



# PUZZLING CARTOON

## - LUKE'S PIGGYBANKS -



### Educational Goals

- ❖ Compose and decompose a natural number in different ways
- ❖ Recognize the operation or the operations required in a situation
- ❖ Develop logic
- ❖ Highlight the playful potential of mathematics

### Key Features of the Targeted Competency

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

### Concept Used

- ❖ Arithmetic (addition and division)

### Materials

- ❖ Video of the puzzle
- ❖ Written copies of the puzzle (optional)
- ❖ Tokens (optional)

**Targeted Academic Levels**  
Grades 1 to 4

**Mathematical Field Concerned**



**Suggested Teaching Formula**



**Time Required**  
Approximately 35 minutes





# SUGGESTED PROCESS



## Step 1: Introduction (10 minutes)

Present the video of the puzzle a first time ([www.amazingmaths.ulaval.ca](http://www.amazingmaths.ulaval.ca)).

Present the video a second time to allow the students to thoroughly understand the information. Ask the students to pay attention to the information given in the puzzle. The whole class together, bring out the important elements of the puzzle (maximum amount, numbers of coins per piggybank, etc.).

## Step 2: Finding the solution (15 minutes)

Place the students in pairs so they can try to find the solution. Give them a sheet to write down their calculation.

Encourage the students to draw the piggybanks and the 60 \$1 coins. Remind to the students the important elements of the puzzle. Encourage them to illustrate the splitting up of the money. Suggest to them to make more than one attempt to see if they have the maximum number of piggybanks.

You may distribute tokens to each team, so they can distribute them in every piggybank they drew.

While the students are working, you may ask the following questions to guide the thought process:

- How can you know if you have the maximum number of piggybanks?
- If you want as much piggybanks as possible, should you put big amounts or small amounts in your piggybanks?
- What is the smallest amount there can be in a piggybank?
- Can you have two piggybanks with the same amount inside?

## Step 3: Reveal the solution (10 minutes)

Ask a student to sum up the puzzle and identify the important information, the whole class together. Conduct a poll in the class to know what are the answers that were obtained. Ask a few teams to explain their reasoning. By referring to the Explanation Sheet for the puzzle “Luc’s Piggybanks”, explain the puzzle’s reasoning. Establish links with the answers and the methods of the group.