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# Lesson Plan: The Mimic's Mathematical Mayhem

## Materials Needed

- Pencil and paper
- A printout of a simple grid (or graph paper)
- A small token or counter (like a button or coin) to represent an animatronic
- Optional: A calculator (for checking work, not for initial problem-solving)
- Optional: Coloured pencils or markers
- A clock or timer to add to the atmosphere

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## Lesson Details

- **Subject:** Mathematics
- **Year Level:** Year 3 (Age 8)
- **Theme:** Five Nights at Freddyâ€™s - Secret of the Mimic
- **Curriculum Link:** NSW Mathematics K-10 Syllabus - **MAO-WM-01:** Develops an understanding and fluency in mathematics through exploring and connecting mathematical concepts, choosing and applying mathematical techniques to solve problems, and communicating their thinking and reasoning coherently and clearly.

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## 1. Learning Objectives

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

- Apply mathematical concepts (time, patterns, addition/subtraction, simple multiplication) to solve multi-step problems.
- Choose an appropriate strategy to solve a given problem and explain why they chose it.
- Clearly communicate their mathematical thinking and reasoning, both verbally and in writing.
- Design a unique mathematical puzzle that demonstrates their understanding of a concept.

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## 2. Lesson Procedure & Instructional Strategies

### Part 1: The Night Shift Briefing (5 minutes)

**Instructional Strategy:** Narrative-Based Introduction

**Teacher's Role:** Set the scene to engage the student. Say something like:

*"Welcome to your new job at the Pizzaplex. It's midnight, and things are... strange. The lead technician*
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left behind some notes about the 'Mimic' animatronic. To survive until 6 AM and figure out its secrets, you'll need to solve a series of puzzles it has left behind. Each puzzle you solve keeps the systems stable and gets you closer to the truth. Are you ready?"

Part 2: Mission 1 - Power Grid Panic (10 minutes)

Instructional Strategy: Problem-Solving & Direct Application

Task: Present this problem to the student:

"*The security office starts with 100% power at midnight. Every hour, the lights and cameras use up **12%** of the power. Will you have enough power to last until 6 AM? How much power will be left over, or how much extra power would you need?*"

Guiding Questions (to encourage communication):

- "How many hours are there between midnight and 6 AM?"
- "How could you figure out the total power used? Could you use addition? Is there a faster way?" (Guiding towards multiplication: 6 hours x 12% power).
- "Explain your steps to me as you do them. Why did you decide to add/multiply first?"

Part 3: Mission 2 - Tracking the Animatronic (15 minutes)

Instructional Strategy: Kinesthetic & Visual Learning (Hands-on)

Task: Give the student the grid paper and a token.

"*The Mimic isn't moving randomly. It follows a secret pattern on the building's floor grid. I've tracked its first few moves. Starting at square one, it moves: **3 squares right, 2 squares up, 3 squares right, 2 squares up.***"

1. Ask the student to place the token on a starting square and follow the path.
2. **The Problem:** "What is the pattern? Where will the Mimic be after it makes **four more** moves following this same pattern?"
3. Ask the student to draw the path and circle the final location.

Guiding Questions:

- "What part of the movement repeats?"
- "How did you use the grid to help you visualize the path?"
- "Can you describe the pattern to me in your own words?"

Part 4: Mission 3 - Your Turn to Design (15 minutes) - KEY CREATIVE TASK

Instructional Strategy: Creative Application & Peer Teaching

Task: Now, challenge the student to become the puzzle master.

"*Excellent work, you've almost made it to 6 AM! For the final challenge, you need to create your own FNAF-themed math puzzle to lock down the Mimic for good. It can be about anything â€“ parts and service, security doors, pizza ingredients, anything! Your puzzle must have a clear question and a clear answer.*"

Requirements for the student:

1. **Create a Story Problem:** Write a short, FNAF-themed math problem on a piece of paper.
2. **Solve Your Own Problem:** On the back, write down the answer and, most importantly, write down the **steps** needed to solve it.
3. **Present the Puzzle:** Give the puzzle to the teacher/parent to solve.
4. **Explain the Solution:** After the teacher solves it, the student must explain their solution steps, acting as the expert.

Part 5: Conclusion - You Survived! (5 minutes)

Instructional Strategy: Reflective Discussion

Teacher's Role: Congratulate the student on "surviving the night." Discuss the lesson.

- "Which puzzle was the most challenging? Why?"
- "What mathematical skill did you feel most confident using today?"
- "When you created your own puzzle, how did you decide what math to use?"

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3. Differentiation and Inclusivity

- **For Extra Support:**
  - In Mission 1, use simpler numbers (e.g., 10% power drain per hour). Provide a 100-chart for visual subtraction.
  - In Mission 2, use a simpler pattern (e.g., 2 squares right, 1 square up) and ask for fewer future moves.
  - For the creative task, provide sentence starters like "Freddy needs to deliver pizzas..." or "You have 20Faz-Coins and need to buy..."
- **For Extension/Challenge:**
  - In Mission 1, add a variable: "If you close a door, you use an extra 5% power per hour. If a door is closed for 2 hours, will you still have enough power?"
  - In Mission 2, use a more complex, multi-stage pattern or introduce coordinate-based movement (e.g., "Move from (2,1) to (5,1)").
  - For the creative task, challenge the student to create a multi-step problem that requires at least two different operations (e.g., multiplication and then subtraction).

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4. Assessment Methods

- **Formative (Ongoing):**
  - **Observation:** Watch how the student approaches each problem. Do they hesitate? Do they dive right in?
  - **Questioning:** Use the guiding questions listed in each mission to assess the student's thought process in real-time. Their ability to explain *why* they are taking a certain step is a direct measure of MAO-WM-01.
- **Summative (End of Lesson):**
  - **Student-Created Puzzle:** This is the primary assessment tool. Evaluate it based on:
    1. **Clarity:** Is the problem easy to understand?

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2. **Correctness:** Is the student's solution and answer key accurate?
3. **Reasoning:** How well does the student explain the steps to solve their own puzzle? This demonstrates their depth of understanding and ability to communicate mathematically.

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