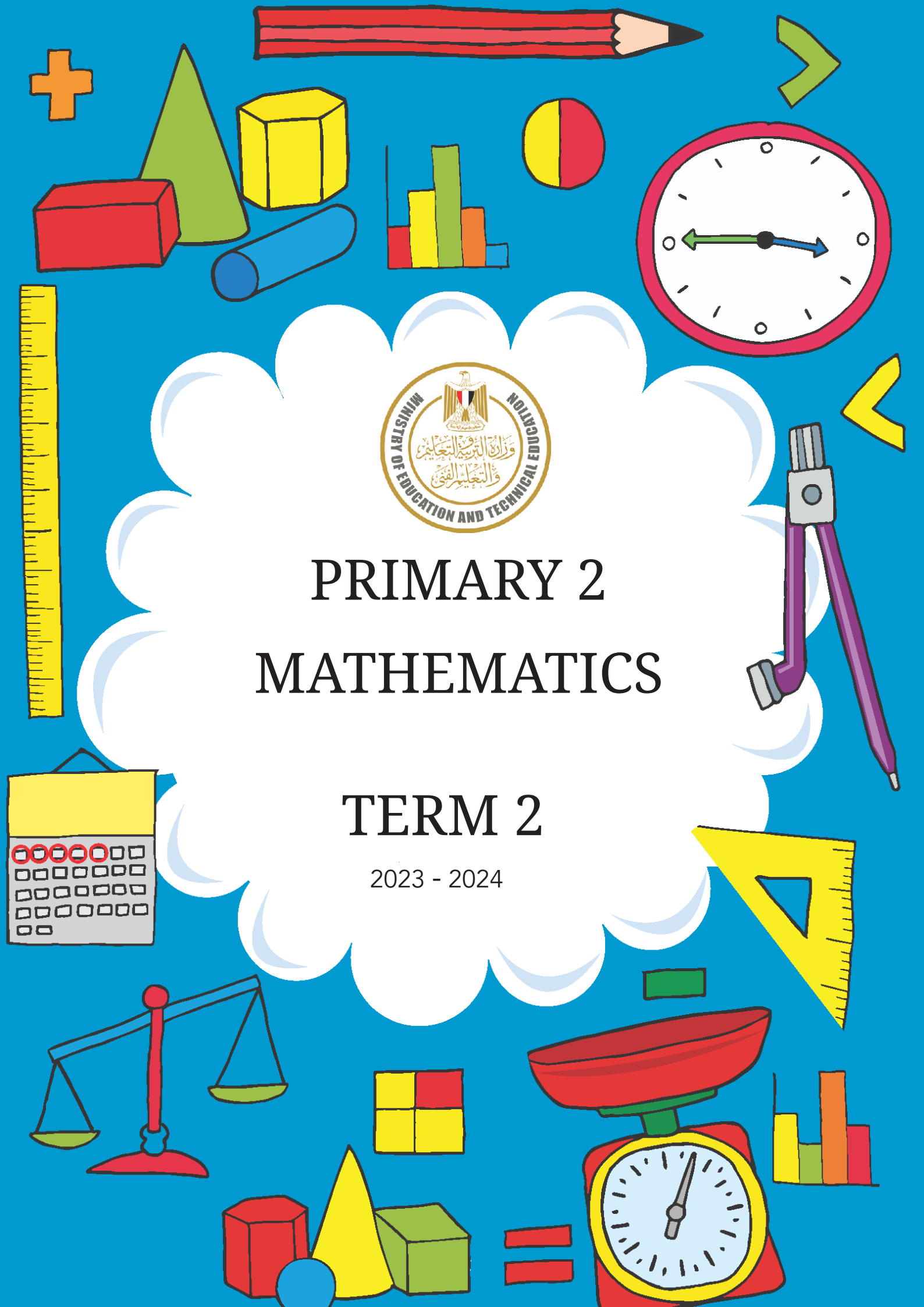




# PRIMARY 2 MATHEMATICS

## TERM 2

2023 - 2024



## FOREWORD

This is a pivotal time in the history of the Ministry of Education and Technical Education (MOETE) in Egypt. We are embarking on the transformation of Egypt's K-12 education system starting in September 2018 with KG1, KG2 and Primary 1 continuing to be rolled out year after year until 2030. We are transforming the way in which students learn to prepare Egypt's youth to succeed in a future world that we cannot entirely imagine.

MOETE is very proud to present this new series of textbooks, Discover, with the accompanying digital learning materials that captures its vision of the transformation journey. This is the result of much consultation, much thought and a lot of work. We have drawn on the best expertise and experience from national and international organizations and education professionals to support us in translating our vision into an innovative national curriculum framework and exciting and inspiring print and digital learning materials.

The MOETE extends its deep appreciation to its own "Central Administration for Curriculum Development" (CACD) and "Discovery Education".

This transformation of Egypt's education system would not have been possible without the significant support of Egypt's current president, His Excellency President Abdel Fattah El-Sisi. Overhauling the education system is part of the president's vision of 'rebuilding the Egyptian citizen' and it is closely coordinated with the ministries of higher education & scientific research, Culture, and Youth & Sports. Education 2.0 is only a part in a bigger national effort to propel Egypt to the ranks of developed countries and to ensure a great future to all of its citizens.

# WORDS FROM THE MINISTER OF EDUCATION & TECHNICAL EDUCATION

**I**t gives me great pleasure to celebrate this crucial stage of comprehensive and sustainable development, an epoch in which all Egyptian people are taking part. This pivotal stage necessitates paving a foundation for a strong educational system which yields a generation that is not only capable of facing the major challenges the world is witnessing today, but one that also has complete possession of the skills of the future.

At a time when our world is witnessing successive industrial revolutions, the Egyptian state is keen on empowering its citizens by establishing a top-notch educational system that invests in its children the expertise required to get them to compete at both a regional and global level. This dictates that our educational system has at its core an emphasis on skills development, deep understanding, and knowledge production.

This can only be done through modern curricula that keep up with the changes taking place globally curricula which prioritize the development of skills and values, and the integration of knowledge. They are also curricula that focus on the provision of multiple learning sources, and integration of technology to enrich the educational process and to improve its outcomes, while addressing the most important contemporary issues.

To achieve this, we must all join hands to continue to revolutionize our education, and to support it with all that is required to transform it into a globally pioneering educational system.

My warmest regards to you, dear students, and my deepest gratitude to my fellow teachers.

**Professor Reda Hegazy**  
**Minister of Education & Technical Education**



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**LESSON 1 : EXPLORING MONEY**

**APPLY :**

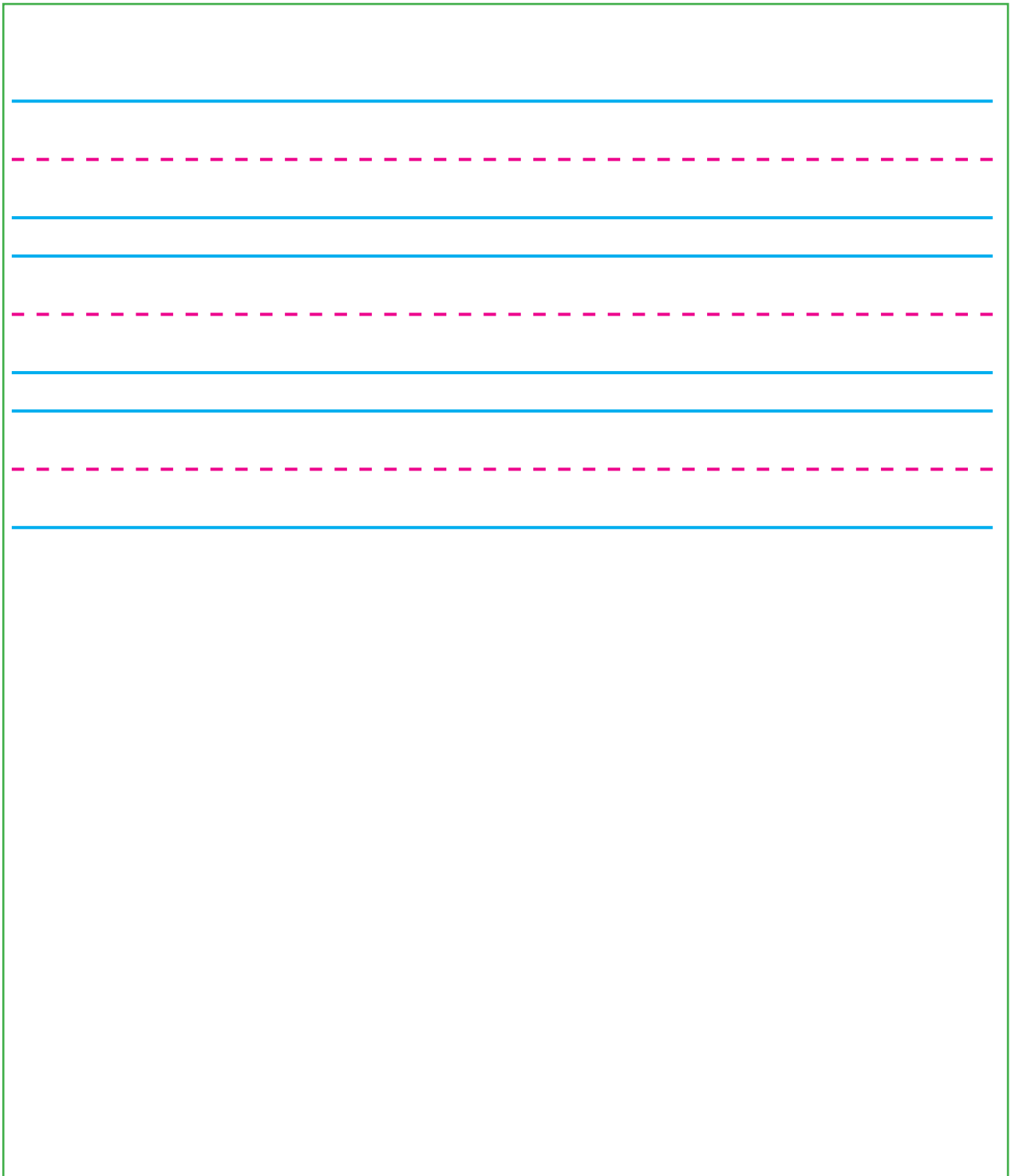
**Directions:** Match your banknotes to the banknotes pictured below.

**Then, write the value of each pound note.**

BANKNOTE	VALUE
	
	
	
	
	
	
	

**REFLECT :**

**Directions:** Reflect on your learning. What did you notice about the different banknotes? What connections can you make between the numbers on each banknote and the goods and services each banknote might purchase? Write or draw your thinking.



**LESSON 2: COMPOSING AN AMOUNT****APPLY :**

**Directions:** Take turns being the Banker.

**Write the amount in the first blank. Draw your answer in the second blank.**

1. \_\_\_\_\_ = \_\_\_\_\_

2. \_\_\_\_\_ = \_\_\_\_\_

3. \_\_\_\_\_ = \_\_\_\_\_





**LESSON 3 : APPLICATIONS ON MONEY**

**APPLY :**

**Directions:** Use your banknotes to create each amount shown below.  
**Draw the combination of banknotes you used to purchase each item.**

1. Set of books: 28 LE



2. Football: 206 LE



3. Toy truck: 149 LE



4. Video game: 427 LE



5. Plush toy: 39 LE



6. Board game: 126 LE



**REFLECT :**

**Directions:** Reflect on your learning. Draw or write to explain the importance of knowing how to decompose numbers as you learn about money.

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**LESSON 4: MORE APPLICATIONS ON MONEY**

**APPLY :**

**Directions:** Add the money. Match each total to a price on the right by drawing a line to connect the dots.

100 LE	50 LE	1 LE	1 LE	1 LE
--------	-------	------	------	------

\_\_\_\_\_ LE ●



● Doll: 29 LE

100 LE	5 LE	1 LE	1 LE	1 LE
--------	------	------	------	------

\_\_\_\_\_ LE ●



● Scooter: 153 LE

10 LE	10 LE	5 LE	1 LE	1 LE
1 LE	1 LE			

\_\_\_\_\_ LE ●



● Roller skates: 61 LE

100 LE	50 LE	10 LE	10 LE	10 LE
1 LE	1 LE	1 LE	1 LE	

\_\_\_\_\_ LE ●



● Toy truck: 34 LE

10 LE	10 LE	10 LE	1 LE	1 LE
1 LE	1 LE			

\_\_\_\_\_ LE ●



● Basket of fruit: 18 LE

50 LE	10 LE	1 LE
-------	-------	------

\_\_\_\_\_ LE ●



● Wagon: 184 LE

**REFLECT :**

**Directions:** Work with your Shoulder Partner to create combinations of banknotes that total 500 LE. Record your work.

A large rectangular box with a green border, containing four sets of primary-ruled lines. Each set consists of a solid blue top line, a dashed pink middle line, and a solid blue bottom line, providing space for students to record their work.

## LESSON 5 : WORK WITH MONEY

## APPLY :

Directions: You have 500 LE to spend at the class store. Buy as many items as you can without going over your budget of 500 LE. Write each item you purchased and its price below. Be sure to keep track of how much you are spending.

