Grade 1	Lesson: 6-4 Fact Families	Reference to English
Math Standard(s): 1.OA.6	**Domain: Operations and Algebraic Thinking**	

Content Objective(s):	Language Objective(s):
Students will solve addition problems by recognizing and recording its parts in small groups. *I can solve addition problems by recognizing and recording its parts with a small group.*	Students will speak the words inside, outside and in all while adding parts. *I can speak the words inside, outside and in all while adding parts.*
Essential Understanding: Addition and subtraction have an inverse relationship. The inverse relationship between addition and subtraction can be used to find subtraction facts; every subtraction fact has a related addition fact.	**Academic Vocabulary:** **Listen:** **Read:** **Write:** **Speak:** **Sentence Frame:**
Materials: • Counters (teaching tool 14)	**Language and Word Wall:** Fact family

Lesson:	Instructional Time:

Opening: (minutes)

T: "You have learned how to write a subtraction fact that is related to an addition fact. Today you will learn how to write all the related addition and subtraction facts for a whole and two parts."

T: "Fact families are addition and subtraction facts that have the same numbers."

• Write one addition fact on the board and 3 subtractions facts (only one that goes along with the addition fact).

T: "Look at the addition fact on the board, 9 + 6 = 15. Say it with me."

S: *will say, "9 + 6 = 15"*

T: "Below the addition fact there are 3 subtraction facts. Which one goes with the addition fact, #1 - 11 − 4 = 7, or #2 − 15 − 9 = 6, or 12 − 6 = 6? Show me if it is #1, #2 or #3, show me with your fingers."

S: *will show 1, 2, 3, with their fingers.*

T: "It is #2, 15 − 9 = 6. Look, they have the same numbers, 15, 9 and 6. They are a fact family."

Introduction to New Material (Direct Instruction): (minutes)

• Pass out the white boards, markers and erasers.

T: "Now I am going to write 3 numbers on the board. 6, 14, 20. I am going to write one addition fact, 6 + 14 = 20. (write it on the board) I need you to write the other on your white board. Remember to use the same numbers."

S: *will write the other addition fact with the same numbers, 14 + 6 = 20.*

T: "Show me the addition fact your wrote on the board. Good job, I will write it on my board. 14 + 6 = 20. Look at the two equations, they have the same numbers, 14, 6, 20. Now let's use the same numbers to do subtraction facts. I will write the first one, you will write the 2nd one. 20 − 14 = 6. (write it on the board) Your turn, write the other subtraction facts on your white board."

S: *will write 20 − 6 = 14 on their white board.*

T: "Show me your equations. Good, I will write it on the board too. Say it with me as I write it, 20 − 6 = 14."

T: "Look at these 4 equations. 2 addition facts and 2 subtraction facts. They all use the same numbers so they are a FACT FAMILY."

Guided Practice: (minutes)

Use the modeling cycle:

Teacher Does:

T: "It's your turn. I will separate you into groups of 2. Each group will be given 4 sets of numbers that you will have to write the 4 fact families for. You will do this together."

1 Student Does with Teacher:

T: "I need one student to come up and help me. We will take turns making fact families. I will do one addition fact and say, then you will do the other addition fact and say it."

• Choose a student to come up and help.

T: "I will start. We have numbers 5, 8, 13. I will write the addition fact, 5 + 8 = 13. Your turn. Write it on the board 1st then say it."

S: *will write the addition fact 8 + 5 = 13 and say "8 + 5 = 13"*

T: "Good job, now let's do the subtraction fact. I will go first, 13 − 8 = 5 and I will write it on the board. Your turn."

S: *will write 13 − 5 = 8 and say 13 − 5 = 8.*

T: "Good job, thank you. Now I need 2 helpers to come up and show us one more time."

2 Students Do:
- Choose two students to come up and demonstrate.
- **T: "Show us how to do the activity. Your numbers are 14, 5, 9. Student #1 starts."**
- S: *will demonstrate the activity.*

All Student Do:
T: "It is your turn, I will give each partnership a piece of paper and you may begin. You have 5 minutes."
- Hand out the materials and set up the partnerships.
- When the students finish up, bring them back together on the carpet.

