Lesson Plan

Grade: 9th

Subject: Algebra 1 (Compound Inequalities with "or")

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

Explain:

Standard(s)

HS.A-REI.1: Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

HS.A-REI.3: Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Objective(s)

The students will, by the end of the lesson, be able to evaluate a compound inequality and be able to graph the solution on a number line.

Bloom's Taxonomy Cognitive Level:

Apply and Evaluate

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

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:** I will have the worksheets already printed before class, and once I get into class I will get the projector set and have the students be able to see the note packet on the screen so they can take notes as well.
3-5	**Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)** I will begin with asking the students what a compound inequality is and after some students give answers I will explain the definition of a compound inequality.
20-25	**Explain: (concepts, procedures, vocabulary, etc.)** 1. A compound inequality is an inequality that has two inequality statements joined together by the word "and" or the word "or". 2. Today we will be learning about the "or" statements. 3. When we have an "or" it means that if one statement is true than the whole compound statement is true. 4. When we have a compound sentence we first write out both of the inequalities that we are

Lesson Plan

	given. 5. So in example 1 we have the sentence "All real numbers that are **LESS THAN 0 or GREATER THAN OR EQUAL TO 2.**" We have the two inequalities $x < 0, x \geq 2$. This is an "or" statement because in the sentence we have the word "or" right in it, so we graph the two inequalities and we write it in interval notation and we get $(-\infty, 0) \cup [2, \infty)$. 6. In example 2 we have "All real numbers that are less than -2 or greater than or equal to 5. We again write the two inequalities which are $x < -2, x \geq 5$. We again graph our solutions and we write the answer in interval notation and get $(-\infty, -2) \cup [5, \infty)$. 7. In example 3 we are given the 2 inequalities, but we need to solve for the variable first. In the first equation we subtract 2 from both sides and get $3t < -9$ then we divide both sides by 3 and we get $t < -3$ and for the second equation we subtract 5 from both sides and we get $-4t < -4$ then we divide by -4 on both sides and we have to remember what Miss. Binegar taught us that when we divide by a negative we need to flip the sign and we get $t > 1$ and we graph the two inequalities and with interval notation we get $(-\infty, -3) \cup (1, \infty)$. 8. Example 4 is just like example 3 and we will do it the same way. 9. For example 5 start with changing $-2z$ to $2z$ as it is a typo, we solve for the variable for both inequality and for the first one we have to subtract 3 which becomes $5z < -10$ and then we divide by 5 and get $z < -2$ and for the second inequality we add 6 and get $2z > -2$ we then divide by 2 and get $z > -1$ we then graph and put it into interval notation $(-\infty, -2) \cup (-1, \infty)$. 10. For example 6 for the first inequality we subtract 3 and we get $3d \leq -4$, we then divide by 3 and get $d \leq \frac{-4}{3}$ and for the second inequality we subtract 2 and get $5d \geq 10$ we then divide by 5 and get $d \geq 2$. We then graph and put the solutions into interval notation and we get $\left(-\infty, \frac{-4}{3}\right] \cup [2, \infty)$.
20	**Explore: (independent, concreate practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)** The students will now work on the worksheet that is handed out to them for the remainder of class. They are able to work in small groups if they want to or they can work alone. Whatever is not completed in class will be done as homework.
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) **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:**	**Summative Assessment (linked back to objectives)** **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?):
The students were really engaged while I was teaching, but when they did the exit slip a few days later many of them did not do very well on it. So one thing that I would do is after seen that they are not understanding it, do another small lesson on it or keep incorporating it in what we are doing so that they keep on seeing it and do not forget it.

Lesson Plan