Pack of pencils: 15 LE 	Plush toy: 57 LE 	Bicycle: 127 LE 
Shoes: 450 LE 	Shirt: 73 LE 	Ball: 86 LE 
Jacket: 335 LE 	Candy: 5 LE 	Scissors: 9 LE 
Board game: 101 LE 	Toy: 41 LE 	Glue: 3 LE 
Snacks: 17 LE 	Book: 28 LE 	Backpack: 292 LE 

Item	Price	Add your prices here to keep track of your total

**REFLECT :**

**Directions:** Reflect on your learning. Answer the following questions:

- What did you think about and talk about while you were doing the activity?
- What was challenging about staying within your budget?
- What would you do differently if you had the opportunity?

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**LESSON 6 : SAVING AND PURCHASING****APPLY :**

**Directions:** Solve the story problems. Write your answer on the line.

1. Ali and his brother put their money together to buy a video game. Ali had 42 LE and his brother had 57 LE.

How much money do they have all together?

\_\_\_\_\_ LE

2. Salma was given 29 LE for doing chores. She bought a basket of fruit for 14 LE.

How many pounds does Salma have left?

\_\_\_\_\_ LE

3. Aya saved 33 LE in one month. The next month she saved 24 LE.  
How much money does Aya have in all?

\_\_\_\_\_ LE

4. Mostafa was given 99 LE for his birthday. He bought a new pair of shoes for 86 LE. How many pounds does Mostafa have left ?

\_\_\_\_\_ LE

5. Tarek bought a book for 44 LE and a new football for 44 LE. How much did Tarek owe altogether ?

\_\_\_\_\_ LE

**REFLECT :**

**Directions:** Reflect on your learning. Then, create your own money story problem.  
It can be an addition or subtraction problem.

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**LESSON 7 : PLACE VALUE FOR AMOUNTS****APPLY :**

**Directions:** Use your 1, 10, and 100 LE notes to build the amounts given by your teacher.

Place Value/Money Mat		
Hundreds 100 LE	Tens 10 LE	Ones 1 LE



**LESSON 8: ADDING USING MONEY****APPLY :**

**Directions:** Use your 1, 10, and 100 LE notes to solve the addition problems given by your teacher.

Place Value/Money Mat		
Hundreds 100 LE	Tens 10 LE	Ones 1 LE

**REFLECT :**

**Directions:** Reflect on your learning. Write about or draw something you are proud to have learned and something you are still working on.

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**LESSON 9 : SUBTRACTING USING MONEY****APPLY :**

**Directions:** Use your 1, 10, and 100 LE notes to solve the subtraction problems given by your teacher.

Place Value/Money Mat		
Hundreds 100 LE	Tens 10 LE	Ones 1 LE

**REFLECT :**

**Directions:** Reflect on your learning. How is regrouping to add like regrouping to subtract? How is it different?

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## LESSON 10: APPLICATIONS ON ADDING AND SUBTRACTING MONEY

## APPLY :

Directions: Use the place value/money mat to solve the problems on the cards.  
Record your answers in the matching spot. (Look at the letters.)

A: _____ LE
B: _____ LE
C: _____ LE
D: _____ LE
E: _____ LE
F: _____ LE



Place Value/Money Mat		
Hundreds 100 LE	Tens 10 LE	Ones 1 LE

**REFLECT :**

**Directions:** Reflect on your learning. What do you know now about money that you did not know 10 days ago? Write about or draw your thinking.

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**LESSON 1: EXPLORING EVEN NUMBER AND ODD NUMBER**

**APPLY :**

**Directions:** Determine if the number is even or odd. Then record it in the chart.

Even	Odd
4	
6	
	7
10	

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

**REFLECT :**

**Directions:** Reflect on your learning. Do you notice anything that the even numbers or the odd numbers have in common? Is there anything you noticed as you were testing the numbers? What do you now know about odd or even? Draw or write your answers.

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**LESSON 2: DOUBLE THE NUMBER****APPLY :**

**Directions:** Double each number and then determine if the sum is even or odd.

Number	Double	Even or Odd?
1	$1 + 1 = 2$	Even
2		
3		
4		
5		
6		
7		
8		
9		
10		

Number	Double	Even or Odd ?
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



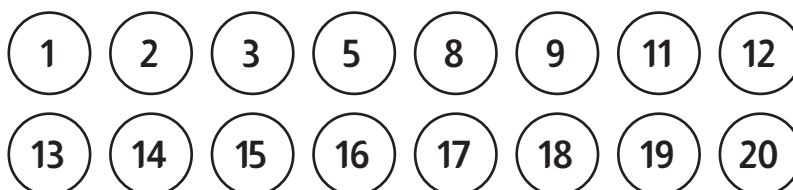
**LESSON 3: AN EVEN OR AN ODD NUMBER?****APPLY :**

**Directions:** Choose two cards, record the addends as an equation, and find the sum.

Equation	Sum	Even or Odd ?
4 + 5		

**REFLECT :**

**Directions:** Reflect on your learning. Color even numbers red and odd numbers blue. What patterns do you observe?




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## LESSON 4 : PATTERNS

## APPLY :

Directions: Complete the number pattern. Write the next 2 numbers in the pattern.

+2      +2      +2      +2      +2

1. 

2	4	6	8		
---	---	---	---	--	--

2. 

0	3	6	9		
---	---	---	---	--	--

3. 

10	15	20	25		
----	----	----	----	--	--

4. 

20	30	40	50		
----	----	----	----	--	--

5. 

5	7	9	11		
---	---	---	----	--	--

6. 

12	14	16	18		
----	----	----	----	--	--

7. 

4	8	12	16		
---	---	----	----	--	--

## LESSON 5 : MORE PATTERNS

## APPLY :

Directions: Complete the number pattern. then Write the next two numbers in the pattern.

5-      5-      5-      5-      5-

1. 

70	65	60	55		
----	----	----	----	--	--

2. 

30	40	50	60		
----	----	----	----	--	--

3. 

26	24	22	20		
----	----	----	----	--	--

4. 

45	42	39	36		
----	----	----	----	--	--

**LESSON 6 : EXPLORING THE PATTERN RULE.****APPLY :**

**Directions:** For each pattern, identify the rule, draw a line to match the pattern to its rule, and complete the pattern.

PATTERN	RULE
1. 75, 66, 57, _____, _____, _____, _____ ●	● Subtract 3
2. 30, 40, 50, _____, _____, _____, _____ ●	● Add 6
3. 12, 18, 24, _____, _____, _____, _____ ●	● Subtract 9
4. 66, 70, 74, _____, _____, _____, _____ ●	● Add 4
5. 90, 80, 70, _____, _____, _____, _____ ●	● Subtract 10
6. 27, 24, 21, _____, _____, _____, _____ ●	● Add 10

**REFLECT :**

**Directions:** Reflect on your learning. Create a number pattern that involves addition or subtraction. Write the pattern and the rule.

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**LESSON 7 : CREATE PATTERNS INVOLVING ADDITION AND SUBTRACTION**

**APPLY :**

**Directions:** Use the rule to finish the number pattern.

**Rule:** Add 5 , Subtract 1

a)  $34$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$

$\xrightarrow{+5}$     $\xrightarrow{-1}$     $\xrightarrow{+5}$     $\xrightarrow{-1}$

b)  $20$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$

$\xrightarrow{+5}$     $\xrightarrow{-1}$     $\xrightarrow{+5}$     $\xrightarrow{-1}$

c)  $56$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$

d)  $75$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$

e)  $100$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$  ,  $\underline{\hspace{1cm}}$

**Directions:** Create a number pattern and rule, when your teacher told you .

**Rule:** \_\_\_\_\_

\_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_ , \_\_\_\_\_

**LESSON 8 : EXPLORING ARRAYS**

**APPLY :**

**Directions:** Glue your favorite array that you made today onto this page.

**REFLECT :**

**Directions:** Reflect on your learning. Why might it be important to know about arrays? How might we use arrays? Write or draw your thoughts and ideas..

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**LESSON 9 : REPEATED ADDITION AND ARRAYS**

**APPLY :**

**Directions:** Count the rows and write the addition equation. Then count the columns and write the addition equation.



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_



**REFLECT :**

**Directions:** Reflect on your learning.

**Where have you seen arrays in the real world?**

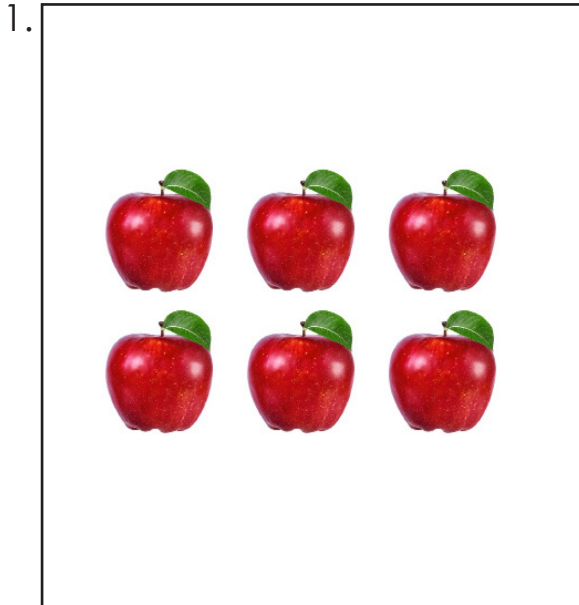
**Write about or draw your ideas.**

Handwriting practice lines consisting of four sets of horizontal lines. Each set includes a solid blue top line, a dashed pink middle line, and a solid blue bottom line.

## LESSON 10 : CREATING ARRAYS

## APPLY :

Directions: Solve the array. Write the equations.



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_

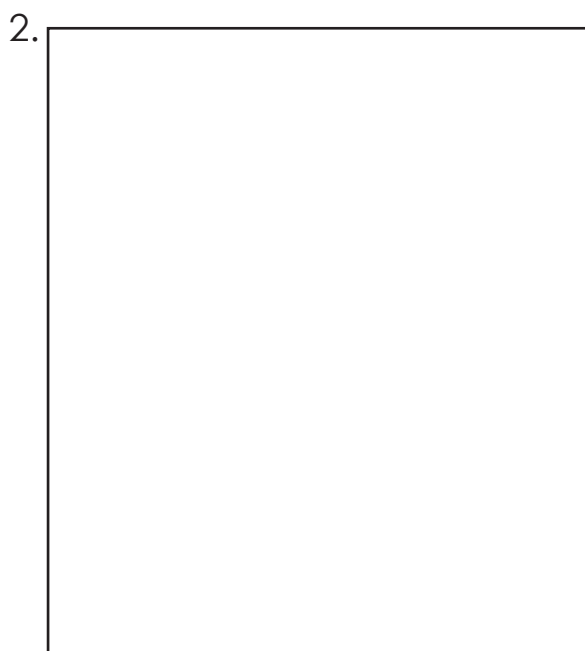
\_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_

This is a \_\_\_\_\_ by \_\_\_\_\_ array.

Directions: Create an array, and then trade books with your partner.

Your partner will fill in the box below. You will fill in the box in your partner's book.



Rows: \_\_\_\_\_

Columns: \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_

\_\_\_\_\_ = \_\_\_\_\_

This is a \_\_\_\_\_ by \_\_\_\_\_ array.

**LESSON 1 : ESTIMATING THE SUM AND THE DIFFERENCE****APPLY :**

**Directions:** Use front-end estimation to rewrite the problems.

**Then find the estimated sum or difference.**

1. Estimate:  $32 + 54$

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

2. Estimate:  $93 - 41$

$$\square - \square = \square$$

3. Estimate:  $53 + 15$

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

4. Estimate:  $86 - 25$

$$\square - \square = \square$$

5. Estimate:  $57 + 22$

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

6. Estimate:  $72 - 54$

$$\square - \square = \square$$

7. Estimate:  $35 + 92$

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

8. Estimate:  $234 + 140$

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

9. Estimate:  $581 - 348$

$$\square - \square = \square$$

10. Estimate:  $378 + 234$

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

**LESSON 2 : ROUNDING TO THE NEAREST 10****APPLY :**

**Directions:** Write the numbers your teacher gives you. Use the blank number line to help you round each number to the nearest Ten.



	Number	The result to nearest 10
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

**LESSON 3 : APPLICATIONS ON ESTIMATING AND ROUNDING****APPLY :**

**Directions:** Show your work and record your estimates in the box that matches the problem. Circle the estimation strategy you used.

<p>A.</p> <p>Front-end estimation Rounding</p>	<p>B.</p> <p>Front-end estimation Rounding</p>
<p>C.</p> <p>Front-end estimation Rounding</p>	<p>D.</p> <p>Front-end estimation Rounding</p>
<p>E.</p> <p>Front-end estimation Rounding</p>	<p>F.</p> <p>Front-end estimation Rounding</p>

**REFLECT :**

**Directions:** Reflect on your learning. which estimation strategy do you prefer: front - end estimation or rounding ? write or draw your thinking and explanation.

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## LESSON 4 : ADDING TWO 2-DIGIT NUMBERS WITH REGROUPING

## APPLY :

Directions: Use the place value mat to solve the addition problems.

