

The Candle Problem: Instructions

1. If your teacher assigned you to the IF...THEN condition, then read the following instructions out to your volunteer:

The question I need you to answer is: Look at this picture. How do you fix and light a candle on a cork board wall in a way so the candle wax won't drip onto the table below. To do so, you may only use the following along with the candle: a book of matches a box of thumbtacks
IF...You do not complete it within 40 seconds, THEN...You will have failed the task

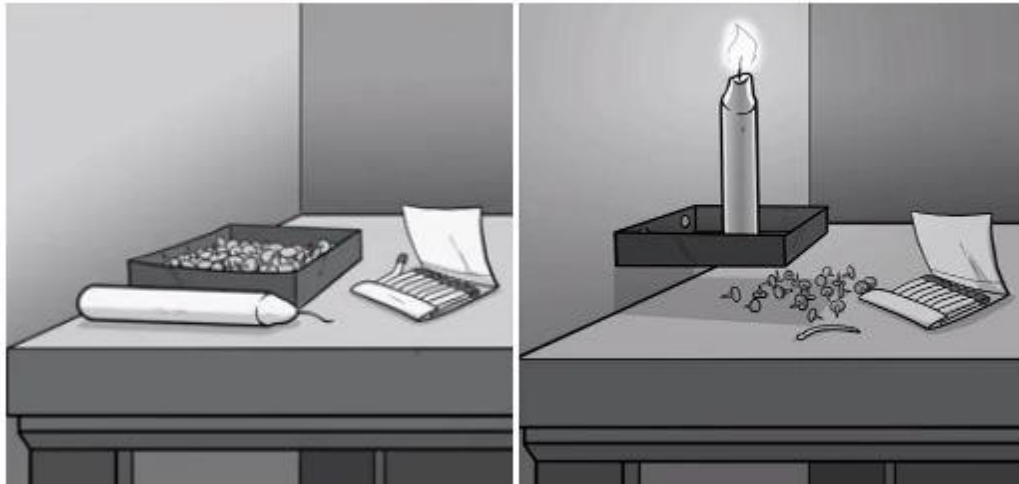
2. If your teacher assigned you to the LEARNING for Self-Improvement condition, then read the following instructions out to your volunteer:

The question I need you to answer is: Look at this picture. How do you fix and light a candle on a cork board wall in a way so the candle wax won't drip onto the table below. To do so, you may only use the following along with the candle: a book of matches a box of thumbtacks The whole point of the challenge is to enjoy it and see if you can challenge yourself to solve it.



The Candle Problem: Explanation

Once your volunteer has tried to solve the candle problem or actually solved it, reveal the answer by showing them this page.



Then explain what you learned in the candle problem by give them the following explanation:

The candle problem teaches us about motivation. And importantly, about **fear based learning systems**. A psychologist named Sam Glucksberg in 1962 showed the candle problem to 2 different conditions. The first condition were told they needed to solve it very quickly, and the faster they solved it the more money they would get.

The second group were simply told to solve it in their own time and for their own sense of purpose.

The second group ended up solving the problem much faster. The pressure and fear of not performing hampered the problem solving ability of the first group. This is fear based learning. When we focus on IF...THEN contingencies of motivation. For example

- If I do not do well on this test, then I am a failure
- If I do not do well in my year 12 exams, then I will have let everyone down

These IF..THEN contingencies can be powerful motivators in the short term, but in the long term can lead to anxiety and burn out and students not performing the way they may be able to. This is because this type of fear based motivation leads to an increase in stress chemicals in the brain,

such as cortisol (which is important in smaller amounts but problematic in higher amounts), as well as compromised

functioning of our pre-frontal cortex (the smart brain).

So make sure you are talking to your young person about fear based learning and ensuring we are not creating IF...THEN statements for them. Check out braingro.com.au for more videos on this topic.