Lesson Plan

Grade: 9th	Subject: Algebra 1
Materials: Notes packet, worksheet	**Technology Needed:** None needed, I will need the projector to project the notes on the board to fill in with the students.

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)
  Explain:

- ☐ Hands-on
- ☐ Technology integration
- ☐ Imitation/Repeat/Mimic

Standard(s)

7.RP.2 Recognize and represent proportional relationships between quantities.

Objective(s)

The students will, by the end of the lesson, will be able to solve a proportion for the given variable.

Bloom's Taxonomy Cognitive Level:

Apply

Differentiation

Below Proficiency:

The students who are below proficiency will only have one worksheet that they will be assigned. They also will receive a little more help when doing the worksheet to get them to proficiency.

Above Proficiency:

The students who are above proficiency will have another worksheet to do if they get through the first worksheet as time allows. They also will help the students who are below proficiency if they need help.

Approaching/Emerging Proficiency:

The students who are approaching proficiency can ask the students who are above proficiency for help and if they still have questions they can ask me for help.

Modalities/Learning Preferences:

Existential, Verbal/Linguistic, Visual/Spatial, Bodily/Kinesthetic, & Interpersonal

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Classroom Management- (grouping(s), movement/transitions, etc.)

The students have assigned seats. The seating is arranged in such a way that limits the amount of distractions for each student so that they can learn to the best of their ability. The students also know where the calculators are in the classroom so that when they need them they can quietly walk over and get one.

Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)

The students will know the classroom procedures and will know to come into class and sit down and wait till everyone is in class and then we will start. The students will also know that they must respect me and the other students at all times.

Minutes	Procedures
0	**Set-up/Prep:** The students will have the notes packet and I will have the worksheets printed so that when we get done with the lesson I can hand them out right away and the students can start working on them right away.
3-5	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** What do you think a proportion is? A proportion is the equality of 2 ratios.
20-25	**Explain: (concepts, procedures, vocabulary, etc.)** 1. We have to use the cross product in order to solve a proportion. The cross product is when you multiply across diagonally both ways. 2. For example 1 we have the proportion of $\frac{1}{4} = \frac{x}{10}$. So we first multiply diagonally and we get $10 = 4x$, then we divide both sides by 4 and we get $x = \frac{10}{4} = \frac{5}{2}$. 3. For example 2 we have the proportion of $\frac{3}{n} = \frac{2}{3}$. We do the cross product and we get $9 = 2n$, then we divide both side by 2 and we get $n = \frac{9}{2}$ 4. For example 3 we have $\frac{5}{y} = \frac{-3}{5}$. Using the cross product we get $25 = -3y$, then dividing both sides by -3 we get $y = \frac{25}{-3}$.

	5. Example 4 we have $\frac{n+4}{-6} = \frac{8}{2}$. Using the cross product we get $2(n+4) = -48$, then we distribute the 2 and we get $2n + 8 = -48$, we then subtract 8 from both sides and get $2n = -56$, then dividing both sides by 2 we get $n = -28$. 6. For example 5 we have $\frac{10}{4} = \frac{z-8}{16}$. Using the cross product we get $160 = 4(z-8)$, we then distribute the 4 and get $160 = 4z - 32$, then we add 32 to both sides and we get $192 = 4z$, then we divide by 4 on both sides of the equation and we get $z = 48$. 7. For example 6 we have $\frac{2}{t+7} = \frac{5}{-8}$. Using the cross product we get $-16 = 5(t+7)$, we then distribute the 5 and get $-16 = 5t + 35$. Next we subtract 35 from both sides and we get $-51 = 5t$, then we divide both sides by 5 and we get $t = -\frac{51}{5}$.
20	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** I will now hand out the worksheet that they will work on for the rest of class and if they do not get it done they will have it for homework and the next day we will go over any questions that they have on it. During class the students will be encouraged to work in small groups, but if they want to work alone they are welcome to.
2-3	**Review (wrap up and transition to next activity):** If the students finish their worksheet before class is over they will hold on to them until the day of the test. If they do not get it done by the end of class they will do it for homework and need it done by the test. We will go over the homework the next day to see if there are any questions.

Formative Assessment: (linked to objectives)	Summative Assessment (linked back to objectives)
Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc. During the time for working on their own I will walk around the room and asking the students questions to make sure they are on the right track of learning. Two days after the lesson is taught the students will have an exit ticket that they will have to complete on comprehension of the topic that was taught. **Consideration for Back-up Plan:**	**End of lesson:** The students will have a homework worksheet that they will have to do that will be graded at the end of the lesson. **If applicable- overall unit, chapter, concept, etc.:** At the end of the chapter the students will get a test that will be graded and recorded.

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