Math Magic

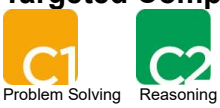
-Vice Versa-

Educational Goals

- Develop logic
- Learn a magic trick
- Understand complements of natural numbers

Targeted Academic Level
Kindergarten to Grade 2

Targeted Competencies



Mathematical Field Concerned

Suggested Teaching Method

Time Required
About 35 minutes

Key Features of the Targeted Competencies

- Break down the elements of a situation/problem (C1)
- Model the problem (C1)
- Apply different strategies to create a solution (C1)
- Validate the solution (C1)
- Pinpoint the important elements of a mathematical situation (C2)
- Apply the appropriate processes and concepts for the situation (C2)

Concepts Used

- Properties of natural numbers (complements)

Materials

- Video of the trick
- 12 tokens with 2 distinct sides per group (coins or playing cards can work)
- Paper and pencils

Suggested Process

Step 1: Introduction (5 minutes)

Play the video of the magic trick (INSERT LINK HERE).

If you'd rather perform the trick yourself for your students, you can find the steps to perform the trick in the explanatory document of the trick "Vice Versa."

Step 2: Find solutions (10 minutes)

Once the students have observed the trick several times, place them in pairs and allow them time to try recreating the trick on their own.

Student hints:

- Ask them to think about the number of tokens of each colour before and after the flip.

Step 3: Share solutions (15 minutes)

Return to a whole group, and have groups share their thinking and what they tried.

By referring to the *Vice Versa* Explanation Sheet, reveal and explain the solution of the trick to your students. (If any students have successfully solved the trick, it would be preferable to allow them to recreate the trick for the class while explaining their solution.)

Draw attention to the number of tokens of each colour at the beginning, and what happens when the spectator takes and flips over 6 tokens. You can also encourage them to count the number of tokens of each colour on the table and taken by the spectator after each step.

Step 4: Recreate the Magic Trick (5 minutes)

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

Short on time?

→ Show the video of the trick at the end of class. Let your students try and find the solution as homework. Show the solution at the beginning of the next class.

→ If you have 15 minutes, show the video and have one student try and do the trick at the front of the class. The other students can help, and if they're having trouble you can help them by using the Explanation document of the trick. Initiate and guide a discussion about the trick. After a couple minutes, explain the solution.