

**Round One, Math Lesson
Factors and Multiples
Miss Leintz**

Grade: 5		Subject: Math	
Materials: <ul style="list-style-type: none"> • Factoring cards • Multiples cards • Factoring Roll & Cover • Dice • Whiteboards • Dry erase markers 		Technology Needed: <ul style="list-style-type: none"> • Projector/Active Board 	
Instructional Strategies: <ul style="list-style-type: none"> <input type="checkbox"/> Direct instruction <input type="checkbox"/> Guided practice <input type="checkbox"/> Socratic Seminar <input type="checkbox"/> Learning Centers <input type="checkbox"/> Lecture <input type="checkbox"/> Technology integration <input type="checkbox"/> Other (list) <input type="checkbox"/> Peer teaching/collaboration/cooperative learning <input type="checkbox"/> Visuals/Graphic organizers <input type="checkbox"/> PBL <input type="checkbox"/> Discussion/Debate <input type="checkbox"/> Modeling 		Guided Practices and Concrete Application: <ul style="list-style-type: none"> <input type="checkbox"/> Large group activity <input type="checkbox"/> Independent activity <input type="checkbox"/> Pairing/collaboration <input type="checkbox"/> Simulations/Scenarios <input type="checkbox"/> Other (list) <p>Explain:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hands-on <input type="checkbox"/> Technology integration <input type="checkbox"/> Imitation/Repeat/Mimic 	
Standard(s) 5.OA.4 Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.		Differentiation Below Proficiency: <ul style="list-style-type: none"> • Student will do less numbers when doing the activities in which they lay the factors and multiples underneath. • Students will be meeting with Miss Leintz in smaller groups in order to have more individualized math. Above Proficiency: <ul style="list-style-type: none"> • Students will be expected to come up with more multiples of numbers. • Students will be given more challenging numbers during small group activities. Approaching/Emerging Proficiency: <ul style="list-style-type: none"> • Leave lesson as is Modalities/Learning Preferences: <ul style="list-style-type: none"> • Visual: Students will be able to see the numbers as we are learning about them • Auditory: I will be explaining the concepts and they will be given the opportunity to think out loud with their peers • Kinesthetic: All of these activities are very hands-on and they will be given many opportunities to move throughout 	
Objective(s) By the end of the lesson, the student will be able to demonstrate understanding of factoring and multiples through practicing the skills at various rotations. Bloom's Taxonomy Cognitive Level: Understanding			
Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> • Students will be grouped based upon where they are sitting at carpet time • To transition, everyone will come back to the carpe then walk to the next station • Students will be working independently at all stations except memory, at this station they will simply pick any partner that is in their group with them 		Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> • Independent Activities: Voice level 0 • Math with Miss Leintz & Memory: Voice level 1 • Working on Exit slip: level 0 • Students will walk to and from the carpet • Students are expected to treat all materials with respect, putting them away the same way they found it when it is time to rotate. • Students may choose where they sit at the carpet as long as they are sitting with still bodies and quiet bodies 	
Minutes	Procedures		
20 minutes	Set-up/Prep: <ul style="list-style-type: none"> • Print and cut out factoring activity • Print and cut out multiple activity • Print and cut out matching game • Print roll and color • Get out dice • Set up stations 		
1 minute	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> • “Earlier this school year you began learning about factoring and multiples of numbers. Today we are going to have kind of a review day with this concept where we play some games and do a few activities to practice.” 		

