

The Adventure of the Missing Number

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Lesson Overview & Objective

This lesson encourages students to see math not just as numbers and operations, but as a tool for creating exciting stories. By the end of this lesson, students will have written and shared a short story where a mathematical concept is central to the plot. ☐

Objective: Students will be able to integrate a mathematical concept (e.g., fractions, geometry, multiplication) into a creative narrative to solve a problem.

Materials Needed

- Whiteboard or projector
 - Markers or pens
 - Paper or writing notebooks
 - Optional: Art supplies (crayons, colored pencils) for illustrations
 - A list of math-related story prompts (see examples below)
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Lesson Procedure (60 minutes)

1. Warm-Up: Math Brainstorm (10 minutes)

Start with a quick, engaging activity to get students thinking about math in a creative way. Ask the class: **"If a number were a character, what would its personality be?"**

- For example, is **Zero** a superhero who can make other numbers disappear or a friendly ghost?
- Is the **number 8** an adventurous octopus? ☐
- Is the **fraction 1/2** always trying to find its other half?

Write their ideas on the board to spark imagination.

2. Introduction to Math Storytelling (10 minutes)

Explain that today, they will become **math storytellers**. Their mission is to write a story where a math problem is the main challenge the characters must overcome.

Provide a simple example: *"Sir Circumference and Lady Di of Ameter had to figure out the distance around a dragon's circular lair ($C=\pi d$) to know how much rope they needed to trap it."*

3. The Writing Adventure (25 minutes)

Step 1: Choose a Math Concept (5 mins) Provide a list of story prompts based on different math topics. Students can choose one or create their own.

Story Prompt Examples:

- **Geometry:** A group of shapes (a triangle, a square, and a circle) must work together using their unique properties (angles, sides) to build a bridge across a river.
- **Fractions:** A baker accidentally breaks the king's favorite cookie into fractions ($\frac{1}{2}, \frac{1}{4}, \frac{1}{8}$). They must find all the pieces before the king arrives.
- **Multiplication:** A wizard's spell goes wrong and now everything in the castle is multiplying by 3! Two young apprentices must find the reverse spell.
- **Measurement:** An explorer finds a treasure map where all the distances are in different units (inches, feet, yards). They must convert them correctly to find the hidden treasure. ?

Step 2: Plan and Write (20 mins) Give students quiet time to plan and write their stories. Encourage them to include:

- **A main character:** Who is the hero of the story?
- **A setting:** Where does the story take place?
- **A problem:** The math challenge.
- **A solution:** How the characters use math to save the day.

For younger students, a simple three-part story (beginning, middle, end) is perfect. Older students can develop more complex plots.

4. Story Sharing Circle (10 minutes)

Have a few volunteers share their stories with the class. This is a great way to celebrate their creativity and see how different math concepts were used. Encourage positive feedback from classmates. After each story, ask the audience: "**What math concept did the storyteller use to solve the problem?**"

Extension Activities & Differentiation

- **For advanced learners:** Challenge them to write a story that incorporates **two or more** different mathematical concepts.
- **For visual learners:** Allow students to create a comic strip or a picture book of their math story.
- **For collaborative learners:** Have students work in pairs to co-author a story.
- **Connect to history:** Research a famous mathematician like Pythagoras or Ada Lovelace and write a story about one of their discoveries.

