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Lesson Title: Squaring a Foundation
Date: Summer 2021
Text: Handouts
STEM Correlation: Science

Lesson Length: 1 class periods

Big Idea: Learn to mark and square foundation plans of different sizes and shapes	
Mathematics K–12 Learning Standards: HS.F.TF.8	
Mathematical Practice(s): Make sense of problems and persevere in solving them Reason abstractly and quantitatively Use appropriate tools strategically Attend to precision	
Content Objective: Find a way to mark and square different plans. Foundations, walls, and other square corners.	Language Objectives (ELA): RST. 9-10.4 RST. 9-10.7
Vocabulary: Pythagorean triples, 3-4-5 method, right triangles.	Connections to Prior Learning measurement, right triangles
Questions to Develop Mathematical Thinking: • How can this be used in the real world?	Common Misconceptions: • If it looks ok, it is square.

Assessment (Formative and Summative):

- Walk around and check for understanding, class discussion (formative)
- Measurement test diagonals, done on site. (summative)

Materials:

- Plans, pencil, tape measure, string, hammer, stakes

Instruction Plan:

Introduction: discussion and diagram of 3-4-5 method
Explore: Different side lengths that create a square (in this case a foundation)
When I observe students: discussing and working on calculations I believe they are understanding the concepts
Questions to Develop Mathematical Thinking as you observe: How does this shape become square at all corners?
Answers: Multiple checks of the diagonal
Summarize: class discussions, starting to lay out more difficult shapes ex: "L" or "T" shape

Career Application(s):

- Engineers, construction workers, architects, housing developers

Leadership/21st Century Skills:

See the corresponding Lab