Lesson Objective(s): *What mathematical skill(s) and understanding(s) will be developed? Which Mathematical Practices do you expect students to engage in during the lesson?*

G.CO.B.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.

MP1: Make sense of problems and persevere in solving them..
MP3: Construct viable arguments and critique the reasoning of others.
MP5: Use appropriate tools strategically
MP7: Look for and make use of structure.

Lesson Launch Notes: *Exactly how will you use the first five minutes of the lesson?*	**Lesson Closure Notes:** *Exactly what summary activity, questions, and discussion will close the lesson and provide a foreshadowing of tomorrow? List the questions.*
Have students work in pairs. Make graph paper, patty paper, ruler and protractor available. Let students randomly chose who is "A" and who is "Z." Person Z draws a polygon using a ruler. Person A's task is to draw the exact same (congruent) polygon. Z should assist. (Look for evidence of MP1, MP5)	Distribute the Closure Activity. Using the closure, have students name pairs of corresponding parts that are congruent. Have students submit as a formative assessment exit ticket

Lesson Tasks, Problems, and Activities (attach resource sheets): *What specific activities, investigations, problems, questions, or tasks will students be working on during the lesson? Be sure to indicate strategic connections to appropriate mathematical practices.*

1. Have students discuss and how they created their similar figure. Student A must explain to student Z why he/she believes the figure is an exact copy. Randomly select some student Zs to explain what was needed to make the figures congruent. Ask, "What must be the same? What factors are not necessary for figures to be similar?" Have pairs write their conjecture and explain how the conjecture is verified. Choose pairs randomly to share their conjecture and verification. (Help the class to establish that the angles and sides must be equal in measure. Other smaller details, such as orientation and position may be highlighted as differences that may exist in a congruence relation.)(Look for evidence of MP3 and MP7)
2. Give each pair a copy of Congruent Figures Activity 1. Have pairs create two congruent figures using a transformation, explain how they executed the transformation and justify that their new figures are congruent to the first one. (The transformations should preserve angle and length measure.) Use these questions to guide them:
   - What happens to the angles when transformations are applied?
   - What happens to the sides when transformations are applied?
   - Do these things always happen? (Look for evidence of MP3 and MP5)
   As an extension question, ask, "Is there a transformation that would create a new figure that is not congruent to the original? (dilations) Have pairs create a dilation of the any of the congruent figures to demonstrate that congruence does not have to be preserved.
3. Give each student a copy of Congruent Figures Activity 2. (Some have lengths of sides and measure of angles indicated or accessible by using geometric theorems from given information. Others will need sides and angles measured using ruler and protractors.) Have students determine if the pairs are congruent and state why. (Look for evidence of MP1 and MP5.)

Evidence of Success: *What exactly do I expect students to be able to do by the end of the lesson, and how will I measure student mastery? That is, deliberate consideration of what performances will convince you (and any outside observer) that your students have developed a deepened (and conceptual) understanding.*

Lesson Title: Congruent Figures   Course: Common Core Geometry, Unit 1
Date: _____   Teacher(s): _____   Start/end times: _____

Students will be able to determine if figures are congruent by comparing their sides and angles.
Students will be able to create congruent figures by maintaining angle measure and side length.
Students will be able to use transformations to create congruent figures.

Mastery can be assessed during each of the three parts of the lesson, by monitoring group discussion and class discussion for accurate conjectures and use of those conjectures.

Notes and Nuances: *Vocabulary, connections, common mistakes, typical misconceptions, etc.*

Vocabulary: Similar, Congruent, Transformations

Resources: *What materials or resources are essential for students to successfully complete the lesson tasks or activities?*	**Homework:** *Exactly what follow-up homework tasks, problems, and/or exercises will be assigned upon the completion of the lesson?*
Congruent Figures Activity 1 Congruent Figures Activity 2 Congruent Figures Closure Activity Patty paper Rulers Protractors	To be determined by teacher

Lesson Reflections: *How do you know that you were effective? What questions, connected to the lesson standards/objectives and evidence of success, will you use to reflect on the effectiveness of this lesson?*

How effectively did students discover the requirements for congruence on their own?
Can students identify congruent figures by comparing their angles and sides for congruence?
Can students create similar figures, in a variety of settings, by copying the angles and sides?
What modifications do I need to make to tomorrow's lesson based on the students' current understanding?