**Project Title: Solving for the Missing Number (Early Algebra)**

**Appropriate Grade Levels:** 1st grade

**Activity Objective:** To teach algebraic concepts to students as young as the first grade while expanding students’ understanding of careers that use algebra 1 concepts!

**Materials Needed:** This activity can be done in a variety of ways. To complete this activity, all or some of these materials can be used:

* White Board
* Expo Marker
* Pieces of paper
* Scissors
* Lego Blocks

**What is algebra?** Algebra is a branch of mathematics in which arithmetic is extended to deal with unknown numbers or relationships using letters and other symbols.

<https://www.math.net/algebra>

**Louisiana Grade Level Standard:** 1.OA.A Represent and solve problems involving addition and subtraction.

* Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions (e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem)
* <https://www.ixl.com/standards/louisiana/math/grade-1>

**Rationale:** Algebra is an important concept to know, no matter what field you are in. Algebra helps students develop their critical thinking skills and helps students learn in new ways. Mastering algebra concepts also helps students organize their thinking early on which will help them respond to more complicated problems relating to math and beyond.

**Careers Related to Algebra:**

**Architect**

Architects plan and design houses, factories, office buildings, and other structures.

<https://www.bls.gov/ooh/architecture-and-engineering/architects.htm>

**Air Traffic Controller**

Air traffic controllers coordinate the movement of aircraft to maintain safe distances between them.

<https://www.bls.gov/ooh/transportation-and-material-moving/air-traffic-controllers.htm>

**Electrician**

Electricians install, maintain, and repair electrical power, communications, lighting, and control systems.

<https://www.bls.gov/ooh/construction-and-extraction/electricians.htm>

**Jeweler**

Jewelers design, construct, adjust, repair, appraise and sell jewelry.

<https://www.bls.gov/ooh/production/jewelers-and-precious-stone-and-metal-workers.htm>

**Nutritionist**

Dietitians and nutritionists plan and conduct food service or nutritional programs to help people lead healthy lives.

<https://www.bls.gov/ooh/healthcare/dietitians-and-nutritionists.htm>

**Learn more:** How can you and your child learn more about algebra at home for FREE?

1. Use simple algebra in budgeting for your student. Give your child a certain amount of money and tell them you had to purchase an item for them. After making that purchase, your student has $12.00 left. Ask them to calculate how much money the first purchase was.

 Example: $20.00-x= $6.00

     x= $12.00

2. Use a pizza, pie, or cake to learn algebra. Have the student count the total number of pieces in the food, and take away a certain amount. After that, have the student count the remaining pieces.

 Example: 8-3=x

     x=5

3. Math Hopscotch: Create a hopscotch board with the numbers 1-10, either with chalk on the playground or tape in the classroom.

* Start at the beginning of the hopscotch board and roll two dice.
* Jump on the number rolled, add it by the number that was rolled on the dice and say the answer out loud
* Repeat all the way down the board.
* Example: 2+5=x
	+ x=7

**Link to YouTube video:** <https://www.youtube.com/watch?v=x5AnOnZx-4c>