

Objective

By the end of this lesson, Tanner will have a solid understanding of two units of 8th grade math, specifically focusing on algebra and geometry. He will be able to solve basic algebraic equations and understand the properties of geometric shapes, enhancing his problem-solving skills and confidence in math.

Materials and Prep

- Pencil and paper for calculations and notes
- Calculator (optional, but helpful for checking answers)
- Ruler for geometric activities
- Protractor for measuring angles
- Access to a whiteboard or large paper for visual demonstrations

Before the lesson, ensure Tanner is familiar with basic operations (addition, subtraction, multiplication, and division) and has a basic understanding of variables and shapes.

Activities

• Algebra Treasure Hunt:

Create a treasure hunt where each clue is an algebraic equation that Tanner must solve to find the next location. For example, "Solve for x : $2x + 3 = 11$ " to get the next clue.

• Geometry Art Project:

Have Tanner create a visual art project using various geometric shapes. He can draw, cut out, and arrange different shapes to form a larger picture, labeling each shape with its properties (e.g., number of sides, angles).

• Math Jeopardy:

Set up a Jeopardy-style game with categories related to algebra and geometry. Tanner can answer questions to earn points, making learning competitive and fun!

Talking Points

- **Algebra Basics:** "Algebra is like a puzzle where you need to find the missing piece (the variable). Let's figure out how to solve for x together!"
- **Understanding Variables:** "Think of variables as boxes that hold numbers. We don't know what's inside yet, but we can find out!"
- **Geometry Shapes:** "Geometry is all about shapes and their properties. Can you name some shapes and their characteristics?"
- **Angles:** "Angles are formed when two lines meet. They can be acute, right, or obtuse. Let's measure some angles together!"
- **Real-World Applications:** "Math is everywhere! Can you think of how we use algebra and geometry in real life, like in architecture or sports?"
- **Problem-Solving Skills:** "Math helps us develop problem-solving skills. Every problem has a

solution; we just need to find it!"

- **Practice Makes Perfect:** "The more you practice, the better you get! Let's keep working on these concepts until they feel easy."