Record your answers.

$$1. \quad \boxed{52} + \boxed{27} = \boxed{\phantom{00}}$$

$$2. \quad \boxed{68} + \boxed{24} = \boxed{\phantom{00}}$$

$$3. \quad \boxed{67} + \boxed{25} = \boxed{\phantom{00}}$$

$$4. \quad \boxed{38} + \boxed{56} = \boxed{\phantom{00}}$$

$$5. \quad \boxed{64} + \boxed{28} = \boxed{\phantom{00}}$$

$$6. \quad \begin{array}{r} 56 \\ + 29 \\ \hline \end{array}$$

$$7. \quad \begin{array}{r} 28 \\ + 28 \\ \hline \end{array}$$

$$8. \quad \begin{array}{r} 76 \\ + 15 \\ \hline \end{array}$$

$$9. \quad \begin{array}{r} 29 \\ + 57 \\ \hline \end{array}$$

$$10. \quad \begin{array}{r} 44 \\ + 39 \\ \hline \end{array}$$

Tens	Ones

**REFLECT :**

**Directions:** Reflect on your learning. Why is it sometimes necessary to regroup to solve problems? Write or draw your thinking.

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**LESSON 5 : MORE OF ADDING TWO 2-DIGIT NUMBERS WITH REGROUPING****APPLY :**

**Directions:** Solve the addition problems. Use straws or drawings to help you regroup.

1.  $18 + 24 =$  \_\_\_\_\_

2.  $32 + 18 =$  \_\_\_\_\_

3.  $47 + 37 =$  \_\_\_\_\_

4.  $53 + 26 =$  \_\_\_\_\_

5.  $75 + 19 =$  \_\_\_\_\_

Tens	Ones

**REFLECT :**

**Directions:** Reflect on your learning. Did you use straws or drawings to solve the addition problems? Why? Write or draw your explanation.

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## LESSON 6 : ADDING TWO 3-DIGIT NUMBERS WITH REGROUPING

## APPLY :

Directions: Use the place value mat to add numbers.

<b>1. Addition Problem:</b>	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<b>2. Addition Problem:</b>	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<b>3. Addition Problem:</b>	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<b>4. Addition Problem:</b>	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<b>5. Addition Problem:</b>	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>

Hundreds	Tens	Ones

**LESSON 7: MORE OF ADDING TWO 3-DIGIT NUMBERS WITH REGROUPING****APPLY :**

**Directions:** Write the addition equations your teacher gives you. Draw place value pictures to represent the addends. Regroup when needed. Add to find the sum.

1 \_\_\_\_\_

Hundreds	Tens	Ones

2 \_\_\_\_\_

Hundreds	Tens	Ones

3 \_\_\_\_\_

Hundreds	Tens	Ones

4 \_\_\_\_\_

Hundreds	Tens	Ones

5 \_\_\_\_\_

Hundreds	Tens	Ones

6 \_\_\_\_\_

Hundreds	Tens	Ones

**REFLECT :**

**Directions:** Use what you know about mental math strategies and regrouping to solve  $145 + 155$ . Show your work. Then, compare your answer with your Shoulder Partner's answer.

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**LESSON 8 : ADDING TWO NUMBERS WITH OR WITHOUT REGROUPING USING MODELS****APPLY :**

**Directions:** Write down the problem given by the “teacher.” Solve the problem and have the “teacher” check your work. Then switch roles.

	<b>Hundreds</b>
	<b>Tens</b>
	<b>Ones</b>

**LESSON 9 : ADDING TWO NUMBERS WITH OR WITHOUT REGROUPING****APPLY :**

**Directions:** Work with your teacher to solve addition problems. Record your work below.

1 . \_\_\_\_\_

Hundreds	Tens	Ones

2 . \_\_\_\_\_

Hundreds	Tens	Ones

3 . \_\_\_\_\_

Hundreds	Tens	Ones

4. \_\_\_\_\_

Hundreds	Tens	Ones

5. \_\_\_\_\_

Hundreds	Tens	Ones

6. \_\_\_\_\_

Hundreds	Tens	Ones



**LESSON 10 : STRATEGIES FOR ADDING TWO NUMBERS**

**APPLY :**

**Directions:** Check each problem. The student's answer is in red. If the answer to a problem is incorrect, mark it with an X. If the answer to a problem is correct, mark it with a star. Correct one of the problems.

<p>Problem 1</p> $\begin{array}{r} 123 \\ + 59 \\ \hline 172 \end{array}$	<p>Problem 2</p> <p>Round 35 to the nearest ten.</p> <p>30</p>	<p>Problem 3</p> $\begin{array}{r} 99 \\ + 8 \\ \hline 107 \end{array}$										
<p>Problem 4</p> <p>Round to estimate the sum</p> $\begin{array}{r} 48 + 38 \\ 50 + 40 = 90 \end{array}$	<p>Problem 5</p> <p>Layla baked 56 cookies. Amir baked 25 cookies. How many cookies did they bake all together ?</p> <table border="1"> <thead> <tr> <th>Tens</th> <th>Ones</th> </tr> </thead> <tbody> <tr> <td>     </td> <td>■ ■ ■</td> </tr> <tr> <td>     </td> <td>■ ■ ■</td> </tr> <tr> <td>  </td> <td>■ ■ ■</td> </tr> <tr> <td>  </td> <td>■ ■</td> </tr> </tbody> </table> <p>They baked 81 cookies</p>		Tens	Ones		■ ■ ■		■ ■ ■		■ ■ ■		■ ■
Tens	Ones											
	■ ■ ■											
	■ ■ ■											
	■ ■ ■											
	■ ■											
<p>Problem 6</p> $\begin{array}{r} 150 \\ + 67 \\ \hline 217 \end{array}$	<p>Problem 7</p> <p>Round the number 35 to the nearest Ten to estimate the difference of:</p> $\begin{array}{r} 87 - 21 \\ 80 - 20 = 70 \end{array}$	<p>Problem 8</p> <p>Estimate the difference of</p> $\begin{array}{r} 150 - 82 \\ 100 - 80 = 20 \end{array}$										

**REFLECT :**

**Directions:** Reflect on your learning. What do you understand better now than you did ten lessons ago? What do you still need to work on or have questions about? Write or draw your response to the prompts.

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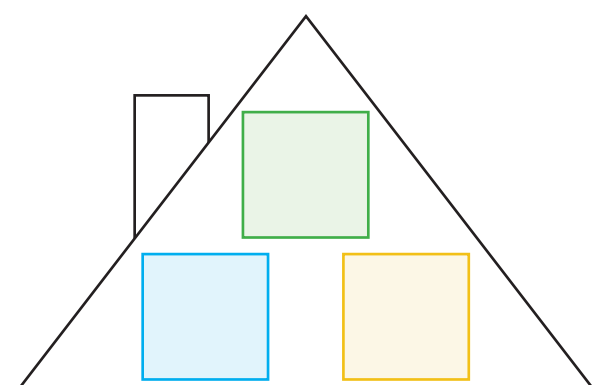
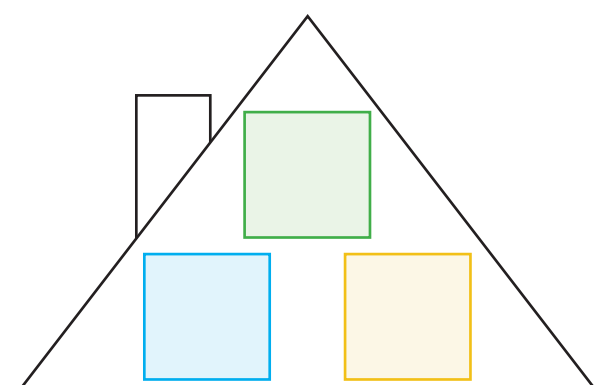
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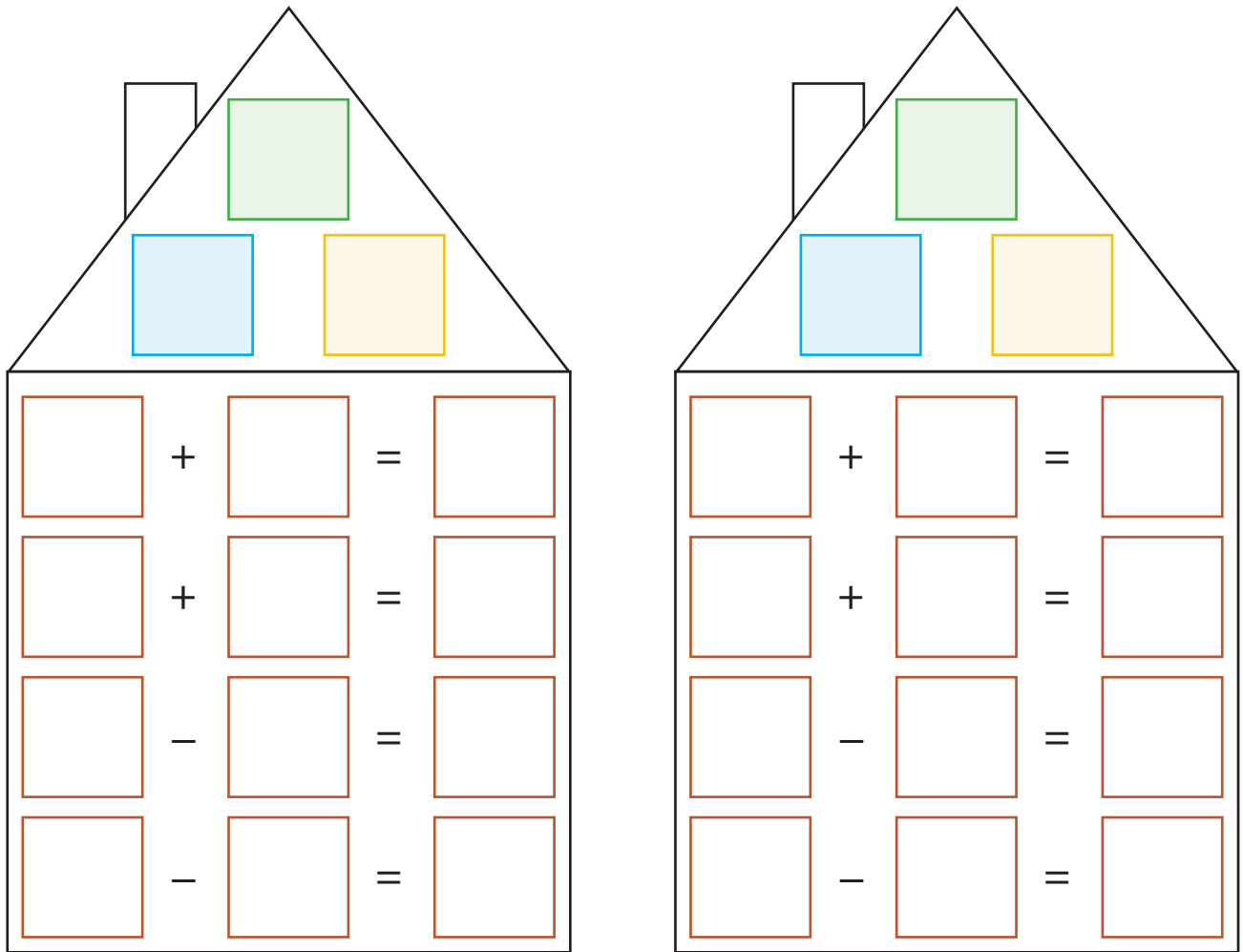
## LESSON 1 : THE RELATION BETWEEN ADDING AND SUBTRACTING USING THE FAMILY FACTS

### APPLY :

**Directions:** Turn over two cards and record the numbers in the blue and yellow boxes. Add the numbers together and record the sum in the green box. Complete the four number sentences using the three numbers.

				
□	+	□	=	□
□	+	□	=	□
□	-	□	=	□
□	-	□	=	□



**REFLECT :**

**Directions:** Reflect on your learning. What is the relationship between addition and subtraction? Use pictures, numbers, or words to show your thinking.

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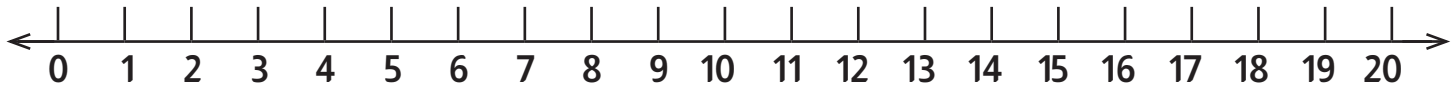


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## LESSON 2 : SUBTRACTION USING THE NUMBER LINE

APPLY :

Directions: Use the number line below to subtract. Record the difference.



