

## Discovering STEM Program

### Kit name: Proof of Play Time (Grades: Geometry to Algebra 2)

**Description:** to write a proof, it's important to recognize a chain of reasoning; how one statement leads to another. In this activity, you will put together a cartoon, giving reasons for your choice, and then do the same for two different geometry proofs. Challenge your family members to see if they can put the "proofs" together!



### Alignment for Proof of Play Time (Grades: Geometry to Algebra 2) to the Common Core State Standards Mathematics <http://www.corestandards.org>

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- G.CO.10 Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180 degrees; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
- G.SRT.4 Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*
- G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.
- L3.1.1 Inductive vs. deductive reasoning.
- L3.3.1 Know basic structure of proof of if...then statement.
- G1.1.1 Solve problems & proofs involving vertical, supplementary, complementary, right angles.
- G1.2.3 Know and use Pythagorean Theorem proof.
- G1.4.4 Proofs about interior and exterior angles of quadrilaterals.
- G2.3.1 Use triangle congruence theorems, SSS,SAS,ASA,AAS, hypotenuse-leg.
- G2.3.2 Extend triangle congruence theorems to prove other theorems.
- G2.3.3 Prove similar triangles using SSS,SAS,AAA.

When reserving kits, please be sure to:

- **Return** the filled out reservation form
- **Review** required kit materials prior to event
- **Return** evaluation forms
- **Replace** the consumables

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