

## Mathematics Lesson Plan

Name:	Chelsea Keenan
Name of Lesson:	月饼(Mooncakes) and Math
Grade Level/classroom description:	High school All grade levels, moderate-severe special education classroom

<p><b>Pre-Requisite Skills/ Understandings:</b> (2-3 sentences on what knowledge this lesson builds on)</p>	<p>Division and Multiplication Familiarity with fractions, decision-making and recipe-reading skills Presentation skills</p>
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<b>2. Rationale and General Lesson Plan Description</b>	
<p>General Description of the Lesson: (in a few sentences, what does this lesson do? Why are you choosing to do it like that - on what theories, examples, or research does this lesson draw?)</p>	<p>Students determine the number of people they will make mooncakes for and then on the internet, they chose a recipe. They must adjust this recipe so that it makes the amount of mooncakes that they want to make. This lesson focuses on division, multiplication with whole numbers and fractions. I made this lesson this way for two reasons I wanted the lesson to have “entry and exit points for a wide range of students.” (Van de Walle p. 79) I also wanted most of the decision making power left to the students so that they could practice and develop self-determination skills.</p>
<b>Total Time: 50 min.</b>	

<b>3. Curriculum Standards Addressed in your Lesson Plan</b>	
<p>Common Core Standards:</p>	<p><a href="#">CCSS.MATH.CONTENT.5.NF.B.4</a> Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p>
<p>Common Core Mathematical Practices you will be working on in this lesson (specify at least 2):</p> <ul style="list-style-type: none"> <li>-Make sense of problems and persevere in solving them.</li> <li>-Use appropriate tools strategically.</li> </ul>	

<b>4. Student Learning Objectives and Assessment.</b>	
<p>Two or three objectives must be written for this lesson: <i>one or two</i> for content and <i>one</i> for language. Then specify how each objective will be assessed within the lesson. Be as specific as possible – for example, if you “will observe students,” what will you be looking for?</p>	
<p>Content Objective 1: Students work together to determine number of mooncakes, find a recipe and adjust the recipe.</p>	<p>Assessment: During whole group discussion ask questions to determine their method and thinking for accomplishing these tasks. Work sample-review students’ written work.</p>
<p>Content Objective 2: Students practicing decision-making skills</p>	<p>Assessment: Observe during work time, looking for those students embracing the freedom of the assignment and those who are accustomed to direct instruction who need support to know</p>

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	that they are on the right track. During whole group discussion, ask how often they get to make decisions and how do they feel about making decisions. Review student Group Discussion worksheet.	
Language Objective: Fraction Notation	Assessment: Observation: when students use measuring tools (measuring cups, spoons, etc) and when reading recipes looking for proper use of terminology. $\frac{3}{4}$ = three fourths, not three four.	
Some Possible Assessment Tools	Writing Samples Demonstrations Observations Portfolios Surveys Interviews	Projects Rubrics Journals Teacher-made test Other: _____

**7. Adaptations** (ELL, child that presents instructional challenge, gifted): How will you address the needs of particular students in your classroom who may require accommodations? Describe in a few sentences below. *Use resources from class to plan accommodations for EL students and students with learning differences, and be as specific as possible*

Most students in this class are multilingual as well as having multiple disabilities; intellectual disabilities and/or language process challenges. I anticipate, and if not I will prompt, them to look for recipe videos. The visuals will support the language needed to understand the recipe. I will also be intentional when making the groupings. I will put para-educators in groups where they share a language with one or more of the students and partner students in groups to support each other linguistically. Recipes often have both whole numbers and fractions. For some of the students, solving problems with the whole numbers is a challenging task. For others, working with fractions will be a thought-provoking task. By making this a group assignment, students can work together contributing their various skills to solving the problem.

**8. Community/Home Connections:** How does your lesson connect with students' ways of knowing outside of school? If applicable, in what other ways is your lesson culturally responsive? Describe in a few sentences below.

Many of my students are Chinese American and have talked with me about mooncakes. This lesson draws on this cultural knowledge and experience. Non-Chinese American students in this class report baking at home with their families. This lesson draws upon and builds on both the cultural experiences and baking experiences.

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Lesson Flow for [LESSON NAME]		
Times Materials	Activity/Description <i>Insert extra rows as needed</i>	Considerations/Teaching Notes
Task card  5 min.	Launch/Hook: Introduce the Culinary Geography and get students excited about sharing their cooking skills with other students.	Student groupings: be intentional-para-educator and other students to student the linguist and communication needs of students. Put below checklist on the board to help keep para-educators and students on task.
Computers/ iPads, paper, writing tools pencils/ markers, water, measuring cups, spoons, manipulatives.  Whole Group Discussion Worksheet  30 min.	<p>Step 1: Decide how many mooncakes to make.</p> <p>Step 2: Find a recipe or video recipe.</p> <p>Step 3: Adjust the numbers in the recipe to make the number of mooncakes you want to make.</p> <p>Step 4: Prepare for whole group discussion:</p> <ul style="list-style-type: none"> <li>- Why did you chose the recipes you did?</li> <li>- How did you considered the numbers in the recipes?</li> <li>- How did you do the math?</li> <li>- How often do you get to make your own decisions?</li> </ul>	Facilitate student discussion by asking questions to help them clarify their thinking about each step and the decisions they are making. Observe, compliant students on their thinking and ask them to share their ideas during group discussion. If having difficulty, suggest that they use some tools to help. If still confused, demonstrate the use of tools. Have para-educators help organize students' thoughts before they discuss in whole group.
15 min.	Closing: Whole Group Discussion	Asking questions to draw out thinking. Make connections between strategies students used when doing the math. Ask questions to help students understand why others tend to make decisions for them and draw out their thoughts and feelings and what actions they can take.