Math-in-CTE Lesson Plan Template

Lesson Title: How much space do I need?		Lesson # 8
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Occupational Area: Early Childhood Professions		
CTE Concept(s): Administration of Early Childhood Programs: Students will demonstrate the ability to plan an area of a preschool classroom utilizing all materials necessary for that area to be a functional and learning environment.		
Math Concepts: Area, perimeter, estimation		
Lesson Objective:	The student will be able to 1. Identify necessary items for a learning area of a room. 2. Measure the area and perimeter of a room. 3. Draw a blueprint of the area to scale 4. Understand the space needed for equipment and relate that knowledge to Colorado State Standards for area development. 5. Student will create a diorama of area of room to scale	
Supplies Needed:	4 copies of the State of Colorado Rules and Regulation book, calculator, pencil, paper, **Naked Math worksheet 1, Naked Math worksheet key 1**, **Naked Math worksheet 2, Naked Math Worksheet key 2,** measuring rulers, shoe box for each student, **rubric** Spiral notebooks.	

THE "7 ELEMENTS"	TEACHER NOTES (and answer key)
Teacher starts conversation about State Standards in terms of space allotted for each area of a room based on student enrollment. Students are asked to find the answer to the questions • How many square feet are required per child according to State Standards? • Do furniture, doors, shelf units and large floor toys take up the square footage required per child according to the State Standards? • Looking at our preschool lab, pick an area and estimate how much square footage is in that area.	• Teacher lists on the board the answers students' state. • Students are already familiar with the format of this book and know where to find answers to the questions teacher asks. • Students can use their spiral notebooks to write down estimates

2. Assess students' math awareness as it relates to the CTE lesson. • Introduce to the students the plan which is to make a model of an area of the preschool classroom to scale. Hint: Students need to use a 1'equal to 1" scale for most of the shoe boxes we have for them to use.	• Based on the students answer in spiral notebook teacher will note where to begin to assist students to find the area and perimeter of the space they choose. • Depending on level of student you may have to begin with how to use a tape measure to how to draw to scale. There is a wide variety of abilities in the room and observation of how students approach 1st task and check of spiral notebooks will let teacher know where to begin lesson.
3. Work through the math example *embedded* in the CTE lesson.	• Review on board how to find the perimeter and area of a square and rectangle on the board. • Give students **naked math work sheet 1**. Allow time to complete problems. • Review naked math work sheet as a class and answer questions students may have about the sheet.
4. Work through *related, contextual* math-in-CTE examples. • In spiral notebooks students will set up diagrams and label area of the lab preschool room, equipment etc. that will take up the floor space. • Students will have to make those diagrams scaled to the size of their shoe box.	• Teacher will work one on one with individual students on this project. • Teacher will need to meet learner where they are based on individual observation and checking of naked **math worksheet 2** and individual check of measuring skills.
5. Work through *traditional math* examples.	• Diorama details will be in student's spiral notebooks. • Re-teach how to find perimeter, area and scale on the board. • Answer student questions when asked.
6. Students demonstrate their understanding. Students are expected to take charge of their own learning. Students at this point should be helping peers and sharing their information about the project with each other.	Encourage students to ask each other questions about how to apply their knowledge of a preschool area to a scaled diorama of the area.
7. Formal assessment.	Student's will be assessed on their diorama and explanation of why they choose certain equipment to be in their area, they will also be able to answer the question of why something would fit or not fit in their preschool area based on the Rule and Standards and their measurements. Use **rubric** as assessment tool.