I. Behavioral/Objective:

      The learner will be able to convert a statement into its inverse, converse, and contrapositive given a conditional statement.

      Math Practice Standard 3 – Construct viable arguments and critique the reasoning of others.

      Math Practice Standard 7 – Look for and make use of structure.

II. Anticipatory Set

      Warm up on the board will be three conditional statements. The learners are asked to identify the hypothesis and conclusion in each conditional statement. After 3-4 minutes, I will call on students randomly to circle the hypothesis and conclusion of each statement.

IV. Objective/Purpose:

      The last two days we have been discussing conditional statements and inductive/deductive reasoning. Today we will continue our exploration of conditional statements and learn how to convert and use them in three different ways.

IV. Input
      A. Task Analysis
          I.   During warm up, Mrs. Smith (another teacher) will look over individual homework and give them credit for work done.
          II.   After warm up, I will pass out notes to everyone.
          III.   I will lecture about what inverse, converse, and contrapositive of conditional statements while the students follow along and write in their notes.
          IV.   Once notes are done I will write down at least two conditional statements and have the class as a whole tell me what their inverse, converse, and contrapositives would be.
          V.   The class will then split into groups of 3 or 4. Each group will receive a conditional statement which they will work with silently and individually to find the inverse, converse, and contrapositive of.
          VI.   After 5 minutes working individually, they will be allowed to work in their groups of 3 or 4 and compare answers.
          VII.   They must us the printer paper to write down their final answers as to the best converse, inverse, and contrapositive of their conditional statement.
          VIII.   The group paper, and individual papers will be collected and turned in before learners leave for the day.

IX.   The remainder of the class time will be for the 2.3 worksheet which is independent homework.

B. Thinking Levels: Blooms

Knowledge: Identify the hypothesis and conclusion of a conditional statement.

Comprehension: Convert a conditional statement to its inverse/converse/contrapositive.

Synthesis: Breakdown a conditional statement into its parts, and recreate them into a new statement.

C. Learning Styles and/or Accommodations

Intrapersonal: Working in groups to make a final product.

If a student does not want to work with others, we can accommodate them by allowing them to work alone.

D. Method and Materials

Method: Gradual Release of Responsibility. Lecture on notes while modeling an example on board. Then work through example as an entire class, then independently and in a group.

Materials: Printer paper for final group products and lined paper for individual work. Notes for students to follow along with.

IV.   Modeling

During lecture I will model how to find the inverse, converse, and contrapositive of a few conditional statement. I will be doing a speak-aloud while working through the problem so that students can see how a math mind works and what questions you should be independently asking yourself.

I will also model what they have to do on the activity paper that was passed out.

IV.   Checking for Understanding

During homework check, I ask each student which problem was the hardest and why. This allows for individual and quick assessment.

While students work individually and in groups, I will walk around and check their understanding by looking at what their inverses and converses are.

Primary checking of understanding will be from the final product of the activity where students write down the inverse, converse, and contrapositive of a statement.

IV.   Guided Practice

After the lecture, I am at the board with a statement while the students tell me what to write for inverse, converse, and contrapositive. They are doing the work, but I am guiding them by correcting any misconceptions.

IV.   Independent Practice

Students work individually to find the inverse, converse, and contrapositive of a statement. They then collaborate with other students and compile their data into a final product which has their group's final answers for the original statements 3 variations.

IV.   Closure

Before class ends, each group needs to turn in their final product and all individual work and papers. After receiving all the work, assign homework if there is more than ten minutes of class time remaining.

If there is less than ten minutes remaining, collect work and then ask if any students would like to share their thoughts and observations. If not, share my own thoughts and observations. (Compliment liberally, and note hard work from struggling students.)