



PUZZLING CARTOON

- WATER LILIES -



Educational Goals

- ❖ Develop logic
- ❖ Highlight the playful potential of mathematics
- ❖ Implicitly distinguish proportional linear relationships from exponential relationships

Key Features of the Targeted Competencies

- ❖ To decode the elements of the situational problem
- ❖ To apply different strategies in order to elaborate a solution
- ❖ To validate the solution
- ❖ To define the elements of the mathematical situation
- ❖ To form and apply networks of concepts and mathematical processes

Concepts Used

- ❖ Arithmetic (addition, multiplication, division)
- ❖ Relations of equality and equivalence

Materials

- ❖ Video of the puzzle
- ❖ Sheets of paper
- ❖ Pencils
- ❖ Written copies of the puzzle

Targeted Academic Level
Grades 5-6

Mathematical Field Concerned



Suggested Teaching Formula



Time Required
15 minutes





SUGGESTED PROCESS



Step 1: Introduction (2 minutes)

Play the video of the puzzle a first time.

A written version of the puzzle is included 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 (10 minutes)

Ask the students to find the solution individually. If some students find the solution very quickly, make sure that the solution found is not “15 days”. If it is the case, tell them it is not the right answer and tell them to keep searching. Different representations can then be used to ease the search for solutions, particularly drawing and using materials like pieces of paper.

Step 3: Reveal the solution (3 minutes)

The pond will be covered in 29 days.

Solution's explanation:

Indeed, since the number of water lilies doubles every day and the pond is entirely covered in 30 days, we deduce that after 29 days, the descendants of only one water lily covers half the pond's surface. Therefore, if we have two water lilies, each one will take 29 days to cover half the pond so, the two together, they will have covered the whole pond.