Math-in-CTE Lesson Plan Template

Lesson Title: ConOven			Lesson: CA-15	March 2, 2012
Author(s): Ellen/Brian	Phone Number(s):	E-I <u>tur</u> be	mail Address(es): cotte@r10tech.org rkemeyerb@rsu5.org	
Ellen Turcotte	729-6622			
Brian Berkemeyr	865-9815			
Occupational Area: Culinary Arts				
CTE Concept(s): Convection Oven (Time and Temperature)				
Math Concepts: Subtraction, Proportion, fractions, Addition, Multiplication, division.				
Lesson Objective:Student should be able to accurately change oven temperature and timing for a recipe when using a convection oven in lieu of a conventional oven. Students need to realize that different ovens have different specifications.The overall math goal is for students to grasp the concept of subtraction, ratio and rate.				
Supplies Needed: C	Calculator, White Board, Worksheets, oven specifications.			
THE "7 ELEMENTS"			TEA (au	ACHER NOTES nd answer key)

	division.
Say "Hellooooo!	Talk about different types of equipment in the kitchen used to cook food. Introduce the CONVECTION OVEN!!!!!!
Show students what a convection oven does. When should you	

use a convection oven?	
	Website for discussion:
	http://www.cadco-ltd.com/convectioncook.html
2. Assess students' math awareness as it relates to the CTE	
Give students the information in regards to the cooking	Hand out Muffin Recipe CA_15_ConOven_HO
differences of the two ovens. i.e. 12 minutes less time per every	Mention that convection ovens cook differently than conventional
hour.	ovens. Explain the change in temperature and time relevant to your ovens.
Have two groups of students make one batch of blueberry muffins using the same recipe with the same temperature and	List the difference between the two ovens. Cooking time, savings on
time but 2 different ovens.	fuel, product differences if any (moisture).
Compare the muffins.	

3. Work through the math example <i>embedded</i> in the CTE lesson.	Math Connections:
Example 1: A Turkey calls for a baking time of 3 hours and 15	Solution: Reduce temperature 25° . 325° - 25° = 300°
minutes at temperature of 325°. Calculate the proper time and temperature for a convection oven.	Reduce time: Every hour requires 15 minutes less time.
	An additional 15 minutes will take 6 minutes
	less time. The total time to reduce the cooking is $45 + 6 = 51$ minutes.
	The turkey should take 3 hours 15 minutes minus 51 minutes = 2 hours 24 minutes.
4. Work through <i>related, contextual</i> math-in-CTE examples.	
Hand out worksheet with examples for students to work through.	Worksheet available for extra practice.
	CA_15ConOven_WS2.doc(Practice for students)
5. Work through <i>traditional math</i> examples.	Example 1:
Example1: Sally submitted 36 hours 15 minutes on her time sheet for the week. She later remembered that she for got that left two and a half hours early on Tuesday. How much time did she actually work for the week?	
Example 2: A clock would loose 4 minutes every hour. How much time is lost in 3 hours, 45 minutes?	Example 2:
	Total lost = 15 minutes.

6. Students demonstrate their understanding.	
Students will complete the worksheet of traditional math problems.	CA_15_ConOven_WS1.doc
7. Formal assessment.	Show student website for typical conversions;
Have student prepare recipes and use convection oven.	http://www.convection-calculator.com/