Lesson Plan Template

Grade: Algebra I	**Subject: Math**
Materials: Chalkboard/whiteboard and notes	**Technology Needed: None needed**

Instructional Strategies:

- ☐ Direct instruction
- ☐ Guided practice
- ☐ Socratic Seminar
- ☐ Learning Centers
- ☐ Lecture
- ☐ Technology integration
- ☐ Other (list)
- ☐ Peer teaching/collaboration/ cooperative learning
- ☐ Visuals/Graphic organizers
- ☐ PBL
- ☐ Discussion/Debate
- ☐ Modeling

Guided Practices and Concrete Application:

- ☐ Large group activity
- ☐ Independent activity
- ☐ Pairing/collaboration
- ☐ Simulations/Scenarios
- ☐ Other (list)
- ☐ Hands-on
- ☐ Technology integration
- ☐ Imitation/Repeat/Mimic

Explain:
Students will have an assignment from the book

Standard(s)
HS.ACED.4 Rearrange formulas to isolate a desired variable.

Objective(s)
After the lesson the students will be able to solve equations for any given variable in order to make a function of the equation. They will also have a beginning understanding of what a function is.

Bloom's Taxonomy Cognitive Level:
Understanding
Evaluating

Differentiation

Below Proficiency:
Students will be able to understand the concept of a function and know that variables can be treated like constants in the equations.

Above Proficiency:
Students who are above proficiency will be able to solve the given homework problems as well as be able explain what they are doing to their piers to help with their understanding of the material. They will bounce ideas off of each other and solve the tricky problems that way.

Approaching/Emerging Proficiency:
Students who are approaching proficiency will be able to solve the problems with some help from piers and me as the teacher. These two together will get these students learn the material. These students may not be able to provide a satisfactory explanation to their piers but can get the majority of the work done themselves.

Modalities/Learning Preferences:

Classroom Management- (grouping(s), movement/transitions, etc.)
The classroom will be set up with rows of desks in order to help the students see the board without having to move in their desks too much. At the back of the room there will be tables set up as collaborations tables for students to use to work out a tougher problem. These tables will also be good for me as the teacher to use to helps students who have missed a day for whatever reason. This gives a neutral space for us to meet and an easy spot to sit side by side.

Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)
During the lesson the students are expected to remain quiet and keep their heads off their desks. They will have to do this to help them not fall asleep during the lesson. If a student has a question on the material, they will raise their hand and wait to be called on. They will have to wait for me to find a good place to stop or finish my train of thought.

Minutes	Procedures
15	**Set-up/Prep:** **To prep for class, I will review the notes that I have made for the lesson and review the homework problems that I have selected from the book. I will also have to prep the bell work questions for the day.**
5	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** **To engage the students, I will have them begin by working on the bell work questions while I take attendance. Once the students are done with the bell work problems I would have them take out their assignments and ask questions. After questions are answered I would collect the homework with the students passing the sheets to the left or right of the room.**
10	**Explain: (concepts, procedures, vocabulary, etc.)** **I would start to explain the concepts of doing what we have been doing with inverse operations over the whole chapter would be used on variable to make formula's look nicer. Formula's will be introduced and what they can be used for in the real world.**
25	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** **During this part of the lesson I would start to go through problems for the students to see what I am doing with the work. This will be the time where students see how to solve the problem and the steps taken to solve the problem. The last question or two will be left for students to work on by themselves. This is when I can walk around the room and see where students may be confused with the material. Once the students have solved the problems, I would bring their attention to the front of the room.**
10	**Review (wrap up and transition to next activity):**

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	After I have their attention I would give them the answers to the problems that were given and let the students ask any question they may have in regards to the material. I can also bring up anything that I saw during my walk around the room. These things will be addressed before students get their assignment which will help them have a better start on their assignment right from the beginning.

Formative Assessment: (linked to objectives) **Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.** **During the lesson students would be asked questions to help me solve the problems that I am working with. The final question posed to them will test their knowledge and ability to solve the problems. If many students struggle with a single concept, I can then cover that part again before they get the assignment.** **Consideration for Back-up Plan:** **In the case of a shortened period or many students missing for some reason I would go into a discussion about percent change (something not on the test). This gives an application to what percent could be used for and relates the math to the real world.**	**Summative Assessment (linked back to objectives)** **End of lesson:** **Students would get a homework assignment of problems that I had chose from the book. I would make sure to choose doable problems and would make sure to not pick too many problems to make it boring for students.** **If applicable- overall unit, chapter, concept, etc.:** **The day after this would be a review of all the material and then then next day would be a test for the students on the chapter.**

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

In case my notes file gets deleted

\item[EQU] Now we have worked with solving for variables with numbers and finding what the number would be in an equation. Today we are gonna use the things that we have learned with that to solve formulas for a specific variable. Lets start with a simple equation that we want to solve for y. \vs{2}
\item[1] $8x+4y=12$ \vs{1} $4y=-8x+12$\vs{1}$y=-2x+3$ \vs{1}Now we can say y is a funcion of x\vs{1}
\item[2] Lets try another one $3x+2y=42$\vs{1}$2y=-3x+42$\vs{1}$y=\frac{-3}{2}x+21$ \vs{1}
Where can we use this you ask? well lets saw we know the area and the hight of several triagles. Recall the equation of a triangle is $a=\frac{1}{2}bh$. Rather than plug in the values and solve for the length of the base each time, we do it once and then plut the vlaues in where they belong. So lets do that quick. \vs{1}$a=\frac{1}{2}bh$\vs{1}$2a=bh$\vs{1}$\frac{2a}{h}=b$ \vs{1} Now we can quickly and easily find the value for the base length on the triangles.
\item[3] Lets take the formula for the area of a rectangle ($p=2l+2w$) and solve it for the width of the rectangle. \vs{1}$p=2l+2w$\vs{1}$p-2l=2w$\vs{1}$\frac{p-2l}{2}=w$\vs{1} Now lets say we are given two rectangles one with a parimiter of 22 and a length of 6 the other has a perimiter of 22 and a length of 10.\vs{1}For the first triangle $\frac{22-2(6)}{2}=w$ so $w=5$\vs{1}For the second triangle $\frac{22-2(10)}{2}=w$ so $w=1$
\item[SQ] I'm going to have you all solve the given formula for ferinheight and find the temperature in ferinheight for $40 \degree $ celcius. \vs{1} $c=\frac{5}{9}(f-32)$ \vs{1} $\frac{9}{5}c=f-32$ \vs{1}$\frac{9}{5}c+32=f$ \vs{1}$\frac{9}{5}40+32=f$\vs{1}$72+32=f$\vs{1}$104\degree=f$