PUZZLING CARTOON

- LOGAN'S ADVENTURE -

Educational Goals

- Develop logic
- Highlight the playful potential of mathematics
- Develop the metacognitive strategies of organization (illustrate, simulate or imitate a situation to understand it better)
- Approach continuity in an intuitive way

Key Features of the Targeted Competency

- To define the elements of the mathematical situation
- To justify actions or statements by referring to mathematical concepts and processes

Concepts Used

- Symmetry
- Intervals
- Movement
- Function

Materials

- Video of the puzzle
- Sheets of paper
- Pencils
- Written copies of the puzzle (optional)

Targeted Academic Levels
Grades 7 to 11

Mathematical Fields Concerned

Suggested Teaching Formula

Time Required
Approximately 20 minutes

SUGGESTED PROCESS

Step 1: Introduction (2 minutes)

Present the video of the puzzle a first time (www.amazingmaths.ulaval.ca).

A written version of the puzzle is available via the Explanation Sheet. If you believe it is necessary, you can project it or distribute copies to your students.

Present the video a second time to allow the students to thoroughly understand the information.

Step 2: Finding the solution (14 minutes)

Place the students in pairs so they can try to find the solution. We suggest that you make sure the students fully understand what we are looking for: we want to prove there is a moment when Logan is in the same spot at the same time on both days. You may suggest to the students to look for a way to illustrate it, to find a “trick” that shows well it cannot be otherwise. You may encourage them to draw a graph and even give them the axis’ variables if needed (time, height).

Step 3: Reveal the solution (4 minutes)

Refer to the Explanation Sheet for the puzzle “Logan’s Adventure”.

To illustrate the solution efficiently, you may ask two students to take place at both ends of a staircase of the school. The student at the bottom must go up the stairs and the one at the top must go down the stairs. Both students must start walking at the same time. There will necessarily be a *moment* when the two children will pass each other.