Math-in-CTE Lesson Plan Template

Portion Control		Lesson # 11
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Culinary Arts		
CTE Concept(s): Po	ortion Control, Serving Size, Food Cost	
Math Concepts: Me	easurements, Division, Percentages,	
Lesson Objective:	To illustrate the importance of portion control and how it impacts profit and loss	
Supplies Needed:	1 #10 can of Spaghetti Sauce. Cooked Pasta. Various sizes serving ladles. Cookie recipe, supplies an equipment for preparing cookies.	

THE "7 EI EMENITS"	TEACHER NOTES
	(and answer key)



1. Introduce the CTE lesson.	
Today we will see how serving size and portion control can impact customer satisfaction, providing adequate amount of food for number of people served, sales price and profit or loss.	Introduce the concept that things cost money and there is a finite amount of product to divide up. If one is serving a certain number of people, one needs to know how much food to have on hand in order to feed that number of guests. Portions should be the same size so its fair and cost efficient.
Assess students' math awareness as it relates to the CTE lesson.	
How much does 1 #10 can of sauce cost? \$4.29 A #10 can of spaghetti sauce contains 96 ounces of sauce. How many people will that serve? How is that determined? Lets see how many there actually are by opening a can and measuring out servings	Divide the class into groups. Give each group a different size serving ladle 1, 4 oz, and 1, 5oz. Give each group a can of spaghetti sauce Open can of spaghetti sauce and using the scoop see how many servings you can get out of the can.
What are your results? How many 4 oz portions? How many 5 oz portions? Is there a visual or significant difference between the two?	



3. Work through the math example embedded in the CTE lesson.	
4 ounce servings; 96oz /4oz=24 SERVINGS 5 ounce servings; 96oz /5oz= 19.2 SERVINGS Do these match the actual portions you measured?	This is where you can explain how the amount arrived at is a cost to you not a charge to the customer. If you are charging the customer a certain amount for lunch how does this impact your profit and/or loss and food cost percentage?
Now lets see how much each of these portions cost. #10 can = 96 ounces= \$4.29 \$4.29/ 24 4 oz servings= .178 per serving \$4.29/19 5 oz servings = .226 per serving Which of these servings makes you more money?	What happens if you over serve- serve portions that are larger than what you budgeted for? Budgeted in cost and materials.



 Work through <i>related, contextual</i> math-in-CTE examples. 	
If you need to serve 100 people how many cans of sauce do you need?	Use the 96 ounce can and the answers from above to help you complete these questions.
4 oz portion	
5oz portion	Talk to the kids about do we use the actual amounts we measured out or do we use the calculated amounts to figure out the answers to these
If you are serving 300 people how many cans do you need?	questions
4 oz portion	
5 oz portion	
The customer wants a 6 ounce portion.	
What adjustments do you have to make?	
How many cans are needed?	
How much does each portion cost?	
5. Work through <i>traditional math</i> examples.	
See Traditional Math Example Worksheet	See Traditional Math Example Answer sheet



6. Students demonstrate their understanding.	
Again have the kids break out in groups. Give them a cookie recipe. Have them prepare the recipe 2 separate times, not double the recipe. Scoop out the cookies using a 30 scoop on one batch and a 40 scoop on the second batch. What are the yields for each batch? (How many does it make?)	To find the food cost percentage, one needs to divide the cost of the cookie by the selling price. Discuss the impact of burning a batch of cookies. How much is actually lost? No just the cost of ingredients but the cost of potential sales.
Cost out the recipe.	
What is the cost to prepare the recipe?	
What is the cost for each cookie based on the recipes yield?	
If the cookies are to be sold for 50 cents each, which batch will yield a larger profit?	
Bonus-What is the food cost percentage for each?	
7.Formal assessment.	
Discuss the findings and results of the experiment. Sell cookies to the other classes and assess the reaction of the 'customers' to the different size cookies to the corresponding prices and discuss those reactions while eating left over cookies.	

NOTES:

