```html

# Math Detective: The Case of the Missing Numbers

### Materials Needed:

- A small notepad and pencil (for the "Detective's Notebook")
- A magnifying glass (a toy one is perfect!)
- Whiteboard or large piece of paper and markers
- "Evidence Bags" (small Ziploc bags or envelopes)
- "Clue Cards" (index cards with one word problem written on each)
- Manipulatives like LEGO bricks, cookies, or beads (about 30 pieces)

---

## Lesson Plan Details

### 1. Learning Objectives (The Detective's Mission)

By the end of this lesson, Detective Pratyush will be able to:

- **Identify** "clue words" in a story to determine whether to add, subtract, or multiply.
- **Solve** one-step word problems using manipulatives and drawings.
- **Create** his own unique word problem mystery for someone else to solve.

### 2. The Briefing: Introduction (5 minutes)

**Teacher:** "Good morning, Detective Pratyush! We have a special mission today. There are mysteries all around us hidden in stories, and they all involve missing numbers. Your job is to use your math skills to crack the codes and solve the cases. Here is your official detective kit."

- Present Pratyush with his "Detective's Notebook," pencil, and magnifying glass.
- Explain that each word problem is a mini-case that needs to be solved.

### 3. Detective Training: Identifying Clues (10 minutes)

**Teacher:** "Every good detective knows how to look for clues. In math mysteries, the clues are special words. Let's review our training."

On the whiteboard, create three columns: Addition (+), Subtraction (-), and Multiplication (x).

- **Addition Clues:** Ask Pratyush what words make him think of putting things together. Write them down (e.g., *in total, all together, plus, sum, join*).
- **Subtraction Clues:** Ask what words make him think of taking things away. (e.g., *left over, difference, take away, minus, how many more*).
- **Multiplication Clues:** Explain this is for when you have equal groups. Clue words include *each, times, every, product of, groups of*.
- Use the magnifying glass to dramatically "find" and circle these clue words in a sample sentence you write. For example: "There were 3 bags with 4 cookies *in each*. How many *in total*?"
```

4. The First Case: Guided Practice (10 minutes)

Teacher: "Let's solve our first case together. Open this evidence bag."

- Give Pratyush an "Evidence Bag" containing a Clue Card and some LEGO bricks.
- **Sample Clue Card #1:** "The baker made 15 cookies. You ate 6 of them. How many cookies are *left over*?"
- **Step 1: Read the Clue.** Read the problem out loud together.
- **Step 2: Find the Evidence.** Ask Pratyush to use his magnifying glass to find the "clue word." (He should spot "left over").
- **Step 3: Choose the Operation.** "Detective, which operation does 'left over' point to?" (Subtraction).
- **Step 4: Solve the Case.** "Use your evidence (the LEGO bricks) to solve it." Guide him to count out 15 bricks and then take away 6.
- **Step 5: Record the Findings.** Write the number sentence in the Detective's Notebook: 15 - 6 = 9.

5. On the Beat: Independent Practice (15 minutes)

Teacher: "You're a natural, Detective! Now you're ready to solve some cases on your own. For each case, read the clue, find the evidence, solve it with your manipulatives, and write the solution in your notebook."

Provide 3-4 more "Evidence Bags," each with a Clue Card and manipulatives. Make sure to have a mix of addition, subtraction, and multiplication problems.

- **Addition Example:** "You built a LEGO tower with 8 red bricks and 7 blue bricks. How many bricks did you use *all together*?"
- **Multiplication Example:** "You have 4 friends. You want to give *each* friend 3 stickers. How many stickers do you need *in total*?"

Differentiation:
- **For support:** If he struggles, work through another problem together, focusing on using the manipulatives to "act out" the story.
- **For a challenge:** Give him a two-step problem, like: "You had 20 beads. You lost 5, but then you found 3. How many do you have now?"

6. Case Closed: Create Your Own Mystery (10-15 minutes)

Teacher: "Detective Pratyush, you've solved every case I've given you. For your final challenge, you must create your very own math mystery for me to solve. Your mystery must have a story, numbers, and at least one clue word."

- Encourage him to be creative. His story can be about aliens, superheroes, animals, or anything he likes.
- Help him structure his story and choose a "clue word" that matches the operation he wants you to perform.
- He can write or dictate the problem to you.
- When he is finished, read his mystery aloud with excitement and solve it, thinking aloud so he can see you following his clues. This is a powerful form of assessment.

7. Debriefing: Wrap-Up (5 minutes)

Teacher: "Excellent work today, Detective! You've proven you can find clues, use evidence, and even create your own cases. What was the most important thing you learned about solving story problems today?"

- Review the concept of "clue words" one last time.
- Celebrate his success, perhaps with an official "Master Math Detective" certificate or by eating one of the cookie manipulatives!

```
```