1.  $\boxed{17} - \boxed{5} = \boxed{\phantom{00}}$

2.  $\boxed{15} - \boxed{9} = \boxed{\phantom{00}}$

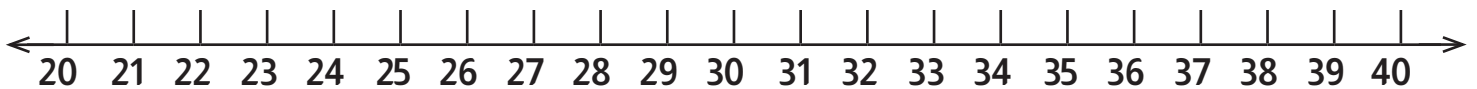
3.  $\boxed{18} - \boxed{12} = \boxed{\phantom{00}}$

4.  $\boxed{17} - \boxed{8} = \boxed{\phantom{00}}$

5.  $\boxed{16} - \boxed{9} = \boxed{\phantom{00}}$

6.  $\boxed{19} - \boxed{12} = \boxed{\phantom{00}}$

Directions: Use the number line below to subtract. Record the difference.

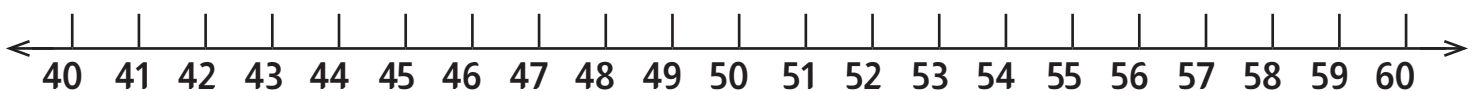


7.  $\boxed{38} - \boxed{15} = \boxed{\phantom{00}}$

8.  $\boxed{37} - \boxed{16} = \boxed{\phantom{00}}$

9.  $\boxed{28} - \boxed{8} = \boxed{\phantom{00}}$

Directions: Use the number line below to subtract. Record the difference.



10.  $\boxed{52} - \boxed{9} = \boxed{\phantom{00}}$

**LESSON 3 : STORY PROBLEMS ON SUBTRACTION****APPLY :**

**Directions:** Solve the story problems.

- 1. Samir made 48 cookies. He gave 22 to his sister Dalia. How many cookies are left?**

- 2. In the class there are 35 girls and 13 boys. How many more girls are there than boys?**

- 3. Jana collected stamps. She had 180 stamps. She gave 20 to her brother. How many does she have left ?**

4. Maha and Safa had 28 gifts to wrap. They have wrapped 4. How many more do they need to wrap?

5. There were 65 people on the bus. At the first stop, 21 people got off. How many people were left on the bus?

6. Jasmine has 25 candies. Walid has 14 candies. How many more candies does Jasmine have?

## LESSON 4 : BREAKING NUMBERS

## APPLY :

Directions: Create a number and record in the box. Record three different ways to break apart that number into smaller addends on the lines provided.

1.  = \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2.  = \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

3.  = \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

4.  = \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

## REFLECT :

Directions: Reflect on your learning. Think about why it might be helpful to break up a large number into smaller parts. How could breaking up a number help you add or subtract? Give an example of a problem where breaking apart a number will help you solve it. Write or draw your answer.

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**LESSON 5 : SUBTRACTING NUMBERS USING THE MENTAL MATHEMATICS****APPLY :**

**Directions:** Pick a Cluster Card. Record the letter of the card and solve the problems.

Card

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Card

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Card

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Card

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_



**LESSON 6 : PATTERNS OF SUBTRACTING NUMBERS WITH REGROUPING****APPLY :**

Hundreds	Tens	Ones

**REFLECT :**

**Directions:** Reflect on your learning. Define regrouping in your own words. Use words, numbers, or pictures to explain your thinking.

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## LESSON 7 : STRATEGIES OF SUBTRACTING TWO NUMBERS USING MODELS

## APPLY :

Directions: Estimate the difference. Then model using your place value materials.

Next, draw the problem, subtract, and record the difference. Compare the difference to your estimate.

1.  $\boxed{173} - \boxed{48} = \boxed{\phantom{000}}$  Estimate:  $\boxed{\phantom{000}}$

Hundreds	Tens	Ones

2.  $\boxed{148} - \boxed{29} = \boxed{\phantom{000}}$  Estimate:  $\boxed{\phantom{000}}$

Hundreds	Tens	Ones

3.  $\boxed{194} - \boxed{77} = \boxed{\phantom{000}}$  Estimate:  $\boxed{\phantom{000}}$

Hundreds	Tens	Ones

## LESSON 8 : MORE STRATEGIES OF SUBTRACTING TWO NUMBERS USING MODELS

## APPLY :

Directions: Estimate the difference. Then, draw the problem, subtract, write the difference, and then compare the difference to your estimate.

1.  $\boxed{329} - \boxed{179} = \boxed{\phantom{000}}$  Estimate:  $\boxed{\phantom{000}}$

Hundreds	Tens	Ones

2.  $\boxed{245} - \boxed{63} = \boxed{\phantom{000}}$  Estimate:  $\boxed{\phantom{000}}$

Hundreds	Tens	Ones

3.  $\boxed{719} - \boxed{257} = \boxed{\phantom{000}}$  Estimate:  $\boxed{\phantom{000}}$

Hundreds	Tens	Ones

**LESSON 9 : SUBTRACTING TWO NUMBERS WITH REGROUPING****APPLY :**

**Directions:** Work with your teacher to solve subtraction problems.

Record your work below.

Hundreds	Tens	Ones

Hundreds	Tens	Ones

Hundreds	Tens	Ones

Hundreds	Tens	Ones

Hundreds	Tens	Ones

Hundreds	Tens	Ones

**REFLECT :**

**Directions:** Reflect on your learning. What have you discovered about regrouping? What is still challenging about regrouping? Think for a moment, then use words, numbers, and pictures to record your thoughts.

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**LESSON 10 : ADDING AND SUBTRACTING TWO NUMBERS WITH REGROUPING****APPLY :**

**Directions:** Solve the following addition and subtraction problems, record your solution, and regroup as needed.

1)  $56 + 46 = \underline{\hspace{2cm}}$

2)  $195 + 34 = \underline{\hspace{2cm}}$

3)  $83 - 27 = \underline{\hspace{2cm}}$

4)  $130 - 66 = \underline{\hspace{2cm}}$

5)  $38 + 223 = \underline{\hspace{2cm}}$

6)  $99 + 11 = \underline{\hspace{2cm}}$

7)  $200 - 82 = \underline{\hspace{2cm}}$

8)  $286 + 223 = \underline{\hspace{2cm}}$

9)  $309 + 235 = \underline{\hspace{2cm}}$

10)  $360 - 115 = \underline{\hspace{2cm}}$

**REFLECT :**

- What you learned and it was difficult at first, but you practiced and learned it.
- Do you learn best when you learn alone, with a colleague, or in a small group?

In your opinion what is the reason for this?

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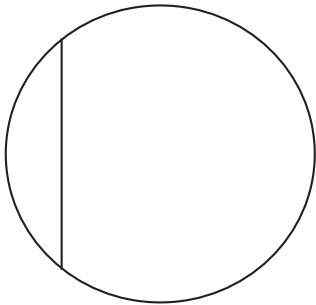
**LESSON 1 : CREATING FRACTIONS (HALVES, THIRDS AND QUARTERS)**

**APPLY :**

**Directions:** Determine if the circle is divided into equal parts or unequal parts.

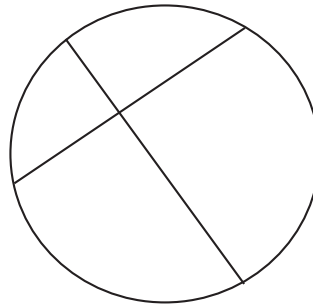
Circle your answer.

1.



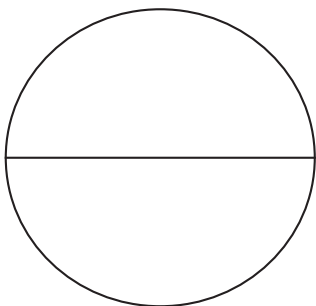
equal parts      unequal parts

2.



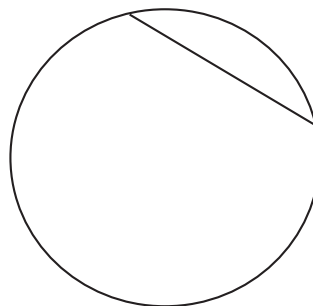
equal parts      unequal parts

3.



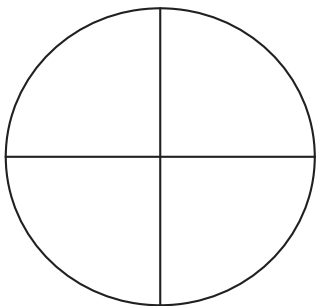
equal parts      unequal parts

4.



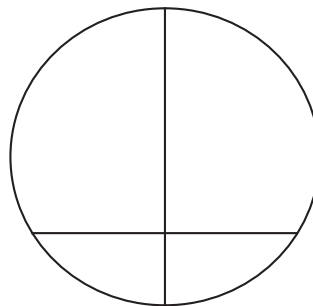
equal parts      unequal parts

5.



equal parts      unequal parts

6.



equal parts      unequal parts

**REFLECT :**

**Directions:** Reflect on your learning. Write about or draw what you know about fractions.

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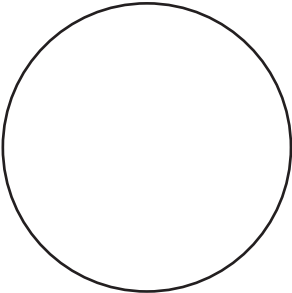
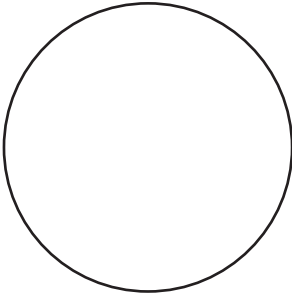
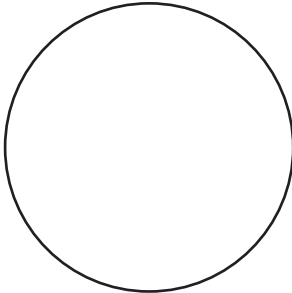


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## LESSON 2 : DIFFERENT FORMS FOR THE FRACTIONS (HALVES, THIRDS AND QUARTERS)

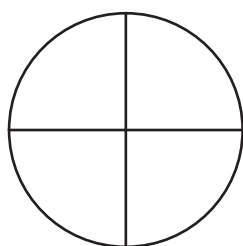
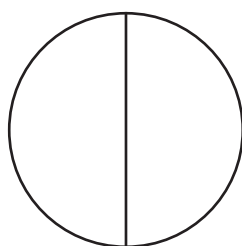
## APPLY :

Directions: Copy the information from the class chart onto the chart below.

Fraction in pictures and numbers			
Number of equal parts			
Fraction in words			
Vocabulary			

**REFLECT :**

**Directions:** Reflect on your learning. How are a clock and a circle divided into fractions in the same ways? How are they different? Write about or draw your thinking. An example is shown below, but you can think about other times and fractions, too.



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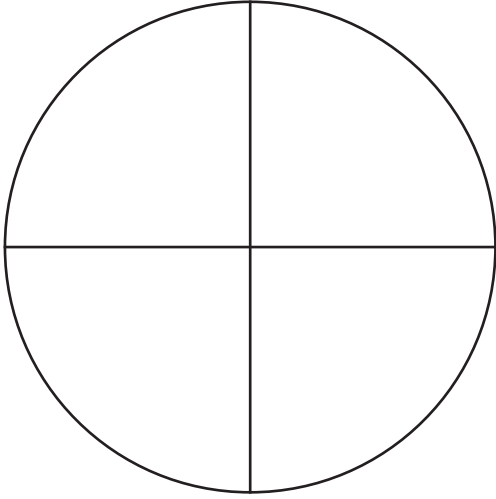
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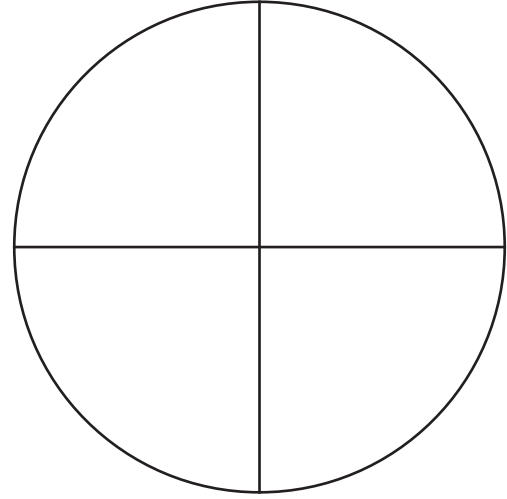
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**LESSON 3 : REPRESENTING AND WRITING FRACTIONS OF NUMERATORS MORE THAN 1****APPLY :**

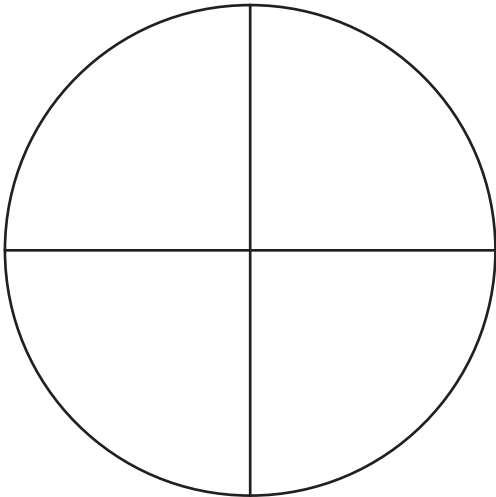
**Directions:** follow your teacher's directions to shade and name fractions.