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10 minutes	<p>Explain: (concepts, procedures, vocabulary, etc.)</p> <ul style="list-style-type: none"> • “Factors are the numbers that can be multiplied to equal the product. Two factors are multiplied together to get the product. There are two ways in which we can think about this. We can think what can I multiply together get my product or we can think what numbers will I be able to divide evenly into my number? For example, if we take the number 12, we have to think of numbers that we can multiply evenly to get twelve. Turn and talk to a neighbor about what number we can multiply to give us 12.” <ul style="list-style-type: none"> ○ Have students discuss. ○ Call on students to give factors • “Yes, factors of 12 are 1, 2, 3, 4, 6, and 12. Let’s practice a couple more examples.” <ul style="list-style-type: none"> ○ Pass out whiteboards and dry erase markers. • “Okay, the number I am going to give you is 20, what factors can we multiply together to get twenty. Write the numbers on your white board.” <ul style="list-style-type: none"> ○ Give students time to do this. • “Now I want you to compare your number to your neighbor. Do you have the same factors for 20?” <ul style="list-style-type: none"> ○ Have students turn and compare with their neighbor which gives me a chance to see which students are really grasping the concept and which students are having some troubles. • “What are the factors of 20?” <ul style="list-style-type: none"> ○ 1, 2, 4, 5, 10, 20. • “Good, so it is important for us to remember that when we are factoring, we are finding two number that multiply together to get our product. Now let’s talk about multiples. Multiples are the product of a given number and another factor multiples. There are two ways in which we can find our multiples of the numbers. First, we can simply skip count. If our given number is 2, we can just say 2, 4, 6, 8, 10..... The second way in which we can do this is multiply our given number by numbers. So if our given number is two, we would take 2 x 1, 2 x2, 2x3, 2x4, Both ways we will get the same multiples. Let’s practice. Please pick up you whiteboard and marker. Your given number is four. I want you to find at least five multiples of 4.” <ul style="list-style-type: none"> ○ Give students time to do this, use this time to walk around and help anyone who seems to be having trouble doing this. • “Alright, please compare with your partner.” <ul style="list-style-type: none"> ○ Have students turn and compare with their neighbor which gives me a chance to see which students are really grasping the concept and which students are having some troubles. • What numbers did we get? <ul style="list-style-type: none"> ○ 4, 8, 12, 16, 20, 24, 28, 32, 36..... • “All of these numbers are multiples of 4.” • “Now, I have a few different activities that we are going to do. Each person will be doing each activity, we are going to do math rotations. Let me explain each rotation.”
50 minutes (Five 10 minutes rotations)	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <ul style="list-style-type: none"> • Explain & Model each of these rotations: <ul style="list-style-type: none"> ○ Rotation 1 <ul style="list-style-type: none"> ▪ Factor Cards (independent) <ul style="list-style-type: none"> • Students will have a bag of a bunch of numbers. Yellow numbers are the products. Orange numbers are the factors. The will lay out a yellow product, then under will put each of the orange factors. ○ Rotation 2 <ul style="list-style-type: none"> ▪ Multiple Cards (independent) <ul style="list-style-type: none"> • Students will have a bag of a bunch of numbers. Green numbers are the given numbers. Pink numbers are multiples. The student will lay out a green number, the will lay each pink multiple underneath. ○ Rotation 3 <ul style="list-style-type: none"> ▪ Roll & Color Multiples (independent) <ul style="list-style-type: none"> • Students will be given a dice, crayons, and a roll and cover paper, as well as a recording sheet. The will roll the dice, record what number they wrote, and record what number they colored (which will be a multiple of what they rolled). ○ Rotation 4 <ul style="list-style-type: none"> ▪ Factoring and Multiples Matching game (played with a partner) <ul style="list-style-type: none"> • This game is played just like memory. One partner flips over two cards. One of these cards will have an answer, and one will have a question or prompt. They will try to get a match. If they succeed they will keep the pair and get another turn. If they do not get a match, they will flip their cards back over and it will be their partner’s turn. ○ Rotation 5 <ul style="list-style-type: none"> ▪ Math with Miss Leintz <ul style="list-style-type: none"> • At this station the students will have small white boards in front of them. I will be giving them products and they will be writing factors. I will also be giving them numbers and they

