LESSON PLAN #6 – Multiplication (Word Problems)

**GOAL** (WI Teacher Standards #1, 2)
- 4.OA.1: Interpret a multiplication equation as a comparison, e.g. interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. **Represent verbal statements of multiplicative comparison as multiplication equations.**
- 4.OA.2: Multiply or divide to solve word problems involving multiplicative comparison. e.g. by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

**OBJECTIVE** (WI Teacher Standards #1, 2)
- Students will use a picture to help them think about multiplication word problems as repeated addition word problems.
- Students will be able to apply repeated addition knowledge to create multiplication representations.

**VOCABULARY** (for review)
- *Factors*: numbers that are multiplied together are the factors of the final number.
- *Product*: final number that you get when you multiply two numbers together.
- *Multiples*: a number that can be divided evenly into the given number.

**ASSESSMENT** (WI Teacher Standard #8)
- I will be noting who answers questions on target (+), off target (-) on a seating chart sheet.
- Students will work in pairs on word problems. I will walk around guiding groups so they are on the right path. I will be keeping note as to how students are depicting their drawings to represent the problem. I will use this information to provide student examples when the group comes back to whole group. I will choose examples that I see are usefully to the whole classroom, an example may incorrect but I will use it as a teaching tool.

**MATERIALS NEEDED** (WI Teacher Standard #3, 7)
- Blank over heads sheets.
- Markers
- Graph paper
- Worksheet (the ones students used the day before and will continue to work on them)

**TIME NEEDED**: 45 minutes – 1 hour
PROCEDURE (WI Teacher Standard #7)

Engagement (5-7 minutes)

1. Introduction (WI Teacher Standard #6)
   - Today we are going to finish working on the worksheets we started yesterday. We are going to work in groups on the problems and then discuss them in class. On Thursday when I come back this week I am going to give you an assessment. This assessment is going to cover everything we did last week, which was working with the multiplication vocabulary, what we did yesterday, and what we are continue to work on today. So you need to make sure you are paying attentions because there will be vocabulary questions, just like we did for review yesterday and just like we are going to do right now. So let’s get started with the quick review of our vocabulary words.

   Review
   - What is the definition of product? What does the word tell us we need to do? 8x7=56 So which number is the product in this problem?
   - What are the factors of 24?
   - What would a multiple of 8 be? How do you know?
   - Show over head with definitions.
   - What is the product of 5 and 4? What does this question tell us we need to do with the problem?
   - What are factors pairs of 20?
   - What are some multiples of 5? what about 4?

Demonstration (10 minutes)

2. Developing the Lesson (WI Teacher Standard #4)
   - I was going through the homework last night and noticed some things.
     o Some pictures did not tell the story of the problem.
     o Do example that shows how something would not fit.
     
     I filled 3 pitchers with juice. It took me 3 cups to fill up the whole pitcher. How many cups did it take me to fill the pitchers?
   - DRAW BOTH PICTURES TO SHOW THIS. Asked students which one makes more sense.

Participation (30 minutes)

   - (15 minutes) Group work – work on problems with your desk groups. You may want to talk with your group members and decide to work on a problem and then talk about it. Make sure that the picture
makes SENSE and MATCHES what the problem is telling you. – during this time I will meet around with students to assist them with working these problems out. I will also make note of who I want to show their work

- (15 minutes) **Whole group** – have students show work and work out examples on the board.

  o Can someone tell me 1 important fact that this problem gives me?
  o __________ can you come up and draw how many groups I need to have for my picture. How do you know that?
  o __________ can you come up and draw how many I need in each of the groups. How do you know these are how many?
  o __________ can you come up and write the repeated addition that help us solve this problem.
  o __________ can you come up and write the multiplication equation for this problem.
  o 

3. **Closure** (WI Teacher Standard #6) (5 minutes)

- Today we looked at more multiplication problems and how we can
  o draw a picture to help us understand what the problem is telling us.
  o use repeated addition to help us get to the multiplication problem
  o wrote the multiplication equation to the word problem.

- Tomorrow we are going to take the assessment on these concepts. You will see all the types of problems we have been doing. There will be the questions on vocabulary like how we did in the reviews yesterday and today. There will also be word problems, and challenge question at the bottom to see if you can come up with your own multiplication word problem.

**Extra problems to touch on if time permits**

- Can you provide the multiplication equation for these repeated addition problems?
  o \[2+2+2+2+2=12\]
  o \[7+7+7=28\]
  o \[9+9+9+9+9+9=63\]