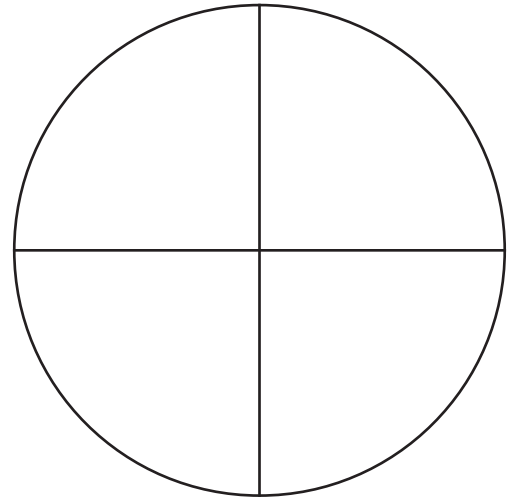
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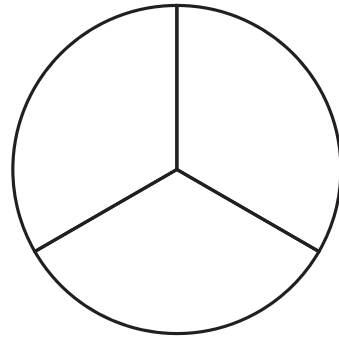


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**REFLECT :**

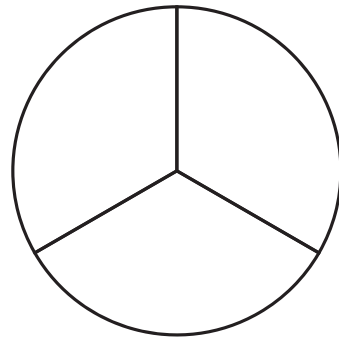
Directions: Reflect on your learning. Then follow the directions below.

1. Shade in one piece of the circle.  
Then write the fraction.



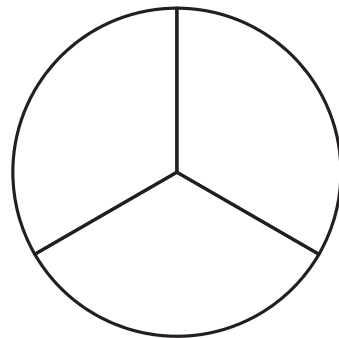
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2. Shade in two pieces of the circle.  
Then write the fraction.



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3. Shade in three pieces of the circle.  
Then write the fraction.



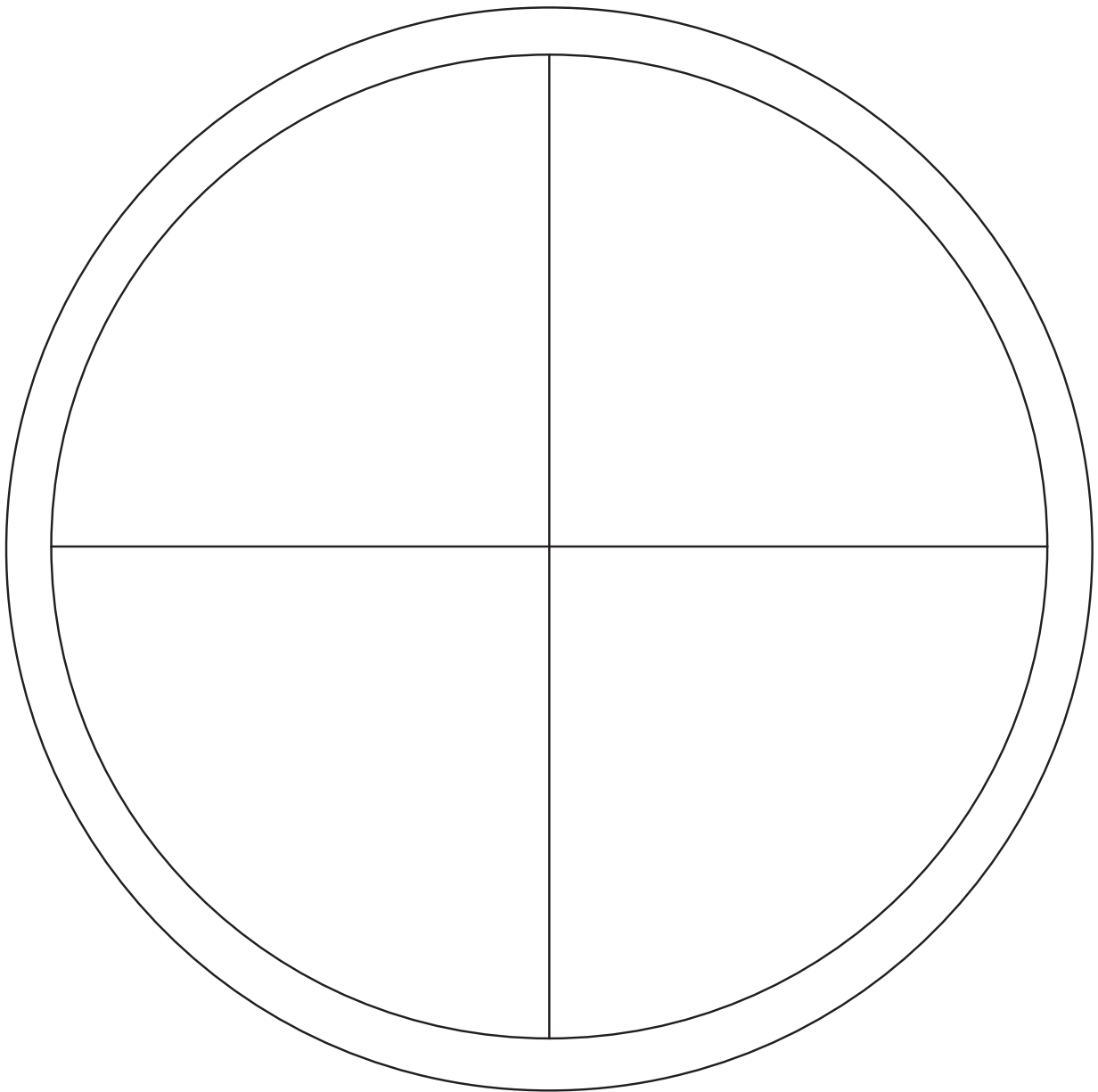
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How did you know what fractions to write?

**EXTENSION: Pizza Fractions**

**Directions:** color or draw the ingredients on the pizza based on the fraction given for each.

1. Add red sauce to the whole pizza.
2. Add green peppers to  $\frac{3}{4}$  of the pizza.
3. Add black olives to  $\frac{1}{4}$  of the pizza.
4. Add grey mushrooms to half of the pizza.
5. Add yellow cheese to  $\frac{4}{4}$  of the pizza.



## LESSON 4 : FRACTION AS A PART OF A WHOLE

APPLY :

Directions: Complete the Fraction Wall.

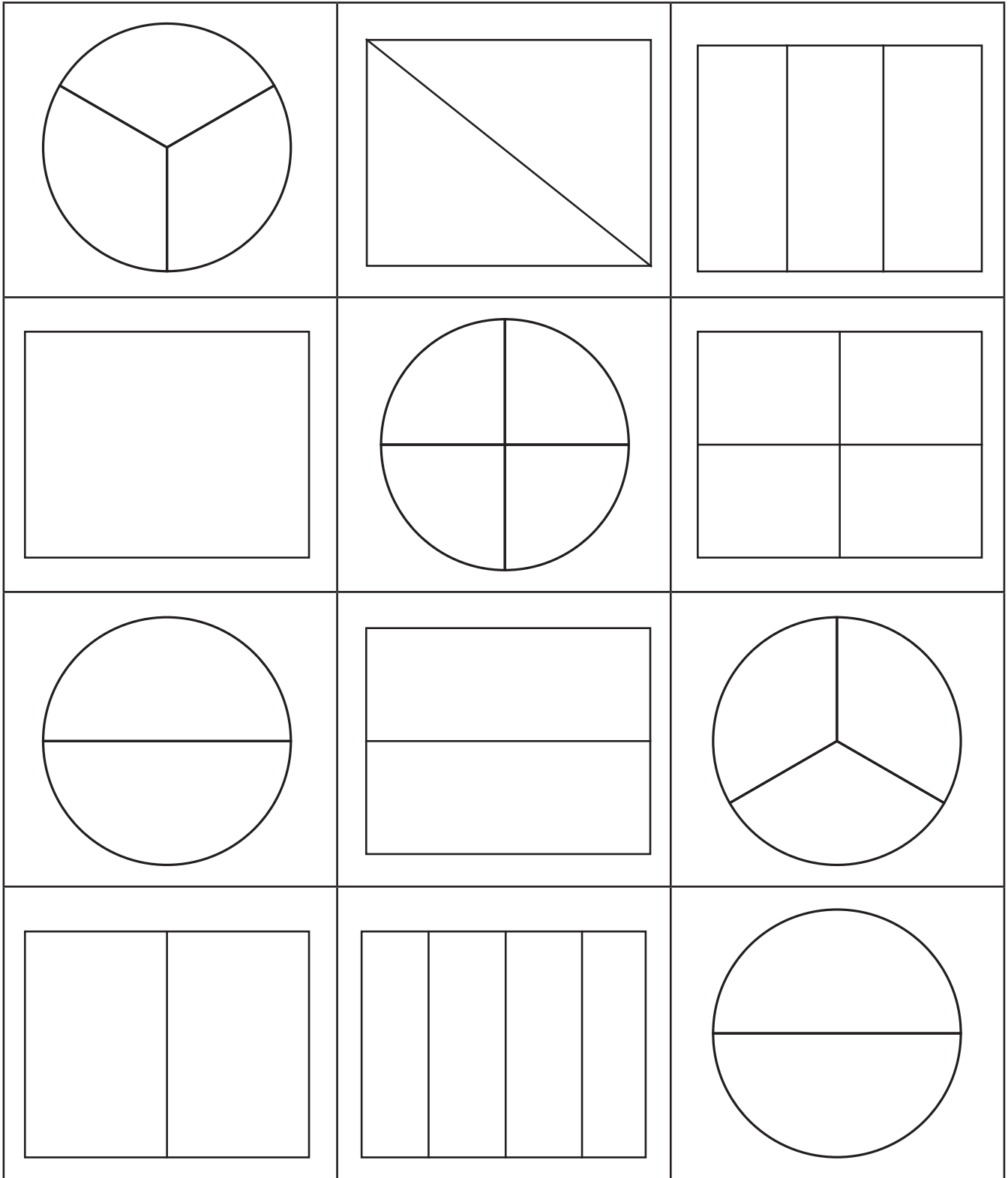
1. Write "One Whole (1)" on the top bar. Color this bar **red**.
2. Find and label the  $\frac{1}{2}$ . Color the halves bars **green**.
3. Find and label the  $\frac{1}{3}$ . Color the thirds bars **yellow**.
4. Find and label the  $\frac{1}{4}$ . Color the fourths bars **blue**.




## LESSON 5 : FRACTIONS' CARDS

APPLY :

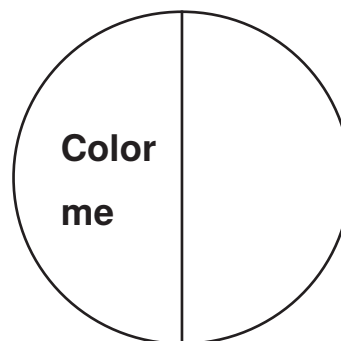
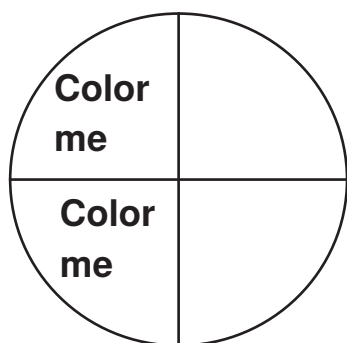
Directions: Pick a Build-a-Fraction Card. Color a shape to match the fraction on the card.





**REFLECT :**

**Directions:** Reflect on your learning. Are the two fractions below the same or different? Write your answer and explain why you think so below.



