Grade 3	Lesson: 4-2 Arrays and Multiplication	Reference to English

Math Standard(s): 3.OA.3 also: 3.OA.1, 3.OA.5 **Domain: Operations and Algebraic Thinking**

Content objective(s):	**Language Objective(s):**
Students will write multiplication sentences for arrays and use arrays to find products. *I can write multiplication sentences for arrays and use arrays to find products.*	Students will tell their neighbor the multiplication sentence. *I can tell my neighbor the multiplication sentence.*
Essential Understanding: Some real-world problems involving joining or separating equal groups or comparison can be solved using multiplication. An array involves joining equal groups and is one way to think about multiplication.	**Required Academic Vocabulary for Word Wall:** **Listen:** array **Read:** **Write:** array **Speak:** **Sentence Frame:**
Materials: • two-color counters (Teaching Tool 17) • whiteboard, erasers and markers • Guided Practice and independent practice • Pictures of real-life examples of arrays (eggs carton, stamps, shelves…)	**Additional Lesson Vocabulary:** Sports cards,

Lesson: **Instructional Time:**

Opening: (4 minutes)

T: "You have already learned how to model equal groups with counters and multiply to find the product. That is what we did last time when we used repeated addition with multiplication. Today, you will learn how to use a different model for multiplication."

T: "Who can give me an example of repeated addition?"

S: *will raise their hand and give an example.*

T: "Raise your hand and tell me the addition sentence that goes with that example."

S: *will raise their hand and say the addition sentences.*

T: "Please tell me the multiplication sentence."

S: *will raise their hand and say the multiplication sentence.*

T: "Look at the pictures on the board. They are organized in equal rows. On the egg carton there are two across and 12 down. (point at the picture of the egg carton while you describe the array) **Now look at the next picture. Describe the array to your neighbor. How many are there across and how many are down?"**

S: *will turn to their neighbor and describe the next array on the board.*

Introduction to New Material (Direct Instruction): (4 minutes)

- Pass out whiteboards, erasers and markers.

T: "Mark put sports cards in an album. He puts 4 rows of cars on each page. (Draw it on the board as you describe the array) **He puts 3 cards in each row. Please draw the array on your whiteboard and write how many cars are on each page."**

S: *will draw the array and write the answer.*

T: "Show me your boards."

S: *will show the teacher their array and answer on their boards.*

T: "Tell your neighbor the answer."

S: *will tell their neighbor, "12."*

T: "Yesterday we wrote multiplication sentences to go with repeated addition. Today we want to do the same thing with arrays. The array on the board has 4 rows and 3 cards in each row. I will write 4 times 3 equals 12."

T: "Look at the array again. When you put equal counters in equal rows you make an array. An array shows equal rows of objects."

Guided Practice: (8 minutes)

Use the modeling cycle:

Teacher Does:

T: "As a class let's do one more problem. Dana keeps her entire CD collection in a holder on the wall. (draw a cd holder on the board) **This holder has 4 rows. Each row has 5 CDs. Please draw an array that represents this story."**

S: *will draw an array on their board.*

All Students Do:

T: "Now, with a partner write a multiplication sentence to go with the problem."

S: *will work with a partner and write the multiplication sentence.*

T: "Please read the multiplication sentence to your neighbor."

S: *will say the multiplication sentence to their neighbor.*

T: "Show me your boards."

S: *will show the teacher their work.*

T: "Please raise your hand and tell me the multiplication sentence."

S: *will raise their hand and tell the class the multiplication sentence.*

Independent Practice: (6 minutes)

T: "Next, I need you to put your whiteboards away and go to your desk. Please open your books to page 102 and work on Guided practice. I want you to do questions 1,2,3,4,7,10,14 (write the problems on the board)**. You will have 4 minutes."**

S: *will return to their desk and work on the guided practice.*

T: "10,9,8,7,6,5,4,3,2,1, time is up."

Closing: (minutes)

T: "I need you to switch papers with another student."

S: *will switch papers.*

T: "I need 7 people to come up to the board and solve the problems. The rest of you need to correct the paper."

T: "Look at problem 1. There are 2 rows and 4 dots in each row. 2 times 4 equals 8. Good job you did it correctly."

- Go through problems 2,3,4,7,10,14 the same way.

S: *will correct their friends papers as the teacher goes through them on the board.*

T: "Good job today. You made multiplication sentences out of arrays."

Assessment:

Guided and Independent Practice page 102