# Multiplication & Division

Written by Jana Shumway

## Core Standards

3rd Grade Math Strand:  Operations and Algebraic Thinking (3.OA):  Represent and solve problems involving multiplication and division within 100 (Standards 3.OA.1–4 and Standard 3.OA.7). They demonstrate understanding of the properties of multiplication and the relationship between multiplication and division (Standards 3.OA.5–6). Dance Strand:  Perform: Standard 3.D.P.1:  Cooperate with a partner or other dancers to safely change levels, directions, and pathway designs in near-, mid-, and far-range movement.
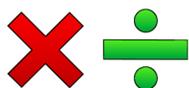
## Student Learning Objective

This lesson will help 3rd grade students understand that multiplication means to add groups and division means to take away groups.  They will learn that if the groups are not equal they will end up with a remainder.  They will learn this by demonstrating particular movements that go with each number from 1-10; and each movement has to be done with the correct number of students so they can see the groups getting bigger and smaller.

## Introduction

Have the students dance the following movements when you call out the following numbers.   See the visuals that accompany this lesson for further understanding of each movement.

- #0.  Fall down alone
- #1.  Run alone
- #2.  Elbow swing with one partner
- #3.  W hand hold with 3 people
- #4.  Right or left hand star with 4 people
- #5.  Football huddle with 5 people
- #6.  Front basket with 6 people
- #7.  Hold hands and walk in a line with 7 people
- #8.  Texas star with 8 people
- #9.  Make a train by holding the shoulders of the person in front of you with 9 people
- #10. Hold hands in a circle and walk around with 10 people
- #11 PLUS.   Hold hands in a circle and walk around with _____ people

Review the above numbers, groupings and movements in mixed up orders to make sure the students know them well.  I put visuals on my wall to help them remember.  Also note that you will get remainders! Tell the students that the remainders are the "left overs".  I have the "remainders" either make a still shape or just dance in the middle of the room or gym.  As you continue on with the lesson below, having the students dance the answers to multiplication or division problems, the remainders can get stuck there until the answer is 0 or 1 again.

### Dance the Following

### Easy Multiplication
Now have the students dance the **ANSWERS** to multiplication problems.  Give them a problem - NOT THE ANSWER.  Let the students SHOW you the answer without talking.  (They'll talk a little but remind them to not shout out the answer).

3 X 0 = 0 (fall down)
4 X 2 = 8 (Texas star)
8 X 0 = 0 (fall down)
1 X 5 = 5 (huddle)
5 X 2 = 10 (connect in a circle and walk)
Etc.
Keep giving them simple multiplication problems.  I usually take the answer from the previous problem to start the next problem (unless it is 0).  So if the answer is 4, then the next problem might be 4 X 2.  That helps the students move smoother from one movement / grouping to the next.  I also like them to think mathematically and efficiently.  If the problem is 3 X 2 and they were already in groups of 3 doing the W hand hold, then they should be efficient by just putting two groups of three together, not by separating and finding a new group of 6 kids.

### Easy Division
Now try having them dance the answers to division problems.
9 – 3 = 3 (w hand hold)
3 – 3 = 1 (run)
1 – 8 = 8 (Texas star)
8 – 2 = 4 (star)
4 – 4 = 1 (run)
1 – 0 = 0 (fall down)
7 – 1 = 7 (train)
Etc.  Keep giving them simple division problems.

### Both multiplication and division
Give a variety of problems including both multiplication and division.  Remember that it helps to keep the answer of the previous problem as the first number to the next problem unless the answer is 0.

### Multiplication, Division, Addition, Subtraction
Now give a long problem that includes multiplication, division, addition and subtraction.  First let them do the math in their head for the entire problem.  Then just have them dance the answer.  For example:  Think in your head …..what is the answer to 2 x 5?  Now that that answer (it's 10 but DON'T say it) and times that answer by 2.  Now take the answer and times that by 5.  Now take that answer and divide it by 2.  Now take that answer and divide it by 10.  Now dance the final answer.  (The final answer is 5).

### Materials Needed
Visuals that include the number and a picture of the movement.
Music:  I use Safri Duo's "Rise"

MULTIPLICATION DIVISION  MULTIPLICATION DIVISION  MULTIPLICATION DIVISION  MULTIPLICATION DIVISION  MULTIPLICATION DIVISION  MULTIPLICATION DIVISION  MULTIPLICATION DIVISION