



# Puzzling cartoon

## - The Long Winter -



### Educational Goals

- ❖ Develop logic
- ❖ Highlight the playful potential of mathematics
- ❖ Explore the different usages and meanings of multiplication and division

### Key Features of the Targeted Competencies

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

### Concepts Used

- ❖ Arithmetic (addition, subtraction, division, and multiplication)

### Materials

- ❖ Video of the puzzle
- ❖ Pen and paper
- ❖ Written copies of the puzzle

**Targeted Academic Level**  
Grades 4 to 6

**Mathematical Field  
Concerned**



**Suggested Teaching  
Method**



**Time Required**  
Approximately 33 minutes



# Suggested Process



## Step 1: Introduction (3 minutes)

Present the puzzle a first time. You can also choose to play the puzzle's video ([www.amazingmaths.ulaval.ca](http://www.amazingmaths.ulaval.ca)). To allow your students the opportunity to properly understand the information and instructions, present the puzzle, or the video, a second time.

A written version of the puzzle is available via the Explanation Sheet. If you believe it is necessary, or that it would be helpful, project the puzzle's instructions on the board or pass copies to your students.

## Step 2: Find solutions (15 minutes)

Place the students in pairs and ask them to try to find the solution. Encourage your students to write down the information obtained from the problem's statements.

Student hints:

- Suggest they find the total number of logs burned throughout the winter and the number of logs burned on the cold days.
- Bring their attention to the number of warm days versus the number of cold days (there is the same number of warm and cold days). Also, bring their attention to the number of logs burned if we would join one warm day with one cold day (75 logs burned in those 2 days).
- Question students about the possible links that can be made and possible answers that can be found based on the number of logs burned (daily, for every cold and warm day, and in total).

Encourage your students to verify their answers, and ask teams to make a brief description of the steps they took to find their solutions.

## Step 3: Share solutions (10 minutes)

To share the solution with your class, see *The Long Winter's* Explanation Sheet.

Ask teams to share the solution they found and to explain how they found the solution. Ask if other teams found the same solution by using different strategies.

## Step 4: Solve the puzzle (5 minutes)

If the students were initially unsuccessful in solving the puzzle, they may want time to solve it now that they have seen the solution.