Lesson Plan Template

Grade: 3

Subject: Math

Materials: Animals, quarters, dry erase markers, name sticks, and, worksheet

Technology Needed: Active board, ipad, computer

Instructional Strategies:

- ☐ Direct instruction
- ☐ Guided practice
- ☐ Socratic Seminar
- ☐ Learning Centers
- ☐ Lecture
- ☐ Technology integration
- ☐ Other (list)
- ☐ Peer teaching/collaboration/ cooperative learning
- ☐ Visuals/Graphic organizers
- ☐ PBL
- ☐ Discussion/Debate
- ☐ Modeling

Guided Practices and Concrete Application:

- ☐ Large group activity
- ☐ Independent activity
- ☐ Pairing/collaboration
- ☐ Simulations/Scenarios
- ☐ Other (list)

Explain:

- ☐ Hands-on
- ☐ Technology integration
- ☐ Imitation/Repeat/Mimic

Standard(s)

3.OA.3 Using drawings and equations with a symbol for an unknown number, solve multiplication and division word problems within 100 in situations involving equal groups, arrays, and measurement qualities.

Objective(s)

By the end of this lesson, the students will be able to solve multiplication and division equations by showing their work with pictures.

By the end of this lesson, the students will be able to solve multiplication and division equations, and will be able to draw three different types of diagrams/pictures for the equations.

Bloom's Taxonomy Cognitive Level: Apply and analyze

Differentiation

Below Proficiency: For my students that are struggling, I will give them the same worksheet as everyone else but I will give them the first couple of steps for every problem so that they have a way to get started.

Above Proficiency: For my advanced students, I will give them the same word problems and number of questions but will substitute the regular numbers for larger ones that will make the multiplication and division more difficult.

Approaching/Emerging Proficiency: These students will get the worksheet as written to push them to figure out the process.

Modalities/Learning Preferences: With doing this problem in an actual classroom I could adapt the examples to the interests of my class. For example, maybe instead of stuffed animals I could use mini basketballs.

Classroom Management- (grouping(s), movement/transitions, etc.)

For this assignment, the students will be coming up to the front of the room to help with the demonstration. Those not moving though will be in a large group setting with their desks in a large semi-circle around the front of the classroom. That way all students feel like they are apart of the discussion.

Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)

I will just expect that my students will be engaged and to listen throughout the lesson. I also expect that my students will be willing to participate and ask questions as they are confused.

Minutes	Procedures
60	**Set-up/Prep**: Prepare worksheet for students to practice after lesson, gather stuffed animals, quarters, and cubes to help with demonstration of lesson. Make sure I am clear on what I will say.
5	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** To get their attention, I will bring out the bag of stuffed animals (small ones) and say, "Today we will be multiplying and dividing with stuffed animals! Before we start, let's take a minute to think about what we already know. Can everyone please take out a piece of paper and write down two things you feel confident about in math and one thing you are confused about. Please try to relate your answers to multiplication and division that we have been working on lately! (Pre-assessment) **Students should already know:** To be able to solve for a missing factor or divisor, students should already know how to multiply and divide. This lesson is not their first introduction to the charts and diagrams used to show the multiplication and division problems. When have a student come to the board to diagram the process, they will already know what I mean by that. This lesson would probably take place after Christmas time so that we could have went over this knowledge with the students beforehand. Also, we would have went over values of money and coins since this is another standard, and we will just build on that knowledge here in this lesson.
30	**Explain: (concepts, procedures, vocabulary, etc.)** 1. The first problem I will have on the board will be: Five students want to play with Ms. Hintz's stuffed animals, there are 25 stuffed animals in all, so how manly will each student have to play with? 2) I will then have five students come up to the front. To pick the students, I will draw five sticks out of my name jar 3) Once I have my students, I will write this equation n the board to simplify the word problem 5x A=25. I will be prepared to answer the question, "What does the "A" mean. My answer would be, A stands for the missing number of stuffed animals. To solve this problem we will read it as what times five is equal to twenty-five." 4) Now I will distribute my twenty-five animals ne at a time to the five students While I am doing this, I will ask one student to "chart" the process on the board. The chart would ok as follows.

