I. Content: Describe what it is you will teach. What is the content?

In our fifth lesson, students will focus on multiples that harness the students’ ability level and allow them to thrive. Students who are less confident with and perform less well on their multiplication facts will work on the multiples of three and five; higher achieving students will work with six and seven. A thanksgiving party theme will allow the students to engage more richly with the word problems, which demand that they 1) demonstrate their understanding of multiplication using a variety of models, as well as 2) employ our strategies and units.

II. Learning Goal(s): Describe what specifically students will know and be able to do after the experience of this class.

- SWBAT demonstrate their fluency with a given multiple.
- SWBAT employ a variety of strategies to solve both for both a product and quotient.

III. Rationale: Explain how the content and learning goal(s) relate to your Curriculum Unit Plan learning goals.

Our fifth lesson returns to the key standard of the unit, 3.OA.3 (listed below). Unlike the previous lesson, we will be modeling our answers using equal groups, arrays, number lines, or words. In addition to these strategies, students will be able to use skip counting to further develop their speed and fluency with multiplication. This will allow us to continue to address the secondary standard of my unit, 3.OA.7. To further develop our fluency standard, students will be working with a specific multiple that is at their ability level. In addition to addressing these content standards, the lesson will also address one practice standard, or habit of mind: (6) Attend to precision. In this case, I do not simply mean that students need to generate reasonable answers at a fast pace, as was the focus of my last lesson. Rather, they will have to be employing their familiarity with word problems to accurately employ an operation with relative alacrity. They will not have the opportunity to spend great lengths of time answering these questions; even though there are six questions, each question is accompanied by an extension. By working in pairs, they will more speedily demonstrate the depth of their understanding. This lesson incorporates literacy development by asking students to distill mathematical information from word problems and to employ words to explain their choice of operation. We will further build our community of learners by working in pairs to double our funds of knowledge. Students will be able to lean on their peers for explanations and demonstrations, both in their pairs and in our whole group debriefing.
IV. Assessment: Describe how you and your students will know they have reached your learning goals.

- Students will be informally assessed through their participation and cooperation with fellow mathematicians during both the lesson’s activity and discussion.
- Students will be formally assessed by their performance on their Thanksgiving Party worksheet.

V. Personalization and equity: Describe how you will provide for individual student strengths and needs. How will you and your lesson consider the needs of each student and scaffold learning? How specifically will ELL students and students with learning disabilities gain access and be supported?

The strengths of individual students will be brought out and encouraged in several ways: **High flyers** will have many extensions that are built into each individual problem. Additionally, they can work through the entire packet, which I purposefully made long to account for speedy pupils. Students who have an IEP or 504 will benefit from clear, single-step directions. I will encourage them to use their own energy to generate lengthier explanations, instead of what is simply required. I foresee that students who usually struggle behaviorally will benefit from having my other teachers in the classroom, given that it is my round. Having someone to sit beside them and guide them will undoubtedly reflect positively in their work. To further support their success, I have thoughtfully selected preferential seating spots for them, as well as provided repeated directions as necessary. **ELLs** will benefit from many of the same scaffolds as students on an IEP or 504. In addition to these strategies mentioned above, I will emphasize the need to use the correct vocabulary and to reference our organizer whenever necessary (especially *product* and *quotient*). Furthermore, ELLs who have the opportunity to work with fluent English speakers will have the chance to encounter this new domain specific academic vocabulary employed by their peers. Finally, ELLs will use the same word problem strategies that we have been employing since our work with addition; as such, they will not need to decode any new words or strange concepts in order to solve their own problems. **Auditory** learners will benefit by the repetition of our new vocabulary and old strategies. They will also benefit from working with peers to share and workshop ideas. **Visual** learners are sure to benefit from the display on the board of the number sentences as well as our anchor charts. Finally, **kinesthetic** will be allowed to work in open spaces as is deemed appropriate. As a general support, I will workshop the original word problems with them to ensure that they are able to get their quality ideas on the paper. Rachel, Caroline, Jack, and Arturo will receive individual attention with Patty.
VI. Activity description and agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Teacher Activity</th>
<th>Student Activity</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>0:00-0:10</td>
<td>I will lead a review of the vocabulary, our word problem strategies, as well as our models.</td>
<td>Students will provide answers to my prompts for reviewing this material.</td>
<td>Board Marker</td>
</tr>
<tr>
<td>0:10-0:35</td>
<td>I will pair the students off into their groups and provide the word problem packets. I will circle the room to conference.</td>
<td>Students will solve their problems in their pairs.</td>
<td>Packets</td>
</tr>
<tr>
<td>0:35-0:45</td>
<td>I will lead a debriefing. We will identify what our multiple, or special numbers, were.</td>
<td>Students will participate in our discussion.</td>
<td>Same as above</td>
</tr>
</tbody>
</table>

I am most concerned with students having difficulty in their groups. I had trouble pairing two of the students, and I am worried that they will not work well with the rest in the group. Additionally, it would be unfortunate if the tasks at hand prove too lengthy for the entire class or too difficult for our students with special needs. To address this, I will remind the students to work on each number and it’s accompanying extension as a whole unit. They have had experience with this type of problem before, but this time I did not cut the paper in half to physically delineate the paired problem-extension.

VII. List the Massachusetts Learning Standards this lesson addresses.

- **CCSS.MATH.CONTENT.3.OA.A.3**
  Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.¹

- **CCSS.MATH.CONTENT.3.OA.C.7**
  Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

VIII. Reflection

I am so glad that I made major adjustments to this lesson, especially since this was my round lesson. The students were eager to get started on their packets, which was a familiar format for
them. Luckily, there were many adults present to make sure that they behaved themselves during our review first. In all seriousness, I was really pleasantly surprised by the swiftness of their responses to my review questions. Additionally, I was glad to see that they were thinking outside our traditional box of models (arrays, number lines, and equal groups); students referenced fact families and the number grid as a way to solve the problem. I would have liked to see students employing these methods more often in their actual work, but they will have the opportunity to expand their model horizons after I prompt them to do so when we return to this lesson tomorrow.

Looking back at their work, I can tell that the partners were working well together. For almost each group, both partners were on the same problem and even at the same point in solving the same problem. This was extremely gratifying, as I had labored for so long over the group dynamics. In general, the class achieved a little less than I expected to in sheer number of problems solved. However, the quality of their responses exceeded my expectations! In particular, I had expected the students to struggle with the extension to problem number two, but almost every student managed to find the pattern and employ it. This problem was clearly a good measure of one’s comfort with multiplication, as many students chose to employ repeated addition instead. This is not wrong or bad in my eyes; it simply provides more insight into their ability to manipulate numbers comfortably and employ operations flexibly.

Several things could really enhance this lesson. I knew that the students would struggle with some of the extensions, but I did not make clear that I really was looking for that frustration. That state should not be a point of discomfort for them, but rather a space of potential growth. Going forward, I would like to accentuate their struggles as a positive part of learning and a jumping off point for an exciting discovery or ‘ah-ha’ moment. Regardless, I don’t want them to feel dejected when they approach a problem they don’t immediately know the answer to.

On another note, I would have liked to set aside at least five more minutes so we could go over the first two problems and their accompanying extensions. The worksheet is set up so that individual pages can be broken up into sets; therefore, we could easily isolate the first two problems, which every student did answer. This would also have allowed us to employ some of the less commonly used models (number grids, skip counting, fact family). We could share student work to emphasize that making a mistake is ok and that making the effort to push through a difficult question towards an epiphany is worth it! This lesson has so much potential!