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	<p>will be writing multiples. This will give me a chance to see who is really grasping the concept and will allow me time to give students some small group help with the concept.</p> <ul style="list-style-type: none"> ○ Products we will be working on: 10, 12, 16, 20, 24, 28, 32, 36 ● Given numbers: 2, 3, 4, 5, 6, 7, 8, 9, 10 <ul style="list-style-type: none"> ● Each rotation will be about 8-10 minutes long. At the end of the rotations I will give students a 1 minute warning to start wrapping up then they will have about 1 minute to get cleaned up and meet back at the carpet. I will then have them move group by group to the next rotation. At the
<p>5 minutes</p>	<p>Review (wrap up and transition to next activity):</p> <ul style="list-style-type: none"> ● At the end of the last rotation, the students will clean up their station completely and will put materials away. They will hand in their recording sheet for me to look at to see where the students are with this concept. I will then have them fill out a quick exit slip in which I give them one product to find the multiples for and one to find the factors of. They will hand this in and we will use this as a smooth transition to the next activity.
<p>Formative Assessment: (linked to objectives, during learning)</p> <ul style="list-style-type: none"> ● Progress monitoring throughout lesson (how can you document your student's learning?) <ul style="list-style-type: none"> ● I will monitor progress while they are at my station. I will document this using a checklist. I will write a + if they get the concept completely. I will write – if they kind of get the concept but do not completely have it yet. I will write 0 if they do not understand the concept at all. 	<p>Summative Assessment (linked back to objectives, END of learning)</p> <ul style="list-style-type: none"> ● Exit slip ● Students will answer two questions: <ul style="list-style-type: none"> ○ What are the factors of 32? ○ What are the multiples of 4?
<p>Reflection (What went well? What did the students learn? How do you know? What changes would you make?):</p> <p style="text-align: center;">Round One Math Lesson Reflection</p> <p>Overall, I am excited about how this lesson went. The students have never done math rotations so far this year, so going into it, I was a little bit concerned about how it might go. We started by doing a simple review on our whiteboards. I ended up adding a couple more examples to the lesson, because I felt that the students could use a little bit more practice before we moved on to stations. Because this was a review concept for them, it seemed familiar to them. Something that I would have liked to change about this part though is that I wish I would have taught them some kind of trick to remember the difference between finding multiples and factors. I think that the majority of the students understood both concepts, but just got mixed up between which concept was which. If I could teach this lesson again, I would definitely think of some kind of trick or song to help them remember which was which.</p> <p>When we began doing rotations, I was so impressed with the students. I explained to them which stations were independent, level zero voice, stations. I also explained which stations were partners or small groups and that they could talk at a level one voice, whisper, as long as they were talking about math. Sometimes they struggle as a whole getting started at a level zero voice right away, but after I told them they needed to get to work right away, they did it. I was amazed at how quiet they were throughout the stations.</p> <p>A couple of things that I would change about my stations is that I would have made answer keys for the students that were doing factor and multiple cards. I would have had them show me that they finished and then let them check their answers with the answer key. If I taught this again, this is definitely something I would do. The roll, record, and color activity was really good, but I think most of the students wished that they had more than ten minutes to work on it, because a lot of them only got about half way done, but I let them keep it to continue working on them later, which I hope they do! I think that the memory game was fun, but I also think they wished they could have had more time. If I could teach this lesson again, I think that I would either have only three stations and longer time at each one, or simply have a longer block of time so the students could continue at their stations a bit longer. The only thing with that would be the high-flyers would have had a lot of extra time before they had to rotate.</p> <p>The exit ticket went well. The students loved that they had to give it to me before they could line up for lunch. It was a great way to wrap up the lesson and kind of review what we learned so I could check the students' understanding of factors and multiples. Most of them did a great job with knowing how to find the factors and how to get the multiples, but a few of them mixed up factors and multiples.</p> <p>Overall, I am excited about how this lesson went, because I was a bit worried about the time management and the station management, but the students did awesome and it was honestly so much fun to teach, I definitely wish I could teach it again!</p>	

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