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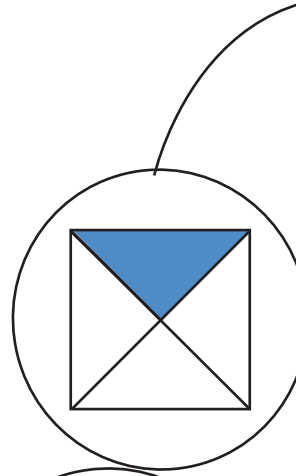
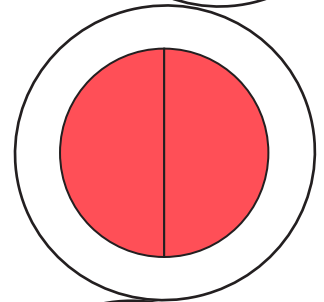
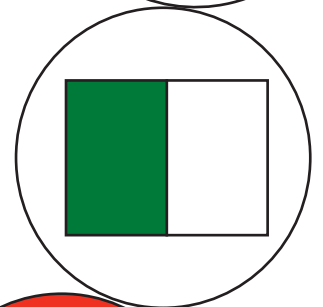
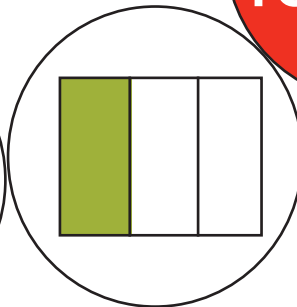
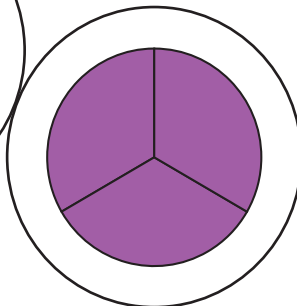
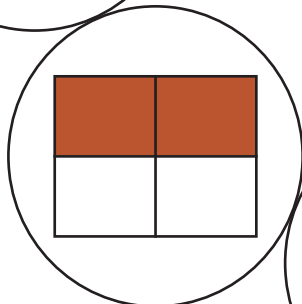
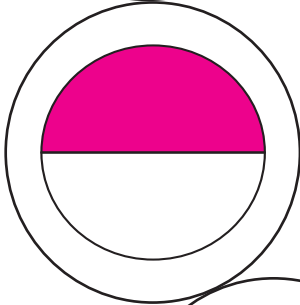
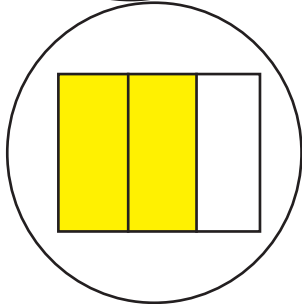
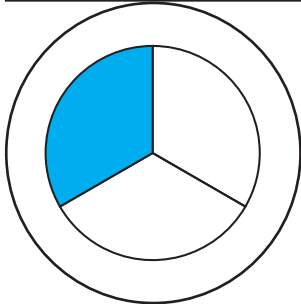
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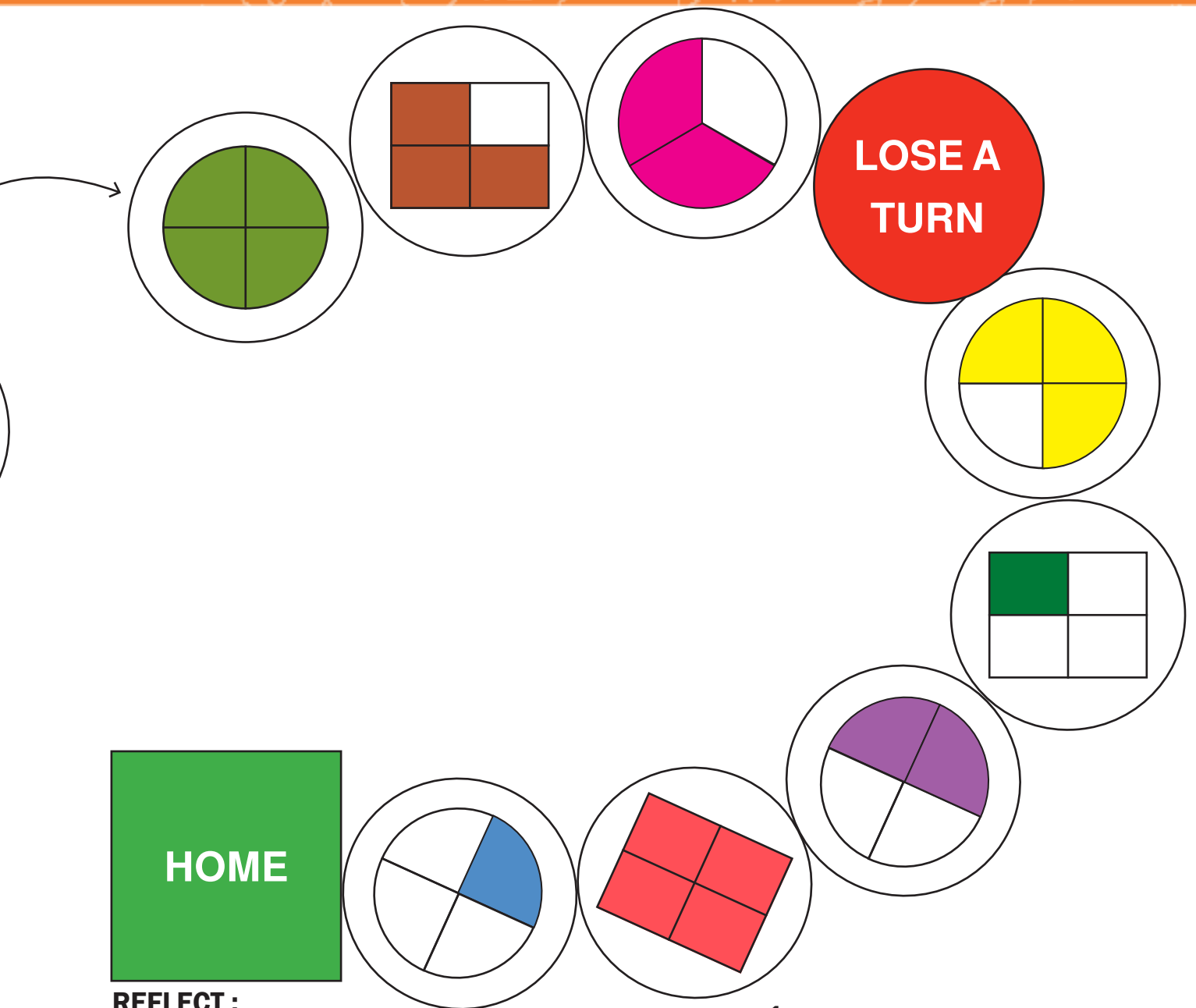
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LESSON 6 : WORK WITH FRACTIONS

APPLY :

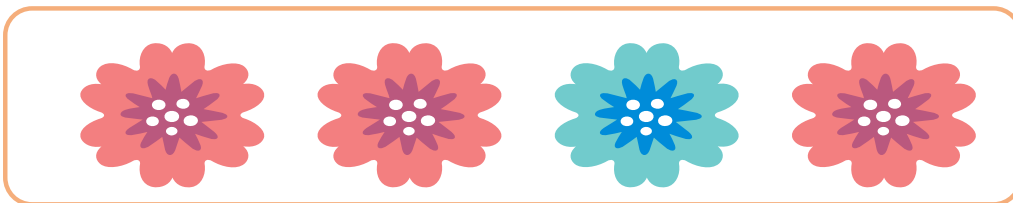




**REFLECT :**

Directions: Reflect on your learning. Ashraf says that  $\frac{1}{4}$  of the flowers are blue. Sara says that is incorrect since fractions cannot be used to describe sets of things.

Do you agree or disagree? Why? Write or draw your explanation.




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## LESSON 7 : FRACTION AS A PART OF A GROUP

## APPLY :

Directions: For problems 1 through 5, shake and spill the counters, draw the picture, and then record the fraction of shaded counters. For problems 6 through 10, write the fraction of red counters in each set.

1.

Fraction of shaded counters: \_\_\_\_\_

2.

Fraction of shaded counters: \_\_\_\_\_

3.

Fraction of shaded counters: \_\_\_\_\_

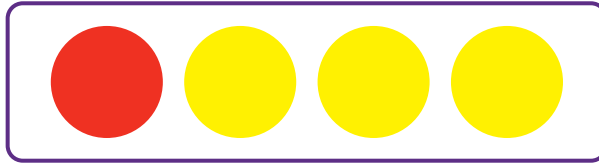
4.

Fraction of shaded counters: \_\_\_\_\_

5.

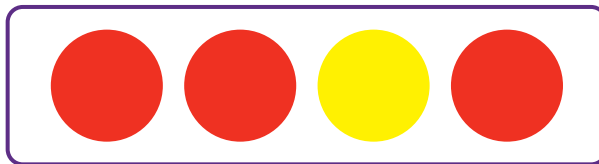
Fraction of shaded counters: \_\_\_\_\_

6.



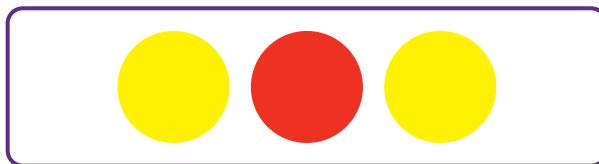
Fraction of red counters: \_\_\_\_\_

7.



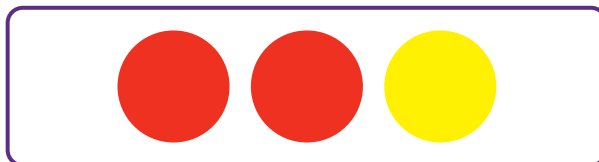
Fraction of red counters: \_\_\_\_\_

8.



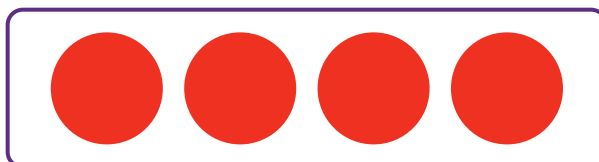
Fraction of red counters: \_\_\_\_\_

9.



Fraction of red counters: \_\_\_\_\_

10.

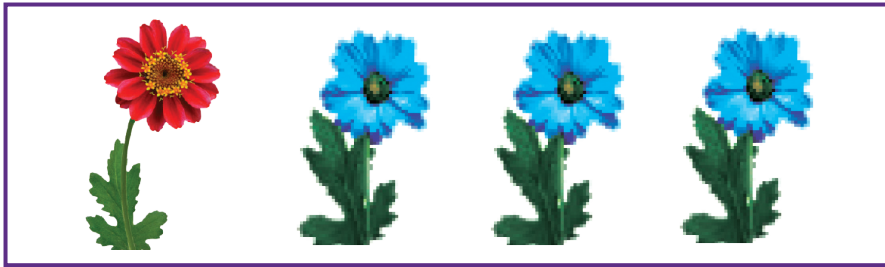


Fraction of red counters: \_\_\_\_\_

## LESSON 8 : APPLICATIONS ON A FRACTION AS A PART OF A GROUP

## APPLY :

Directions: Look at each set and answer the questions below.



1. What fraction of the flowers are red? \_\_\_\_\_
2. What fraction of the flowers are blue? \_\_\_\_\_
3. What fraction of the flowers are red AND blue? \_\_\_\_\_



1. What fraction of the bikes are red? \_\_\_\_\_
2. What fraction of the bikes are blue? \_\_\_\_\_
3. What fraction of the bikes are red AND blue? \_\_\_\_\_



1. What fraction of the apples are red? \_\_\_\_\_
2. What fraction of the apples are blue? \_\_\_\_\_
3. What fraction of the apples are green? \_\_\_\_\_



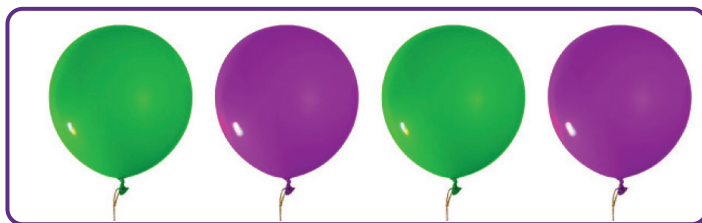
1. What fraction of the birds are blue? \_\_\_\_\_
2. What fraction of the birds are pink? \_\_\_\_\_
3. What fraction of the bird have eyes? \_\_\_\_\_



1. What fraction of the pizza has mushrooms? \_\_\_\_\_
2. What fraction of the pizza has cheese? \_\_\_\_\_
3. What fraction of the pizza has NO mushrooms? \_\_\_\_\_

**REFLECT :**

Directions: Reflect on your learning. Create two questions about the fractions in the set of balloons



1.

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2.

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## LESSON 9 : STORY PROBLEMS INVOLVE FRACTIONS

## APPLY :

Read the story problems, then explain your answer:

<p><b>A) Heba has 4 cookies, she gave her friend 2 of them. what fraction is corresponding to the number of pieces that Heba shared with her friend?</b></p>	<p><b>B) Adam brought a 3-piece pizza , which he ate two pieces of it. What is the fraction of the remaining piece of pizza?</b></p>
<p><b>C) With Ibrahim a pizza consisting of two parts. He ate one of them. What fraction is corresponding to the parts of pizza that that Abram ate?</b></p>	<p><b>D) Maryam had four blue beads. She gave three of them to her friends. What fraction represents the beads remaining with her?</b></p>
<p><b>E) Sarah baked a pie and cut it into four equal pieces. Her family ate 3 pieces. What fraction expresses the number of pieces remaining?</b></p>	<p><b>F) Hany was responsible for bringing footballs to the team. He brought three Balls to practice, but two of them were holed. What fraction represents the number of balls that Hany can use?</b></p>
<p><b>G) Habiba has 3 pieces of biscuit. If she eat all the pieces,What fraction represents the number of cookies that she ate?</b></p>	<p><b>H) Samy went to get a pizza . The pizza was cut into 6 slices. He ate two slices. What fraction expresses the number of slices that Samy ate?</b></p>



**REFLECT :**

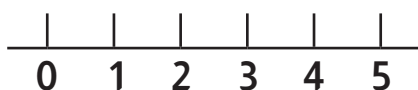
**Directions:** Reflect on your learning. Circle a number on the line below to represent how well you currently understand fractions. Then explain why you chose that number in the box below.