Independent Practice: (minutes)
T: "Now it is your turn to do it on your own. Each of you will be given this worksheet. Let's do the first problem together."
T: "Look at this picture. How many yellow dots do you see on the left? Count together."
S: *will count with the teacher. "1,2,3, 4,5,6"*
T: "Correct, there are 6 yellow dots on the left. How many red dots do you see on the right? Count together.
S: *will count with the teacher "1, 2,3,4,5,6,7,8"*
T: "Tell your neighbor how many red dots you see on the right."
S: *will tell their neighbor the number of red dots they see on the right.*
T: "There are 8 red dots on the right. Tell you neighbor how many dots we have in all."
S: *will turn to their neighbor and say "14"*
T: "Everyone say it together, how many dots are there in all?
S: *will say "14"*
- As the class goes through the process of answering question #1 write the equations on the board (fill in the blanks as you go).
T: "You are right there are 14 dots. When I do the related subtraction fact, where do I put the 14? I need one students to come up and write on the board where to put the 14."
S: *one student will come up and write 14 on the first blank.*
T: "Now, lets write the other addition fact. The whole is 14 so that goes at the end. And we switch the order of 6 and 8. Say the new addition fact with me. 8 + 6 = 14."
S: *will say with the teacher, "8 + 6 = 14"*
T: "Now let's do the related subtractions facts. If we put 14 first, what comes next?"
S: *will raise their hands and say, "6" or "8"*
T: "You are right, 8 can come next. 14 – 8 = _____? Tell your neighbor."
S: *will turn to their neighbor and say, "6"*
T: "Show me with your fingers what number goes in the blank. 14 – 8 = 6. Good job. What is the other subtraction fact? What number comes first? Raise your hand."
S: *will raise their hand and say "14"*
T: "Yes, 14 comes first. Then is 8 or 6 that comes next? Look at the first subtraction fact, 14 -8, this time we want to do 14 - ____? Show me with your fingers."
S: *will show with their fingers the number 6.*
T: "The next number is 6. Say the subtraction fact with me, 14 – 6 = ____. (write it on the board under the other subtraction fact) **What number is missing? Tell your neighbor."**
S: *will tell their neighbor "8"*
T: "Let's say the two equations together. 14 – 8 = 6 and 14 – 6 = 8."
S: *will say the subtraction facts with the teacher, "14 – 8 = 6 and 14 – 6 = 8"*
T: "Now I am going to give you each a paper. Please do problems 2-5 at your desk. You have 5 minutes."
- Teacher will pass out the papers and students will begin the Guided Practice.
- Teacher will walk around the classroom to help the students who need help. If students are finishing faster than 4 minutes, cut it short and bring them back together when most of the students are finished.
T: (clap hands to get the students attention) **"Please leave your papers at your desk and let's do questions 3 and 5 together."**
- Go through questions 3 and 5 the same way you went through question 1 (faster if the students understand the concept).

Closing: (4 minutes)
- Collect the papers and bring the class back together on the floor.
- Hand out the student white boards with markers and erasers.
T: "Great Job today! Let's look at question 6. I am going to draw the picture for questions 7 on the board. I want you to write 2 addition facts on your white board to represent the picture."

S: *will write the addition facts on their white board and show the teacher by raising up their board.*

• Give the students enough time to figure out the answer, but not too much time that they start getting board (15 seconds).

T: "I see that most of you are ready. You have written the addition facts. I will do it on the board and I want you to check to make sure that yours is correct. There are 8 blue dots. So I am going to write 8 on the first blank. There are 7 red dots. I will write 7 on the second blank. 8 + 7 = _____. Help me count all the dots. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15. 8 + 7 = 15. The other addition fact is 7 + 8 = 15. Same numbers were used. Look at your white boards, do you have the same addition facts?"

S: *will check their addition facts.*

T: "Now you need to write the 2 subtraction facts with the numbers 8, 7, 15. Remember to start with the whole (or biggest number). Here is the subtraction sentence on the board, you need to fill in the blanks."

S: *will write the 2 subtraction facts and show the teacher.*

T: "Let me look at your boards. I see that all of you have 15 written on the first blank. 15 - _____ = _____. Show me with your fingers what number comes next."

S: *will show the number 8 or 7 with their fingers.*

T: "8 or 7 can come next. I will choose 7. 15 – 7 = _____. Tell your neighbor the answer and use the subtraction sentence as you do it. 15 – 7 = _____."

S: *will turn to their neighbor and say "15 – 7 = 8."*

T: "Say it with me, 15 – 7 = 8. Now let's write the other subtraction fact. 15 – 8 = 7. Do you have both of those written on your board, check."

S: *will check their board.*

T: "Now, read all 4 facts to your neighbor."

S: *will read "8 + 7 = 15, 7 + 8 = 15, 15 – 8 = 7, 15 – 7 = 8"*

T: "Good job. Let's look at number 7."

• Continue with number 7 and 8 as a whole group.

Assessment:
Guided Practice