



Erasmus+

WORKSHEET – INTEGRATION PUZZLES

Puzzle 1 – Boxes with Fruits

You have three boxes:

- one contains **only apples**,
- one contains **only pears**,
- one contains **apples and pears**.

All labels are **wrong**. You can open **only one box** and take **one fruit**. How do you correctly label the boxes?

Answer: Open the box labeled “apples and pears.” Inside you will find only one type of fruit, e.g., apples.

- Box labeled “apples and pears” → **apples**
- Box labeled “apples” → **pears**
- Box labeled “pears” → **apples and pears**

Explanation: Since all labels are wrong, the fruit you take shows what is really inside.

Puzzle 2 – Water Jugs

You have two jugs:

- **5-liter**,
- **3-liter**.

How can you measure exactly **4 liters of water**?

Answer:

1. Fill the 5-liter jug and pour into the 3-liter jug until it is full.
2. 2 liters remain in the 5-liter jug.
3. Empty the 3-liter jug and pour the 2 liters into it.
4. Fill the 5-liter jug again and top up the 3-liter jug.
5. 4 liters remain in the 5-liter jug.

Puzzle 3 – Switches and Bulbs

Downstairs there are **three switches**, upstairs there are **three bulbs**. You can go **upstairs only once**.

Answer:

1. Turn on the first switch and leave it on for a few minutes so the bulb heats up.
2. Turn off the first switch, turn on the second switch, and go upstairs.
 - Bulb that is **on** → second switch
 - Bulb that is **off but warm** → first switch
 - Bulb that is **off and cold** → third switch

