



Key Advice

Appendix Fostering Collaborative Creativity in Translational Life Sciences, UMCU

Supplementary materials and tips for the workshop Fostering Collaborative Thinking. See also [Rules for Brainstorming](#).

- I. Physical creative exercise
- II. Brain teasers (2x)
- III. Warming-up exercises (2x)

I. Physical creative exercise

- Collect several objects such as rope, a wooden kitchen board, playing materials, a bowl, cutlery, cans etc.
- Put all the objects in the center of the room and instruct students to stand in a circle.
- Start the exercise by asking each student to pick an object and perform a random action (just what pops up in their minds). Also mention that students can do these actions in pairs or with more students.
- Take initiative by starting this exercise yourself. You can, for example, use the wooden kitchen board to start a tennis match and invite a student to play along.
- End the chosen action after 10 seconds to keep the flow.
- What will happen is that students will use their imagination to use a daily object and playfully perform a task with it.
- End the session with a short reflection with the overall. Explain that imagination allows us to envision possibilities; creativity (and the brainstorming techniques) helps us turn those possibilities into ideas or action.



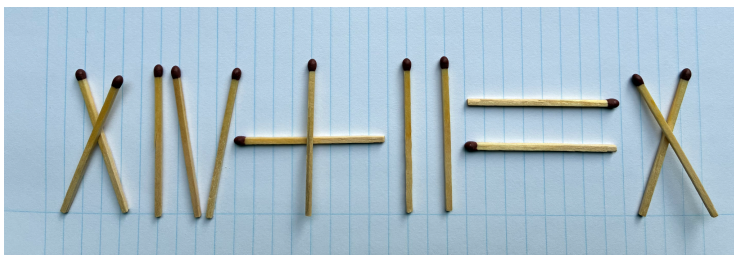
II. Brain teasers

There are several brain teaser exercises that can be applied to make students aware of their pattern thinking, which is very useful in doing research or reading scientific articles. Thinking in patterns is very useful but creativity is about daring to step out of these patterns by becoming aware of them. Below are two exercises to let students experience those thinking patterns.

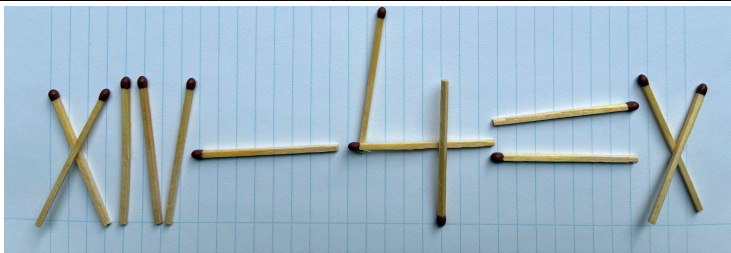
Brain Teaser 1: Matching matches

Give students 13 matches or sticks and show them the following image. Give the instruction:

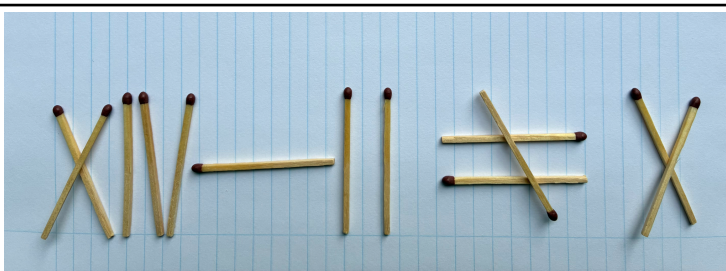
Move 1 match to make a correct calculation.



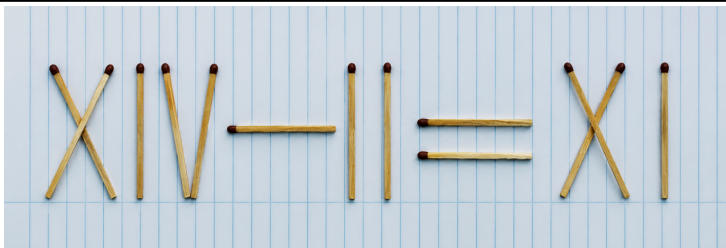
Students tend to think in Roman numbers but by stepping out of this assumption there are several solutions:



1. Combining Roman and Arabic numerals



2. Does not equal



3. Counting the matches

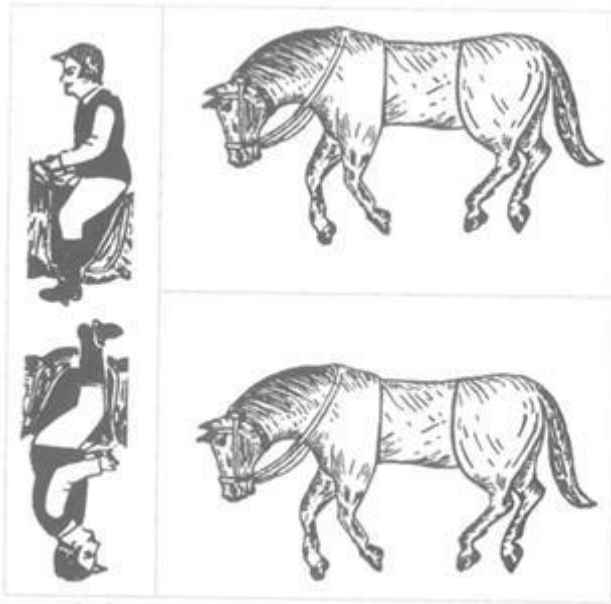


Brain Teaser 2: Settling saddles

Instruction

- Print the picture below.
- Cut out the figure in three parts (two separate horses, keep the jockey as one part).
- Create a figure in which the three drawings connect and both jockeys sit in the saddle.

Students tend to place the jockey on the back of a horse as in real life but this does not work, one jockey will sit properly but the other horseman not.



Solution:





III. Warming-up exercises

The aim of the exercise is to practice brainstorming techniques based on a 'fun' problem.

Warming-up 1: New solutions

Instruction

- Give each student team a list with provoking questions.
- Ask student teams to select one question, give them a whiteboard or flip-over paper and markers.
- One of the students writes one of the questions on the board/paper.
- Then the student team can brainstorm together to come up with different solutions.
- All possible solutions must be written down.
- An additional instruction is that you can ask each student to take one of the [Rules for Brainstorming](#) in mind and observe if this rule is applied during the warming-up exercise.

Examples of provoking questions:

- How can a legless chicken cross the road?
- You have won ten tons of Jell'O. What can you do with this amount of Jell'O without throwing it away?
- You inherit a theme park, but it has no rides. How do you make it fun?
- All shoes in the world vanish. What new inventions replace them?
- You are given a skyscraper but can't rent or sell it. What do you turn it into?
- What might you do with 50,000 bowling balls that are flat on one side?
- You need a vacation, but you do not have the money to arrange it. How can you solve this problem?
- How would you spend 10 million euros?

Warming-up 2: Wishful thinking

Instruction

- Ask students to choose their favorite superhero, like Superman, Wonder Woman, or a Marvel character, and briefly identify their superpowers.
- Ask them to apply these superpowers to the problem they are working on. Explain that there are no restrictions: anything is possible.
- Encourage students to brainstorm actively by standing up, moving around and building on each other's ideas. Emphasize that ideas do not need to be realistic or feasible.
- Ask students to review their ideas: What could be translated into a realistic solution or inspire a new direction?
- Briefly reflect: How did removing practical restrictions change your thinking?

