Mathematics Lesson: Equal Groups & Repeated Addition

Grade 3 Quarter 1 Understanding Equal Groups: Lesson 3

State Standard(s)

NC.3.OA.1 For products of whole number with two factors up to and including 10:
- Interpret the factors as representing the number of equal groups and the number of objects in each group.
- Illustrate and explain strategies including arrays, repeated addition, decomposing a factor, and applying the commutative and associative properties

NC.3.OA.3 Represent, interpret, and solve one step word problems involving multiplication and division.
- Solve multiplication word problems with factors up to and including 10. Represent the problem using arrays, pictures, and/or equations with a symbol for the unknown number to represent the problem.
- Solve division word problems with a divisor and quotient up to and including 10. Represent the problem using arrays, pictures, repeated subtraction, ~~and/or equations with a symbol for the unknown number to represent the problem.~~

Student Outcomes

Students will become familiar with mathematical norms and routines. Students will write a repeated addition equation to represent equal groups.

Math Language

Equal groups, skip count, repeated addition

Standards for Mathematical Practice

Materials

From Lesson 1:
- Teacher Copy- "*How To Listen*" Poster; "*Sentence Frame*"); "*Talk Moves- Revoicing*"
- Teacher Copy- *"At the Grocery Store"*
- Math Boards and markers
- Blackline Master- *"Grocery Shopping"*

4C Integration

Communication- modeling the "how to listen" rules; talking with a partner about equal groups
Collaboration- students working in pairs to solve problems

Homework

- Blackline Master "*In the Can Aisle*"

Mathematics Lesson
Equal Groups & Repeated Addition

Teacher Note: *This unit is building the foundation for multiplication and division. Instruction should focus on equal groups, repeated addition, repeated subtraction and arrays. Students should not be exposed to writing multiplication equations until Lesson 4. They should not be exposed to or assessed on writing division equations during this unit.*

Launch:
- Review Teacher Copy, *"How to Listen"* Poster and *"Math Talk Moves- Revoicing"* from Lesson 1.
- Tell students that today they will be using equal groups and repeated addition to solve problems. While they are solving the problems, they should be using their listening and revoicing skills with their partners.
- Display Teacher Copy "*At the Grocery Store"* and ask students to look at the first problem (bananas). Have students turn to a partner and discuss how his problem is similar to yesterday's lesson on equal groups. Allow a few student groups to share their thinking.

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Launch: (Continued)

- As a class, discuss strategies that could be used to solve the problem. Have someone revoice what has been said.
- Using their math boards, have students draw equal groups to show the bunches of bananas.
- When students have finished, ask them to hold their boards up. Quickly scan to see what students have drawn.
- Select a student to explain the drawing on their board. Be sure to reference Teacher Copy "*Sentence Frame"* from lesson 1 so that students use the equal groups language. Have 2 or 3 students revoice what was said.

Explore: Writing Repeated Addition Sentences

- Say to students, *"I wonder how we might be able to represent our equal groups using repeated addition?"* Give students time to work with their partner to incorporate a repeated addition sentence into their problem solving.
- Circulate as students solve and select several groups to share their thinking If needed, model writing a repeated addition sentence. Teacher says I see 5 bunches in seven groups. I will write a repeated addition sentence: 5+5+5+5+5+5+5=x. Teacher skip counts to find the total. The total is 35, so I will write 35 bananas. Be sure to emphasize the use of the label.
- Give students a min to correctly represent the repeated addition sentence on their board if they were unable to do so. Ask students to show their boards and quickly scan the boards.*Example of board on next page.

- Have a student read the second problem on Teacher Copy "*At the Grocery Store."* Allow students time independently, and then with a partner to solve the pepper problem. Remind them to incorporate the idea of repeated addition.

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Continued

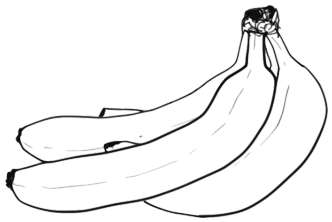
Discuss

- Bring the class back together and allow several students to show the thinking represented on their board.
- Ask the students to explain how the repeated addition sentence helps to represent the problem.
- Ask students, *"What is the relationship between repeated addition and skip counting?" "How do each of those ideas relate to equal groups?"*
- Allow students time to share their thinking.

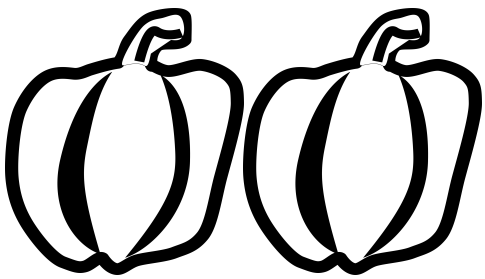
Source: Teacher Created

At the Grocery Store

Bananas come 5 to a bunch. The store puts 7 bunches on the display. How many bananas are on the display?



Peppers are packaged in pairs. There are 6 packages of red peppers on display. How many red peppers does the store have?



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Grocery Shopping

Directions: Draw equal groups and write a repeated addition sentence to solve the problems.

1) There are 8 grocery carts full of potato chips. Each cart holds 10 bags of chips. How many bags of chips are in the carts?

_____ + _____ + _____ + _____ + _____ + _____ + _____ + _____ = _____
_____ (label)

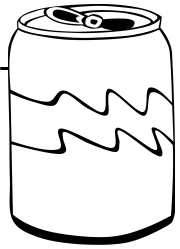
2) Jonathan bought 9 boxes of gummy fruit snacks. Each box holds 5 packages of snacks. How many packages of snacks does Jonathan have?

_____ + _____ + _____ + _____ + _____ + _____ + _____ + _____ + _____= _____
_____(label)

3) Cheddar cheese costs $2 a bag. I need to buy 7 bags. How much money will I spend?

_____ + _____ + _____ + _____ + _____ + _____ + _____ =_____
_____(label)

Name: _____



In the Can Aisle

Directions: Draw equal groups and write a repeated addition equation to solve the problems.

1) Terry bought 6 cases of soda. Each case contained 10 cans. How many cans of soda did Terry have?

_____ + _____ + _____ + _____ + _____ + _____ = _____
_____(label)

2) Cans of Chicken Noodle Soup are on sale for $2. Nate bought 4 cans of the soup. How much money did Nate spend on soup?

_____ + _____ + _____ + _____ = _____ _____(label)

3) Richard bought 5 baskets of apples. Each basket had 5 apples. How many apples does Richard have?

_____ + _____ + _____ + _____ + _____ = _____ _____(label)

Enrichment: On the back, write a word problem for this repeated addition sentence.

10 + 10 + 10 = 30