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| **Course: Math 8** | **Teacher:** |
| **Unit Big Idea:** The relationship between surface area and volume of **3D objects** can be used to describe, measure, and compare spatial relationships. | **Unit Guiding Question:** What is Pythagorean Theory and how does Pythagorean Theory connect, relate, describe and measure, lines and shapes in our world? |
|  | **1** | **2** | **3** | **4** |
| **Content** **(What do you need to KNOW?)**Pythagorean Theorem | I know square root, square area, right triangle, rectangle, squares vs rectangle, square compared to other shapes, area of square, all sides are equal, square root, right triangle | I know Pythagorean theorem | I know how to derive the formula for Pythagorean theorem |  I know how to find a missing side of a right triangle |
| **Curricular Competencies****(What do you need to DO?)** | Reasoning and Analysis | I estimate by comparing to something familiarI use concrete materials to understand above concepts | I use perfect square numbersI build a model using concrete materials | I can use on-perfect square numbersI am able to draw pictures/ diagrams | I can use non-whole numbersI can use/apply an abstract formula |
| Understanding and Solving | I explore environment to find a right triangle OR find a rectangle and make it into a right triangle | I use an example connected to personal/ familiar experience | I can use an example from an unfamiliar context (e.g. word problem) | I can use an example connected to Yukon First Nations constellations |
| Communicating andRepresenting | I use math vocabulary (square, square root, rectangle, triangle, equal) I explain and justify my thinking in one way (abstract/concrete/pictorial) | I use math vocabulary (right triangle) I explain and justify my thinking in one way (abstract / concrete / pictorial) | I use math vocabulary (Pythagorean theory, formula, non-perfect square)I can explain and justify my thinking in two ways (abstract / concrete / pictorial) | I use math vocabulary I explain and justify my thinking in all ways (abstract / concrete / pictorial) |
| Connectingand Reflecting | I connect ideas to situations in the world | I can find another solution to a problem | I can pose a new problem or question | I can describe how Pythagorean Theorem connects to myself and the world (e.g., connect to Yukon First Nations) |