CMAG Lesson Planning Template

Contributed by Crystal Brunner, Bowler SD, Bowler, WI **I. Content of Lesson Algebra Elementary**	
Topic of lesson: Balancing equations	**Learning Results / Indicator(s)**
NCTM National Standards: **What national standards, goals, & expectations does this lesson target?** **Demonstrate an understanding that the "=" sign means "the same as" by solving true/false or open number sentences.** **What are critical considerations regarding this content? Big ideas? Developmental readiness?** **Algebraic relationships**	
Goal(s) of the Lesson: What do you want the students to know and be able to do? We want them to understand that the "=" sign means the "same as" or to balance the equation. What overarching questions do you want them to be able to answer? Equivalency	**Assessment Targets and Methods**: Review what you want students to know and be able to do. How will you determine that they have met the target? The students will be able to determine whether or not an equation is T/F including equations with variables or blank boxes by using basic facts and relational thinking.

II. Pedagogical Considerations and Differentiation	
What should students know to engage in the lesson? How will you build on previous knowledge? The students should have an idea of the "the same" or what does "same" look like. They should understand balancing or how to balance a scale. How will you meet the needs of all learners? (Consider learning styles, personal and social characteristics, and physical and emotional abilities) Use of scale and cubes for hands on learners, draw out pictures for visual learners	What are common misconceptions regarding the content in this lesson? Students often think that the "=" sign means to solve or the answer comes next.

III. Technology Components / Considerations	
What technology tools or resources you will use for this lesson? http://www.nlvm.usu.edu/en/nav/category g 3 t 2.html	What are the key features that should be highlighted when introducing the lesson? The idea that should be stressed is

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http://www.nlvm.usu.edu/en/nav/category_g_3_t_2.html - Click on Algebra Balance Scales http://www.thatquiz.org/tq/practice.html?inequality -set level and type of comparisons http://www.mathplayground.com/algebraic_reasoning.html - determine the value What management strategies will you utilize during the lesson? Small group instruction especially for overseeing internet usage	that the symbolic notation of the "=" sign means "the same as" or to balance both sides of the equal sign. What are the limitations of the tool? How will you compensate for these limitations? None

LESSON DESCRIPTION	
Preparation	What resources will you need? What type of preparation is needed before you can begin the lesson? Unifix Cubes/ Visuals to represent objects Equations ready to demonstrate (T/F) Students may need lap boards or their own paper so they can write their own. Balance or a scale

	Lesson	Questions for Learners	Notes / Reflections

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Introduction	Steps of the lesson: learning activities (and time allocation) Using a scale or balance-place one object on one side.	Ask students "what can I place on the other side so both sides are the same or balance each other (using the same objects)?" "are there any other objects (besides the same object) can we place on the scale so it balance?" "Is there other objects we can put on the scale to show that a number is larger/smaller than the object?"	
Core Instruction	Model solving equations with numbers. (ie, Equations of T/F , 3+4=?, and 5+6=4+?) Have students create their own equations with partners and exchange with other students.	Ask students about their wording/use of language, especially pointing out what they use for the "=" sign. Establish the idea that the "answer does not come next." Encourage them to not use the language "equals."	
Closure	(Attach activity sheet/s if used in the lesson.) Students will be asked to create 5 balanced equations using at least one variable.	Prod the children to answer why we don't use the language "equals"/ "why the same as?"	