**Think about:**

- Do you understand what a fraction is and how to identify one?
- Can you identify fractions of a set? Can you identify fractions of a whole?
- Can you solve a story problem involving fractions?

0 = I am not doing as well as I want to.

5 = I am happy with my progress.



Four sets of horizontal writing lines for student response. Each set consists of a solid blue top line, a dashed pink middle line, and a solid blue bottom line.

## LESSON 10 : APPLICATIONS ON FRACTIONS

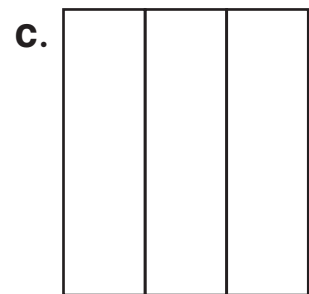
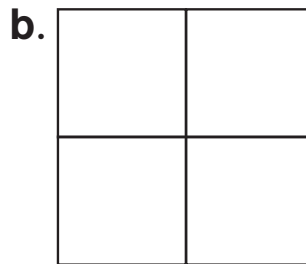
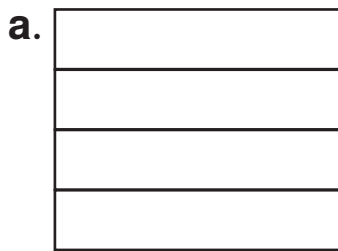
APPLY :

What fraction represents each color of the Egyptian flag?



-----Red, -----white, .....black

Notice : the division of the following flags, then color the parts of each flag. Complete the fractions card: (Parts are equal)



### Fraction card

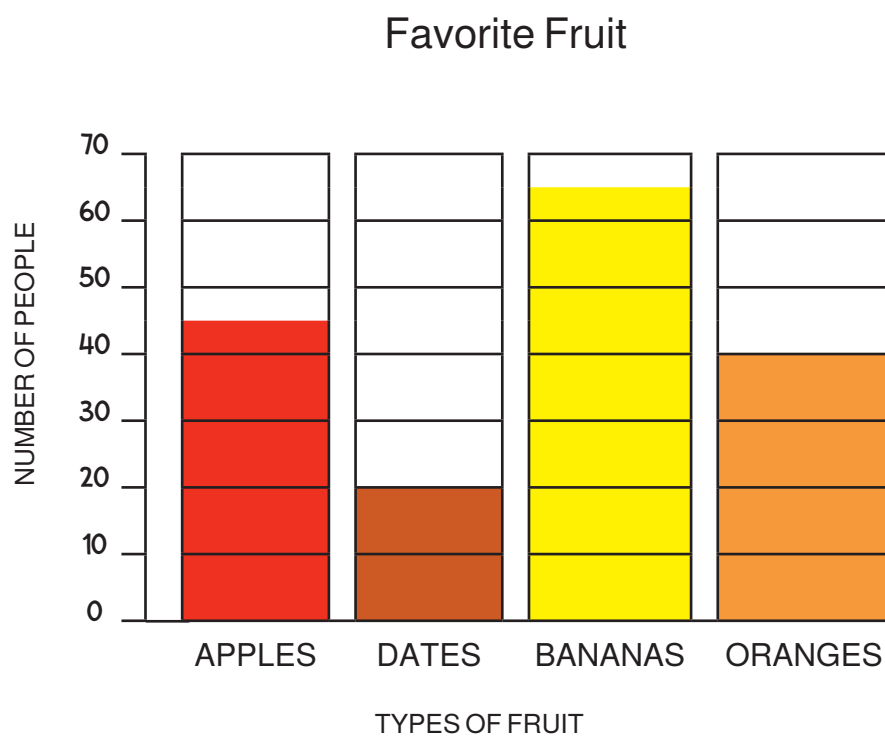
- The fraction expresses each part of the flag (A)
- The fraction expresses all parts of the flag (b)
- The fraction expresses each part of the flag (c)

Choose one of the flags that you colored, then write the fraction represents each color.

## LESSON 1 : READING AND INTERPRETING DATA

## APPLY :

Directions: Look at the data in the bar graph and answer the questions below.
























Questions :

1. How many people like oranges? \_\_\_\_\_
2. How many people like apples and bananas? \_\_\_\_\_
3. How many more people like bananas than dates? \_\_\_\_\_
4. How many people were asked about their favorite fruit? \_\_\_\_\_
5. What is the least popular fruit on this graph? \_\_\_\_\_

Directions: Look at the data in the pictograph and answer the questions below.

### Favorite Pizza Topping

Green Peppers							
Cheese							
Olives							
Mushrooms							

<b>KEY</b>
 = 2 people

Questions :

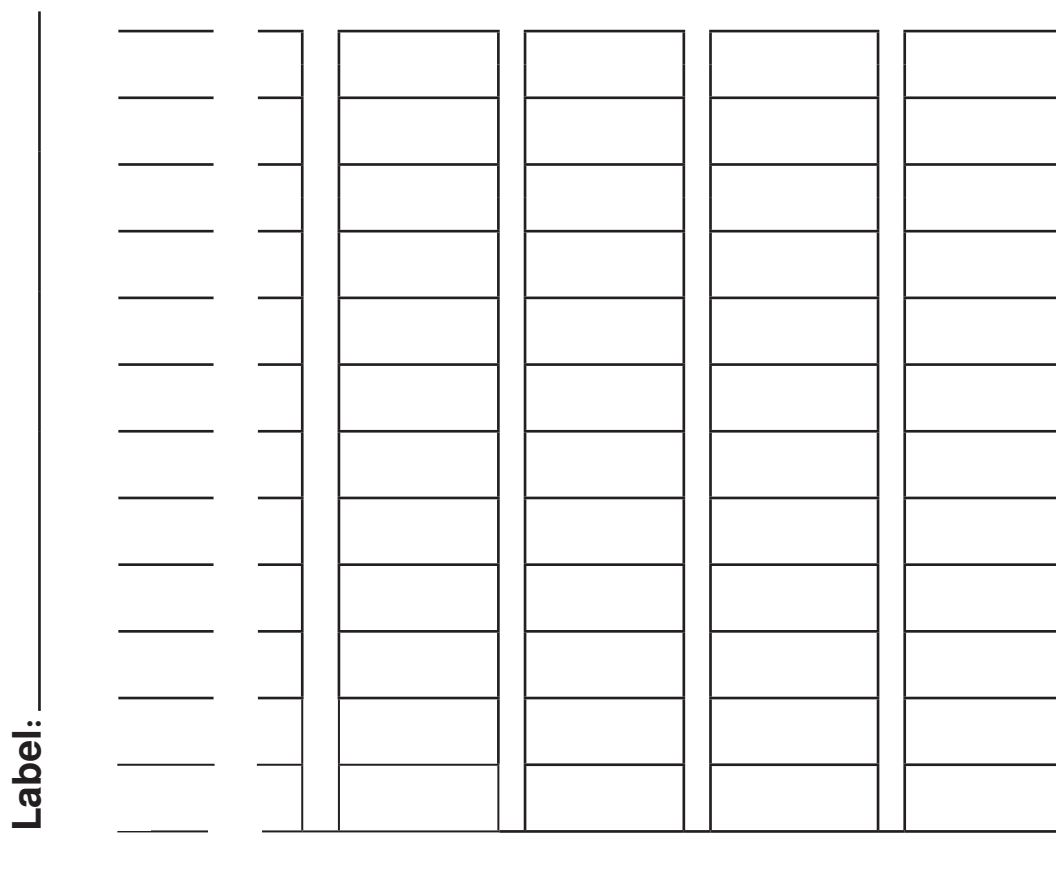
1. How many people liked cheese and green peppers? \_\_\_\_\_
2. How many fewer people liked mushrooms than olives? \_\_\_\_\_
3. How many people liked cheese, green peppers, and olives? \_\_\_\_\_
4. How many more people liked cheese than green peppers? \_\_\_\_\_
5. What is the most popular pizza topping on this graph? \_\_\_\_\_

**LESSON 2 : A SCALE FOR REPRESENTING DATA USING THE BARGRAPH**

**APPLY :**

**Directions:** Make a bar graph using the data from the story *The Magical Animals of Zioploris*. Be sure to include a title, labels, scale, and colored bars.

**Title:** \_\_\_\_\_



**Label:** \_\_\_\_\_

**REFLECT :**

**Directions:** Write two questions about the graph, and then answer them.

1. \_\_\_\_\_

**Answer:** \_\_\_\_\_



2. \_\_\_\_\_

**Answer:** \_\_\_\_\_

**LESSON 3 : A SCALE FOR REPRESENTING DATA USING THE PICTOGRAPH**

**APPLY :**

**Directions:** Use the data from the part two of the story to create a pictograph below.

**Title:** \_\_\_\_\_

Winged Cows							
Miniature Goats							
Golden Sheep							
Rainbow Fish							

<b>KEY</b>

1. \_\_\_\_\_  
-----
2. \_\_\_\_\_  
-----
3. \_\_\_\_\_  
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**REFLECT :**

**Directions:** Reflect on your learning. Imagine you are going to teach someone else how to create bar graphs and pictographs. What would you tell them? What important, helpful hints would you share? What do they need to know? Write your ideas in the box below.

\_\_\_\_\_

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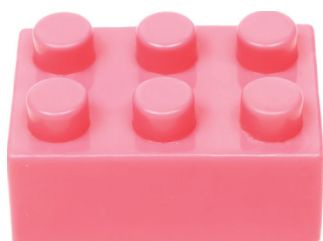
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**LESSON 4 : APPLICATIONS ON ARRAYS**

**APPLY :**

**Directions:** Write two repeated addition sentences for each array.

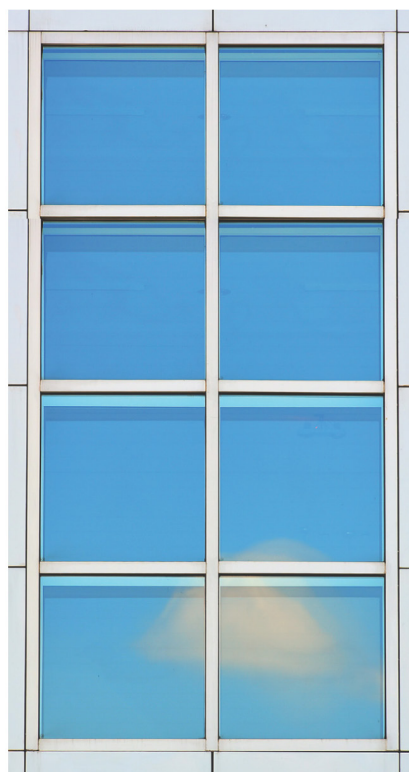


**Addition Sentences**

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**Addition Sentences**

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**Directions:** Write a sentence comparing the two arrays.

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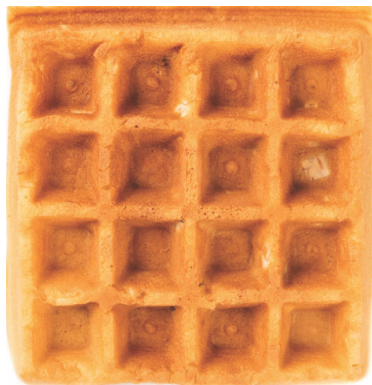
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**Addition Sentences**

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**Addition Sentences**

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**Directions:** Write a sentence comparing the two arrays.

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**REFLECT :**

**Directions:** Reflect on your learning. Then look around the classroom and find an array. Draw it below and explain how you know the object or image is an array.

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**LESSON 5 : WORK WITH ARRAYS****APPLY :**

Directions; Follow the steps below.

1. One partner rolls one die to find the number of rows.
2. The other partner rolls one die to find the number of columns.
3. Write the array you rolled below (rows by columns).
4. Draw the array on your grid.
  - Try to think of the best place to put your array so you can fit more arrays on your grid. The goal is to have few or no blank squares left at the end of the game.
5. Color and label the array (on the grid).
6. Write one addition sentence for the array.

1. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

5. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

2. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

6. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

3. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

7. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

4. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_

8. \_\_\_\_\_ by \_\_\_\_\_

Addition sentence: \_\_\_\_\_



## LESSON 6 : STRATEGIES FOR ADDITION AND SUBTRACTION

## APPLY :

Directions: Solve each problem below. Be sure to show how you solved the problem. Then compare your problem-solving strategy with your partner's strategy. If you did not get the same answer, find and correct the error.

