

Didactic Scenario

1. Title

The Quest for Hidden Shapes and Numbers

2. Keywords

Shapes, Numbers, Problem-Solving, Adventure, Math Puzzles

3. Basic Information

STEAM Subject: Math, Technology

Typical interaction time with the instructional scenario in teaching hours for in-school work: 3 hours

General description of the scenario:

This scenario engages elementary school students in a thrilling math adventure where they embark on a quest to discover hidden shapes and numbers around the school. The activity is designed to develop problem-solving skills and reinforce understanding of geometric shapes and basic arithmetic. The adventure consists of three phases: an introduction to the quest, the exploration and discovery phase, and a reflection and discussion phase.

<u>Phases</u>	<u>Stage</u>	<u>Time</u>
Introduction to the Math Quest	Introductory phase	30'
Exploration and Discovery	Implementation phase	120'
Reflection and Discussion	Implementation phase	30'

Age group: 7-9 years old

Estimated difficulty level:

Very Easy	Easy	Moderate	Challenging	Very Challenging
	X			

Teaching resources

Material: Clue cards, math puzzles, maps of the school, clipboards, pencils

School infrastructure: whiteboard

Additional material from external sources/online tools: Online math puzzle generators, apps for creating digital scavenger hunts

Differentiated Instruction for students of differing abilities and learning styles in the same class: Provide easier or more complex puzzles depending on students' abilities; use visual and auditory clues for students with different learning preferences.

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4. Educational Problem

This scenario addresses the challenge of making math engaging and interactive for young students. It helps to overcome the common perception that math is a boring or difficult subject by incorporating elements of play and exploration.

5. Learning Objective (-s)

1. Students will identify and describe various geometric shapes.
2. Students will solve basic arithmetic problems to unlock clues.
3. Students will develop teamwork and problem-solving skills.
4. Students will use maps and directions to navigate their surroundings.

6. Phases of the Scenario

Phase 1		
Title: Introduction to the Math Quest		
Indoor	Outdoor	Mixed
	X	
Phase duration in minutes: 30 minutes		
Detailed description of the scenario phase: The teacher introduces the Math Quest, explaining the rules and objectives. Students are divided into small teams and provided with their first clue, which involves solving a simple math puzzle to receive the next location on their map.		
Activity sheets: https://www.twinkl.com.au/resource/t-n-45405-follow-the-clues-challenge-cards		
Phase 2		
Title: Exploration and Discovery		
Indoor	Outdoor	Mixed
		X
Phase duration in minutes: 120 minutes		
Detailed description of the scenario phase: Students embark on their quest, moving from one location to another around the school. At each location, they solve puzzles and identify shapes or numbers hidden in their environment. Teachers and assistants supervise to provide hints and ensure safety.		
Activity sheets: N/A		
Phase 3		
Title: Reflection and Discussion		
Indoor	Outdoor	Mixed
X		
Phase duration in minutes: 30 minutes		

Detailed description of the scenario phase:

After completing the quest, students return to the classroom to discuss their findings. They reflect on the shapes and numbers they discovered, the puzzles they solved, and how they worked as a team. The teacher facilitates a discussion on the importance of math in everyday life and encourages students to share their experiences.

Activity sheets: N/A

7. Evaluation Methodology

Evaluation will be based on students' ability to solve the math puzzles, their participation in the activity, and their reflections during the discussion phase. Teachers can use a checklist to assess teamwork, problem-solving skills, and understanding of geometric shapes and arithmetic.

8. Additional Resources for the teacher

www.mathgametime.com/teacher-resources

www.mathplayground.com/puzzle_games.html

www.nationalgeographic.org/education/map-skills-elementary-students