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| **PLANING** | **Day 1** | **DAY 2** | **DAY 3** | **DAY 4** |
| ***TEKS:* §111.34. Geometry**  Basic understandings (1)Foundations concepts for high school mathematics  (2)Geometric thinking and spatial reasoning  (3)Geometric figures and their properties  (4) The relationship between geometry, other mathematics and other disciplines  (5) Tools for geometric thinking  (6) Underlying mathematical processes |  |  |  |  |
| ***Objective:*** Students will explore the usage of tangrams. |  |  |  |  |
| ***Introduction:*** The student will fold a sheet of paper in 3 sections and make a KWL paper about Tangrams. | 5 min |  |  |  |
| ***Pre-test:*** The student will be requested to use the tangrams and construct square using all 7 pieces. This activity will be timed and they will have 15 minutes to finish. *The Pre-test will be collected for further analysis.* | 17 min |  |  |  |
| ***Research Tangrams:*** The student will use their I pad to research six specific questions but thinking on their new experience with tangrams | 15 min |  |  |  |
| ***Completing their assignment:***  They will then look back at their KWL and complete it. | 3 min |  |  |  |
| ***Discussion:*** The student will be incorporated in groups of 5 and discuss their KWL for 3 minutes then the class will discuss it as a whole for 5. *The KWL will be collected for further analysis.* | 8-10 min |  |  |  |
| ***Objective:*** Students will learn the application of tangrams. |  |  |  |  |
| ***Warm up activity:***  The student will be able to play around with the tangram and construct their own design as long as they use the 7 pieces. They will have 5 minutes for these activity and then 7 minutes for recreate their classmate design. |  | 12 min |  |  |
| ***Learning about the Tangram Pieces:***  The student will be introduced to the unit square in the tangram figures and will recognize their multiple attributes along to their spatial print. |  | 20 min |  |  |
| ***Side lengths and Areas:*** The student will be ask to use the information that is available and recognize their relations to the previous knowledge such that they can fulfill the blanks in the assignment. |  | 10 min |  |  |
| ***Reflection:*** The student will make a KWL about their previous activity. The student will receive grade for this activity. *This reflection will be collected for further analysis.* |  | 8 min |  |  |
| ***Objective:*** Students will comprehend and understand the properties of square (congruence of sides and angles), property of a diagonal of a square. |  |  |  |  |
| ***Core activities:*** The student will be requested to construct different squares and the student that build more figures using 4 pieces will earn an extra-credit point |  |  | 20 min |  |
| ***Reflection:*** The students will be asked to think about their experience during the tangram construction and they should write a list describing the procedure as detail as possible. The student will receive grade for this activity. *This reflection will be collected for further analysis.* |  |  | 10 min |  |
| ***Collaborating on strategy levels:***  The students will pour their procedures to the board. They will be required to convince themselves, a friend and a skeptical about their strategies category. The student must explain in detail for the class understanding. |  |  | 20 min |  |
| ***Objective:*** Students will master the usage of tangrams. |  |  |  |  |
| ***Level 3 Strategy:***  The students will be required to think individually about their reasoning during the categorization process and justify their thinking. |  |  |  | 5 min |
| ***Mid-test:*** The student will be requested to use the tangrams and construct square using all 7 pieces. This activity will be timed and they will have 15 minutes to finish. *This activity will be collected for further analysis.* |  |  |  | 17 min |
| ***Reflection:***  The students will be asked to think about the construction of a square using 6 pieces. They should write their answer and justify it. They must think on an argument to convince themselves, a friend and a skeptical. The student will receive grade for this activity. *This reflection will be collected for further analysis.* |  |  |  | 11 min |
| ***Review of a Pre-test:*** The class will review the pre-test activity within scope of their knowledge and skills. |  |  |  |  |
| ***Post-test:***  The student will be requested to use the tangrams and construct square using all 7 pieces. This activity will be timed and they will have 15 minutes to finish. *This activity will be collected for further analysis.* |  |  |  | 17 min |

Class content: Geometry

Class size: 26 students

Class period: 50 min. (This means about 48 minutes of usable instruction time)