Student:	A	B	C	D	E
Animals:	1	1	1	1	1
	2	**2**	**2**	**2**	**2**
	3	3	3	3	3
	4	4	4	4	4
	5	5	5	5	5

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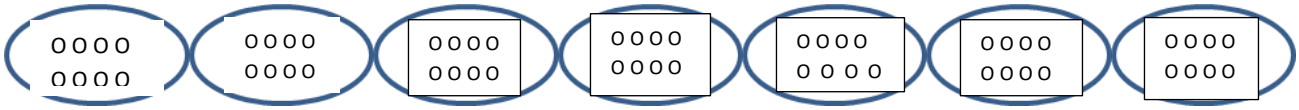
	5) After the students have the animals and see the chart, I will ask, "How many stuffed animals does each student have?" They will then answer 5! 6) Now I will go back to the actual number equation (5 x A= 25) and explain that the problem can also look like 25 divided by 5= A. 7) The next problem we will go through together will involve quarters. The problem will be: In order to buy one ice cream cone everyday for a week, John must save up 56 quarters. How many quarters does he use each day? The equation will be 56 divided by Q= 7. 8) Now I will have my students gather around a table to watch what I do. I will again have one student make a chart of what I do. The chart could look like:  9) I will then explain that this problem can be thought of as 7 x Q = 56. This is a fact that they should know because it will be common. 10) Since we are working with quarters, I will then ask them, "If each day John uses 8 quarters how many dollars does an ice cream cone cost?" Remember four quarters makes one dollar! Hopefully with the examples given they will be able to see that they should divide 8 by four to get $2. 11) I will then ask my students to write down a number 1, 2, or 3 on a sticky note. 1= totally confused 2= kind of understand and 3= this is easy. This will help me understand where my students are at with understanding.
20	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** I will then give my students time to explore their learning by using small blocks. This will give them time to process what they learned by using the blocks to work through practice problems that I write on the board. These questions will not be graded so students can relax and be ask any questions that they might have without pressure. After they have some time to explore, I will bring them back together to complete a formative assessment. I do not want the students to realize that I am quizzing them, and so I will ask them to find their favorite problem that they just worked on, write the problem down on their small white board. (Each student will have one) After they write the problem down, I will ask them to solve it with only pictures or diagrams. So, I do not want to see them just writing the numbers down, but using their creativity to explore how else they can solve their problems. I will then ask them to come show me their work and I can see where all my students are at in their understanding. **Technology Integration:** During this time to explore, students can also complete interactive problems on their ipads/computers or go up to the active board. These interactive problems would allow for students to drag and drop objects into categories to divide them up like we did in class. These interactive problems again would not be graded but will be available to students to work on outside of class as well if they chose to continue to work the ideas just taught in class.
5	**Review (wrap up and transition to next activity):** I will then hand out a short five question worksheet for the students to practice for homework. This will be a great way for me to see if my students understand the lesson without giving them a ton of problems to do.

Formative Assessment: (linked to objectives) **Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.** Throughout the lesson, I will ask students to see if they can understand why we are making the charts the way we are, if the students understand how multiplication and division is related, and how to turn word problems into number equations. Also, I will do the formative assessment at the end of the explore time to fully check where my students are at. **Consideration for Back-up Plan:** My back up plan will be to use other equations if some students to not understand the ones that I have originally thought of. If I feel like my students are confused, I can also start working on one of the worksheet problems to get them started.	**Summative Assessment (linked back to objectives)** **End of lesson:** The assessment will be the worksheet. I will be able to see how they made their own diagrams and to how they work through the word problems. **If applicable- overall unit, chapter, concept, etc.:**

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):
This lesson may go over the head of some students because of the complexity of the problems, but this lesson could be adapted for different levels. If my students are not at the level that these facts are at, I could simplify the problems. This lesson would have to be adapted once I am in a classroom and know my students so that the objects and examples could be the most beneficial and engaging for my students.
For the technology integration, my peers told me that this would be a good idea to help students understand and be able to take more time to understand the concept if needed. The thing I will have to remember is that each school may have a different technology policy and so I need to make sure that I follow the rules and find the best apps available to me in that school.

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Worksheet Questions

Solve each by showing a diagram and writing out the number equation that goes with the word problem.

1. Three students have 36 tootsie rolls. If they all want the same amount, how many does each student get?

2. There is 50 dollars in a jar and 10 students in the class. How much does each student get if everyone gets the same amount?

3. 75 divided by A equals 25. What is the missing divisor?

4. 12 x b = 48 What is the missing factor?

5. A teacher wants to put her students into 8 groups. She has 24 students in her class. How many kids are in each group?

Answers to the Questions.