PUZZLING CARTOON

- OH, HOW TIME FLIES! -

Educational Goals

- ❖ Develop logic
- ❖ Highlight the playful potential of mathematics

Key Features of the Targeted Competencies

- ❖ To decode the elements that lend themselves to a treatment
- ❖ To elaborate a mathematical solution
- ❖ To validate the solution
- ❖ To share the information relative to the solution
- ❖ To define the elements of the mathematical situation
- ❖ To form and apply a network of concepts and mathematical processes

Concepts Used

- ❖ Arithmetic (addition, subtraction)
- ❖ Conventional units for time measurement

Materials

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

Targeted Academic Levels
Grades 7 to 11

Mathematical Field Concerned

Suggested Teaching Formula

Time Required
20 minutes

SUGGESTED PROCESS

Step 1: Introduction (3 minutes)

Play the puzzle's video a first time.

A written version of the puzzle's statement is available in the appendix of this document. If you believe it is necessary, you can project it or distribute copies to your students.

Play 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. Mention to the students to look at their school calendar (available in the agenda) if needed.

Encourage the students to write down the elements of information, because there are a lot and they are precise.

In case of a mental block, draw their attention on the key-dates in the changes we are interested in: when does a person's age change? When can we say that we are "next year"?

Step 3: Reveal the solution (3 minutes)

We are January 1st and Gabrielle's birthday is December 31st.

Solution's explanation:

The nearest day to "next year" is December 31st. Setting the date for Gabrielle's birthday as late as possible in the year allows her to have two different ages in the last two days of the year and for the next year to be the day after her birthday! So, everything happens on three consecutive days (from December 30th to January 1st.

Gabrielle's birthday is December 31st and the day before, the 30th, she is 25 years old. So, on December 31st, she celebrates her 26th birthday.

The statement says that she is 25 years old the day before yesterday: the day before yesterday is December 30th, and today is then January 1st.

On January 1st, she is still 26 years old, but she will turn 27 on December 31st of the same year. And on December 31st of the next year, she will be 28 years old. She can then state that she will be 28 years old next year!