![ABLE - Adult Basic & Literacy Education]

	[Lesson Title] What's Missing?	TEACHER NAME Tessa Torowski	PROGRAM NAME Project LEARN of Summit County
	[Unit Title]	NRS EFL(s) 1	TIME FRAME 45 minutes

ABE/ASE Standards – Mathematics

Numbers (N)		Algebra (A)		Geometry (G)		Data (D)	
Numbers and Operation		Operations and Algebraic Thinking	A.1.7	Geometric Shapes and Figures		Measurement and Data	
The Number System		Expressions and Equations		Congruence		Statistics and Probability	
Ratios and Proportional Relationships		Functions		Similarity, Right Triangles. And Trigonometry		*Benchmarks identified in RED are priority benchmarks. To view a complete list of priority benchmarks and related Ohio ABLE lesson plans, please see the Curriculum Alignments located on the Teacher Resource Center.*	
Number and Quantity				Geometric Measurement and Dimensions			
				Modeling with Geometry			

Mathematical Practices (MP)			
☐	Make sense of problems and persevere in solving them. (MP.1)	☐	Use appropriate tools strategically. (MP.5)
■	Reason abstractly and quantitatively. (MP.2)	☐	Attend to precision. (MP.6)
☐	Construct viable arguments and critique the reasoning of others. (MP.3)	■	Look for and make use of structure. (MP.7)
■	Model with mathematics. (MP.4)	☐	Look for and express regularity in repeated reasoning. (MP.8)

LEARNER OUTCOME(S)	ASSESSMENT TOOLS/METHODS
• Students will be able to determine an unknown number that makes an equation true with equations with whole numbers.	• Formative throughout lesson • Student answers to *What's Missing Stations (1-4)* Answers • Student answers to *What's Missing Addition* worksheet and *What's Missing Subtraction* worksheet

LEARNER PRIOR KNOWLEDGE

- Students will need to be able to write three number sentences with addition and subtraction (e.g., 8 + 2 = 10, 10 - 2 = 8).

	INSTRUCTIONAL ACTIVITIES	**RESOURCES**

	1. This lesson is a series of four stations. Each station requires students to identify a missing number from an equation either adding or subtracting whole numbers.
	    1. At each station allow students to work through problems creatively.
	    2. Provide counting tools like tens frames and manipulatives.
	    3. Stations can be completed individually or in small groups. Depending on class size, and ability you can also complete each station as a whole group activity.
	
	2. Use *What's Missing Addition* worksheet and *What's Missing Subtraction* worksheet to assess mastery.
		Copies of *What's Missing Stations (1-4)* for student use (attached)
		
		Student copies of *What's Missing Addition* worksheet (attached)
		
		Students copies of *What's Missing Subtraction* worksheet (attached)
		
		Tens Frames Worksheet for student use (attached)
		
		Counters/manipulatives (buttons, pennies, base ten pieces, etc.) for student use
		
		Optional for stations:
		        Station 1: Scissors to cut out shopping items
		
		        Station 2: cardboard box, 8 cans
		
		Mathmaster.org - Create math worksheets for free. (n.d.). Retrieved from http://www.mathmaster.org/worksheet/

	DIFFERENTIATION • Invite higher level students to create example problems for the class to solve. • Create additional practice problems by controlling the level of difficulty. Use Mathmaster to generate more practice problems as needed by clicking Addition or Subtraction with missing numbers. You can choose the maximum and minimum values of the whole numbers to control the level of difficulty	

Reflection		
	TEACHER REFLECTION/LESSON EVALUATION	
	ADDITIONAL INFORMATION	

What's Missing? Station 1

Your shopping list has ten items:
1. Eggs
2. Milk
3. Bread
4. Cheese
5. Toilet paper
6. Carrots
7. Celery
8. Apples
9. Rice
10. Beans

So far you have put the following items in your cart:
Beans
Celery
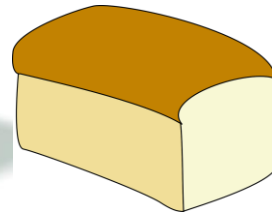Cheese
Carrots

How many items do you still need?

Which number sentence represents this real life situation?

$4 + \underline{\hspace{1cm}} = 10$

$10 + 6 = \underline{\hspace{1cm}}$

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

$4 + 10 = \underline{\hspace{1cm}}$

What's Missing? Station 2

Your class is having a canned food drive to support the local food bank. By the end of the week, Tonya brought in 3 cans, Jarrod brought in 2 cans, Cindy brought in 1 can. If there are 8 cans total how many cans did you bring in?

What's Missing? Station 3

Match the number to the blank that makes the sentence true.

3	4	5	6

$10 -$ ___ $= 6$

___ $+ 5 = 8$

$2 +$ ___ $= 7$

$8 -$ ___ $= 2$

What's Missing? Station 4

The parking meter requires 8 quarters to park. You put in three quarters, your sister also puts in three quarters. How many more quarters do you need?
Write a number sentence that represents this situation.

___ + ___ + ___ = ___

Tens Frames Worksheet

Tens frames group numbers into tens. When the frame is full with one piece per box, you know you have 10 pieces total.

● Fill in the missing numbers.

(1) □ − 3 = 6

(2) □ − 2 = 6

(3) 4 − □ = 3

(4) □ − 4 = 2

(5) □ − 3 = 6

(6) □ − 1 = 6

(7) 8 − □ = 4

(8) 7 − □ = 4

(9) 6 − □ = 1

(10) 8 − □ = 2

(11) 9 − □ = 7

(12) 4 − □ = 3

(13) □ − 4 = 2

(14) 8 − □ = 6

(15) 7 − □ = 4

(16) □ − 1 = 8

(17) 4 − □ = 3

(18) □ − 2 = 5

(19) □ − 4 = 4

(20) 7 − □ = 4

- Fill in the missing numbers.

(1) ☐ + 7 = 15   7 + ☐ = 15

(2) ☐ + 3 = 7   3 + ☐ = 7

(3) ☐ + 2 = 11   2 + ☐ = 11

(4) ☐ + 1 = 2   1 + ☐ = 2

(5) ☐ + 6 = 12   6 + ☐ = 12

(6) ☐ + 4 = 6   4 + ☐ = 6

(7) ☐ + 5 = 10   5 + ☐ = 10

(8) ☐ + 8 = 11   8 + ☐ = 11

(9) ☐ + 9 = 16   9 + ☐ = 16

(10) ☐ + 5 = 6   5 + ☐ = 6

(11) ☐ + 8 = 13   8 + ☐ = 13

(12) ☐ + 4 = 7   4 + ☐ = 7

(13) ☐ + 7 = 9   7 + ☐ = 9

(14) ☐ + 1 = 7   1 + ☐ = 7