Lesson Plan Template

Grade: 6	Subject: Math 6
Materials: pen, paper	**Technology Needed:** Calculator

Instructional Strategies:	Guided Practices and Concrete Application:
 Direct instruction Peer teaching/collaboration/ Guided practice cooperative learning Socratic Seminar Visuals/Graphic organizers Learning Centers PBL Lecture Discussion/Debate Technology integration Modeling Other (list)	Large group activity Hands-on Independent activity Technology integration Pairing/collaboration Imitation/Repeat/Mimic Simulations/Scenarios Other (list) Explain: After I go through the vocabulary, concepts, and examples, I will put a few problems on the board and give the students a few minutes (each problem) to work on them within their pods. I will then take volunteers/draw names to get answers and reasoning for answers.

Standard(s) (Common Core Standards)	Differentiation
6.EE.2b – Identify parts of an expression using mathematical terms (sum, term, product, factor, quotient, coefficient); view one or more parts of an expression as a single entity. **6.EE.5 –** Understand solving an equation … as a process of answering a question: which values from a specified set, if any, make the equation… true? Use substitution to determine whether a given number in a specified set makes an equation… true. **6.EE.7 –** Solve real-world and mathematical problems by writing and solving equations of the form $x + p = q$ and $px = q$ for cases in which p, q, and x are all nonnegative rational numbers.	**Below Proficiency:** For students below proficiency, I will pair them with a student that understands the content more and have them discuss the "how" and "why" of solving two – step equations. **Above Proficiency:** In order to keep on the higher end of the ZPD for the above proficient students, I will have them work on two-step problems that involve like terms. **Approaching/Emerging Proficiency:** Students that are approaching/emerging proficiency will work on problems that may seem slightly difficult, but they will also be asked to deepen their knowledge by explaining their processes. **Modalities/Learning Preferences:** **Logical –** Students with a logical modality will benefit from this lesson by using previous knowledge to deduce procedures and answers to two-step problems. **Interpersonal –** The interpersonal modality will find strength in this lesson because there are many opportunities for discussion amongst peers to solidify and strengthen their understandings of the concepts.

Objective(s)	
- I can pick out like terms. - I can solve two-step equations using addition, subtractions, multiplication, and division. - I can solve a two-step equation using like terms. **Bloom's Taxonomy Cognitive Level:** Remember, Understand, Apply	

Classroom Management- (grouping(s), movement/transitions, etc.)	Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
I will meet the students at the door and have them sit in their assigned seat. Once they have completed the bell ringer, I will have them put their heads on their desk or close their eyes as we do a reflection. Once this is over, I will have them all open their eyes. After we go through examples, I will ask them for answers to the questions on the board. I will first take volunteers and then, if the same people are raising their hands, I will draw names.	During the beginning bell ringer and reflection activity, the students will need to keep their hands to themselves and be actively listening to directions. The explanation of the content will require of them critical thinking skills. I will be using the strategy of choice when working with two-step equation examples (do you want to subtract or divide first?). I expect the students to actively attempt to solve the equations as well as readily be able to express the answer they got or navigate their way through explaining why they are confused.

Minutes	Procedures
3 min.	**Set-up/Prep:** I need to set up the document camera, place my book and white sheet under the camera, and write the bell ringer questions on the board.
7 min	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** I will have 10 terms on the board: $10x, 4y, 84y, 9y^2, 14x^3, 17x^3, 7x, 13y^2$. The students will need to group these terms into reasonable groups WITH their reasoning in tow. Reflection Exercise: I will have all of the students put their head on their desk or close their eyes as I read the following quote 2-3 times. They will have a few minutes to reflect: "Believe in yourself and all that you are. Know that there is something inside you that is greater than any obstacle." – Christian D. Larson We are now ready to focus and work hard! For the last 2-3 minutes of the warm- up, I will have a class discussion about their answers to the bell ringer. I will ask for a volunteer and discuss the many ways to group the terms. We will then go into the explanation of like terms.
25 min	**Explain: (concepts, procedures, vocabulary, etc.)** KEY VOCABULARY: **Like terms –** terms of an equation (parts) that have: 1. The same variable 2. The same exponent You can combine like terms using an operation. When doing these types of problems, go straight down! Procedure is ALWAYS vertical. When you add like terms, you add the **coefficients.** What is a coefficient? (Review)$17x + 5x = 22x$ When you subtract like terms, you subtract the coefficients: $12x - 4x = 8x$ Distributive property: $13x - 4x = 36$ $(13 - 4)x = 36$ CLASS EXAMPLE: $4x + 7x = 121$ (Another class example if needed more step-by-step instruction) Example: $6c - 12x = 72$ What do you think we should do first? Example: $14p - 4p = 119$
10 min	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** The following two examples will be in-class, independent activities. I will have them work on the problems for a few minutes before coming back together as a class and discussing the answer the procedure used to get the answer. Example: 1. $40x - 23x = 51$ 2. $12c - 4p = 24$ Can you solve this as is? What if I told you $p = 8$? 3. $32 = 15c + 17c$
5 min	**Review (wrap up and transition to next activity):**

	For the remainder of the class, the students will have an opportunity to start/finish their homework.

Formative Assessment: (linked to objectives)
  Progress monitoring throughout lesson- clarifying questions, check-
  in strategies, etc.
During the middle of the lesson, I will have the pods do a quick discussion about how to solve use like terms. They will explain their answers or questions to me so I will be able to grasp what they know.

  Consideration for Back-up Plan: If the students still do not understand what like terms are, I will go over the two rules of like terms:
  1. Same variable
  2. Same exponent
I will then make a table on the board and add like terms to each column.

Summative Assessment (linked back to objectives)
  End of lesson: At the end of the lesson, the students will have a homework assignment from the book that will be due the next day (6-8 questions).

  If applicable- overall unit, chapter, concept, etc.: N/A

Reflection (What went well? What did the students learn? How do you know? What changes would you make?):