1.  $\boxed{84} + \boxed{69} = \boxed{\phantom{00}}$

My strategy:

2.  $\boxed{93} - \boxed{67} = \boxed{\phantom{00}}$

My strategy:

3.  $\boxed{313} + \boxed{269} = \boxed{\phantom{000}}$

My strategy:

4.  $\boxed{265} - \boxed{119} = \boxed{\phantom{000}}$

My strategy:

**REFLECT :**

**Directions:** Reflect on your learning. In the box below, respond to the following questions.

- What is your favorite addition strategy? Why?
- What is your favorite subtraction strategy? Why?
- Include examples to support your thinking.

**Addition**

A writing box for addition with four sets of primary-ruled lines (top solid blue, middle dashed pink, bottom solid blue).

**Subtraction**

A writing box for subtraction with four sets of primary-ruled lines (top solid blue, middle dashed pink, bottom solid blue).

**LESSON 7 : STORY PROBLEMS ON ADDING AND SUBTRACTING****APPLY :**

**Directions:** Choose one addition problem and one subtraction problem from the board. Write them below. Then, write a story problem for each of them. Finally, solve the problem and record your answer.

Addition problem:

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

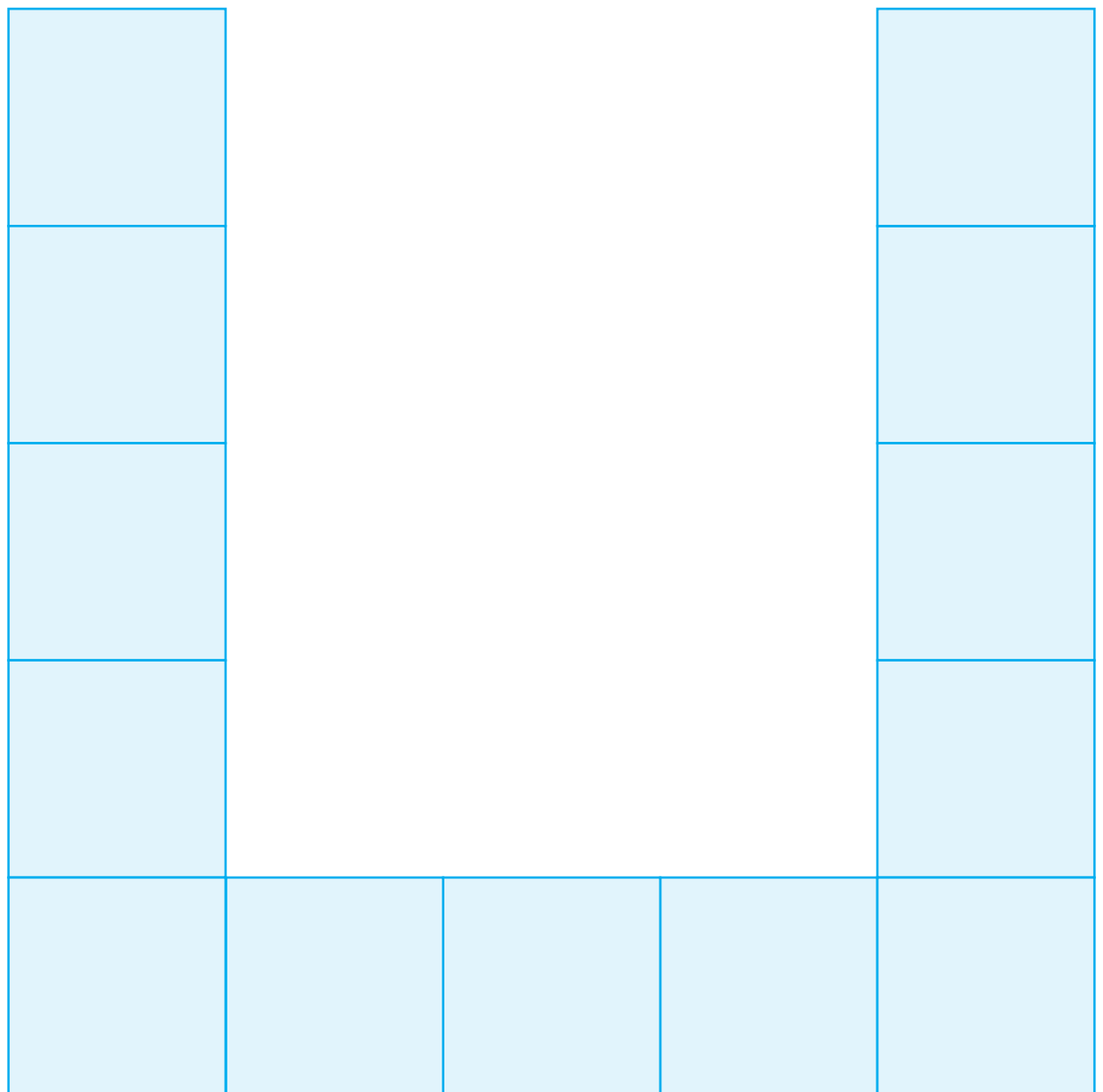
Subtraction problem:

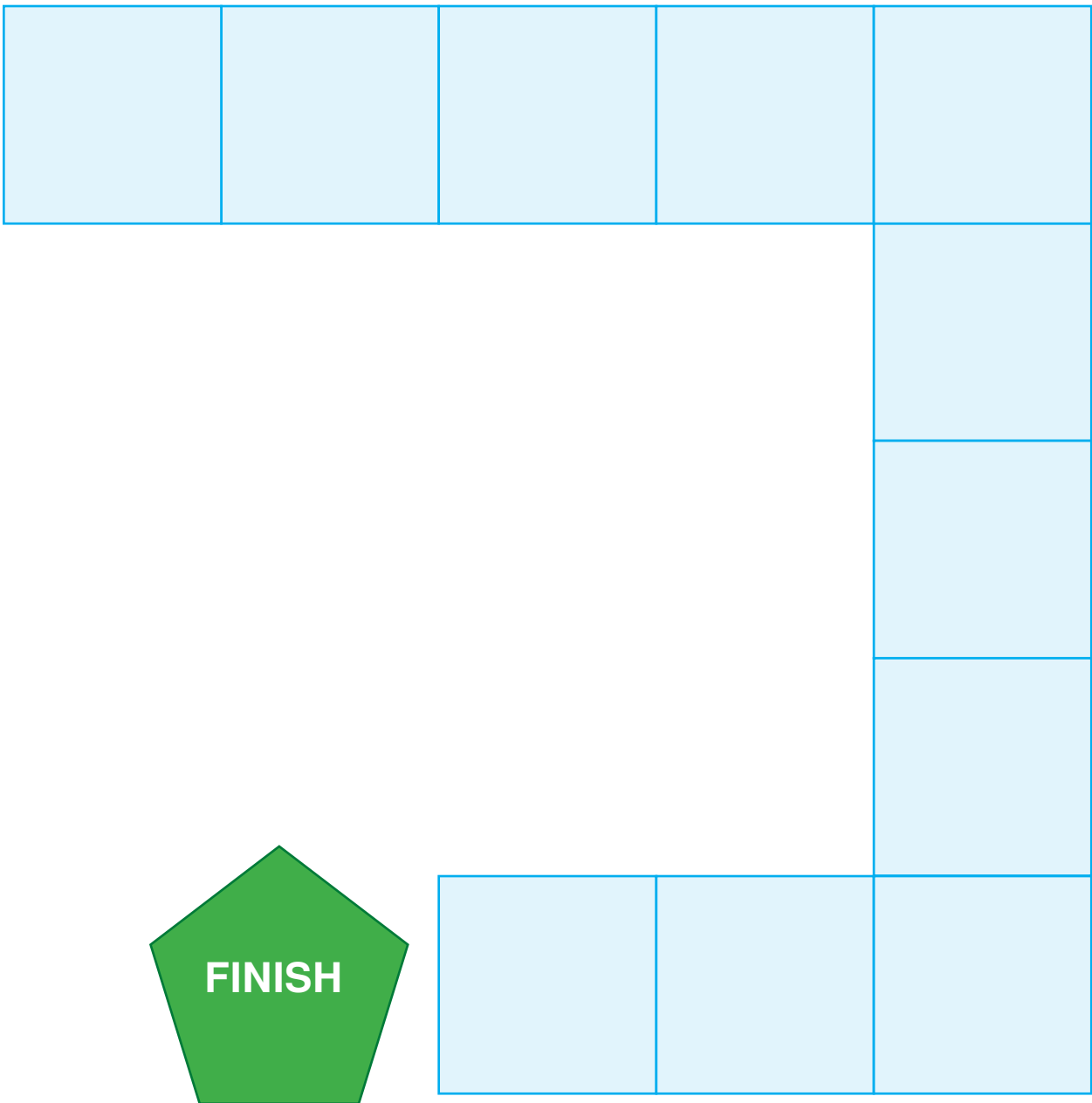
$$\square - \square = \square$$

LESSON 8 : WORK WITH ADDING AND SUBTRACTING

APPLY :

MATH GAME





**REFLECT :**

**Directions:** Reflect on your learning. Think about your answers to the questions below. Then circle a number on the line below to show how you feel about your understanding of regrouping. Explain why you chose that number.

**Think about:**

- Do I understand how to regroup Ones and Tens?
- Can I regroup without using the place value mat or straws?
- Could I explain how to regroup to someone else?



Regrouping with Addition.

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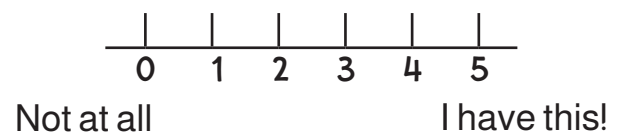
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Regrouping with Subtraction.

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**LESSON 9 : WHAT DID YOU LEARN IN MATHEMATICS?**

**APPLY :**

**Part 1 Directions:** Take notes about each area of mathematics we studied this year. Record notes in the chart below. Then select three topics to write about.

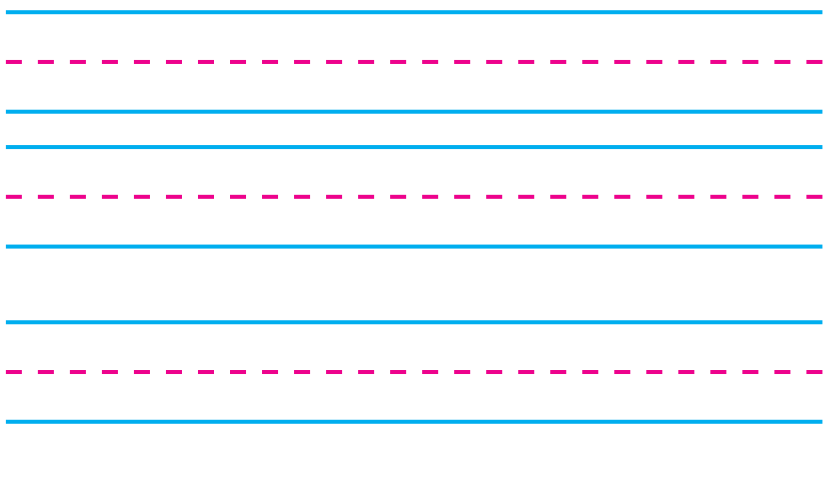
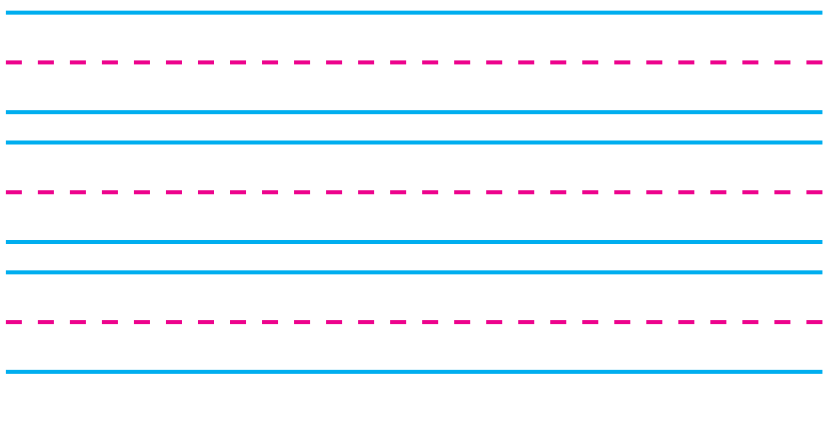

**THE BIG 5 OF PRIMARY 2**

<p><b>OPERATIONS AND ALGEBRAIC THINKING</b></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>NUMBERS AND OPERATIONS IN BASE TEN</b></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>MEASUREMENT</b></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>DATA</b></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<p><b>GEOMETRY</b></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

**REFLECT :**

**Part 2 Directions:** Write the topics you selected at the top of the chart.  
Record information, examples, rules, and more about each topic.

**MY TOP 3 OF PRIMARY 2**

<p><b>Topic 1</b></p> <hr/>	
<p><b>Topic 2</b></p> <hr/>	
<p><b>Topic 3</b></p> <hr/>	

**LESSON 10 : WRITING A MESSAGE ABOUT MATHEMATICS****APPLY :**

**Directions:** Write a letter to a Primary 1 student telling them about some of the mathematics they will learn in Primary 2.

**Sincerely,**

**Revised by**

**Central Administration for Curriculum Development**

**Instructional Supervision**

**Dr. Akram Hassan Mohamed**

**Head of the Central Administration for Curriculum Development**

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