

Didactic Scenario

1. Title

“End Point”

2. Keywords

Coding game

3. Basic Information

STEAM Subject: Technology

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

General description of the scenario:

Phases	Stage	Time
1	Preparation	5 minutes
2	Rules and Explanation of the game	5 minutes
3	Game start	10 minutes

Age group: 8 – 12 years old

Estimated difficulty level:

Very Easy	Easy	Moderate	Challenging	Very Challenging

Teaching resources

Material:

Game board with a marked path from the starting point to the endpoint

Command cards with different programming instructions (e.g., move forward, turn left, turn right)

Obstacle cards to create challenges on the game board
Player tokens to represent each player's position on the board
Dice or spinner to determine the number of spaces to move
Timer to keep track of the game duration
Optional: Scorecards or recording sheets to track players' progress and scores
Optional: Game guide or instruction booklet for reference
These materials are essential for playing the End Point coding game and ensuring a smooth and engaging gaming experience for the students.

School infrastructure: Not required

Additional material from external sources/online tools: <https://kaiseducation.com/coding-cards/>

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4. Educational Problem

The aim of this activity is to develop students' programming skills, enhance their logical thinking abilities, and apply their problem-solving skills in a practical setting. The game helps students learn fundamental programming concepts such as algorithm creation, command sequencing, and planning for the desired outcome through hands-on practice.

5. Learning Objective (-s)

1. Through this activity/lesson, students will achieve the following learning outcomes:
2. Programming Skills: Develop skills in sequencing commands, creating algorithms, and improving logical thinking abilities.
3. Problem-Solving Abilities: Overcome obstacles on the game board and strategize to reach the endpoint successfully.
4. Decision-Making Skills: Select and implement the correct commands from the given options.
5. Communication and Collaboration: Enhance communication and collaboration skills by interacting with other players to complete the game successfully.
6. Confidence and Motivation: Gain confidence and motivation through encountering challenges and achieving success during the game.

7. These learning outcomes empower students to advance their programming skills, contribute to the STEM (Science, Technology, Engineering, and Mathematics) field, and actively participate in the digital world of the future.

6. Phases of the Scenario

Phase 1

Title: Preparation

Indoor	Outdoor	Mixed
X		

Phase duration in minutes: 5 minutes

Detailed description of the scenario phase:

Prepare the game cards and shuffle them.

Set up the game area and mark the starting and ending points

Activity sheets:

Phase 2

Title: Rules and Explanation of the Game

Indoor	Outdoor	Mixed
X		

Phase duration in minutes: 5 minutes

Detailed description of the scenario phase:

Explain the rules of the game to the students:

Each player will take turns selecting a card and applying the command written on it.

Players will move using commands such as forward, turn left, turn right, and backward.

The objective is to reach the endpoint in the shortest time possible.

Emphasize the points for players to pay attention to:

Players should carefully observe the movements of other players.

They need to find the shortest path by using the correct commands.

Encourage them to develop strategies and collaborate with others.

Activity sheets:

Phase 3

Title: Game Start

Indoor	Outdoor	Mixed
X		

Phase duration in minutes: 10 minutes

Detailed description of the scenario phase:

Assign a student to start the timer.
The first player selects a card and moves according to the command on it.
Other players take turns using their cards to move.
Ensure that players pay attention to each other's movements.

Activity sheets:

7. Evaluation Methodology

Finish the game after the designated time.
Record the time taken by each player to reach the endpoint.
Declare the player who reached the endpoint in the shortest time as the "Game Winner."
Facilitate a discussion among the players to evaluate the game experience:
Which strategies were effective? Why?
Why was using the commands correctly important?
How did collaboration impact the game results?
This scenario provides students with an opportunity to develop coding skills while utilizing logical thinking, strategy development, and collaboration abilities. The game allows students to apply their logical thinking skills in a fun learning environment.