

CREATIVITY IN DECISION MAKING

Business Decision Making

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foi



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**ORGANIZATION
AND INFORMATICS**

CONTENT

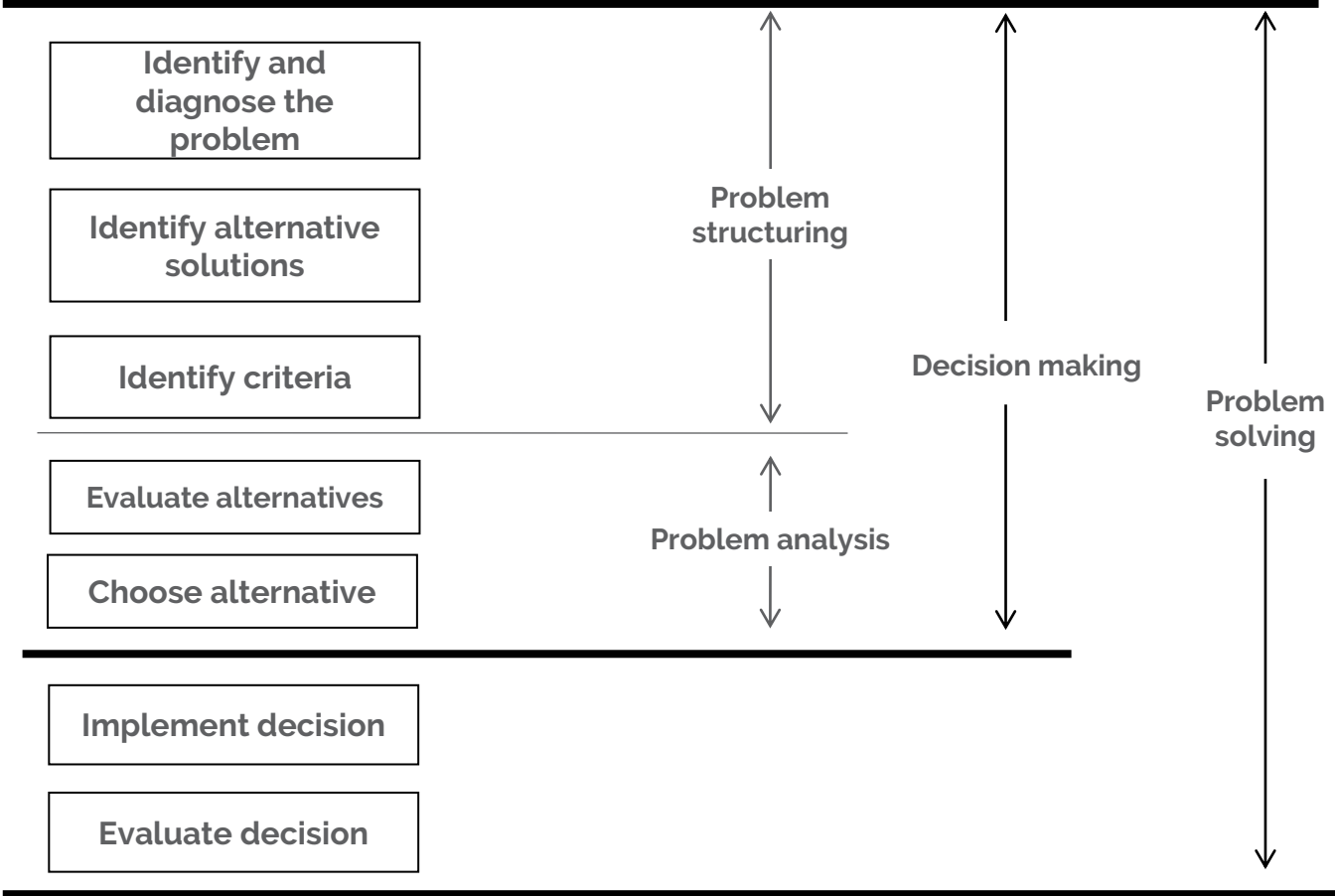
- Intelligence and creativity
 - Difference between intelligence and creativity
 - Left and right side of the brain
 - Convergent and divergent way of thinking
- Individual characteristics associated with the creativity
- Phases of the creativity process
 - Discoveries in dream
- The Marshmallow challenge

INTELLIGENCE VS **CREATIVITY**

- **Intelligence** – important for problem reasoning (understanding) and problem analysis
- **Creativity** – developing the new alternatives
- Different researches about correlation between the intelligence and the creativity



INTELLIGENCE VS **CREATIVITY**



INTELLIGENCE VS **CREATIVITY**

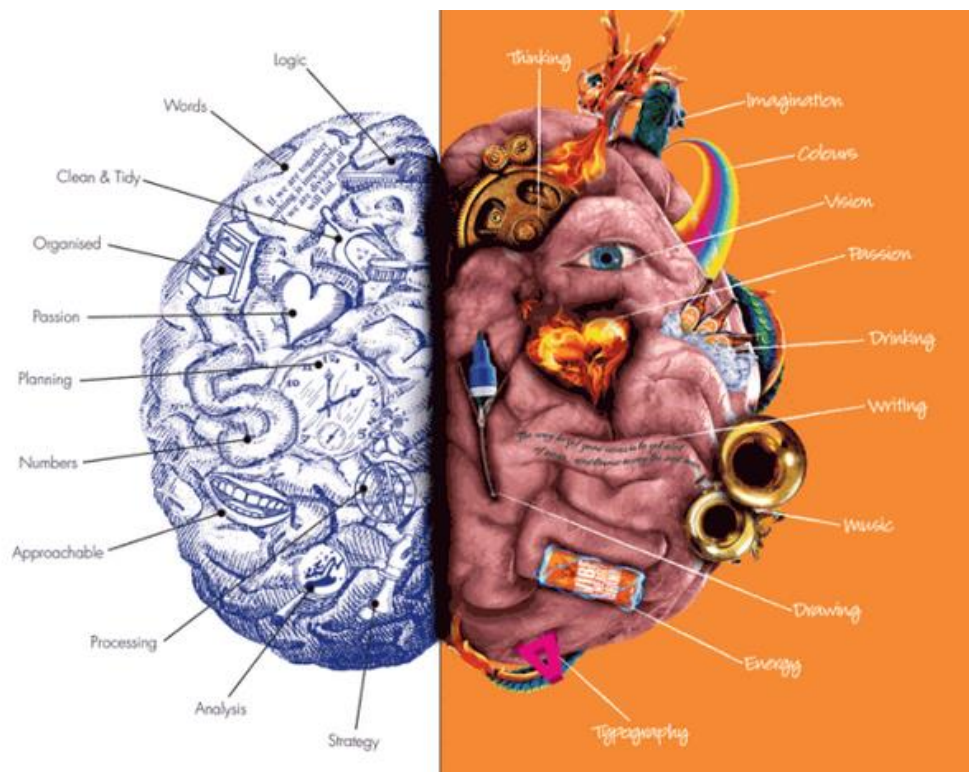
- **LEFT SIDE OF THE BRAIN**

- **Intelligence**
- **Right-handed persons**

- **RIGHT SIDE OF THE BRAIN**

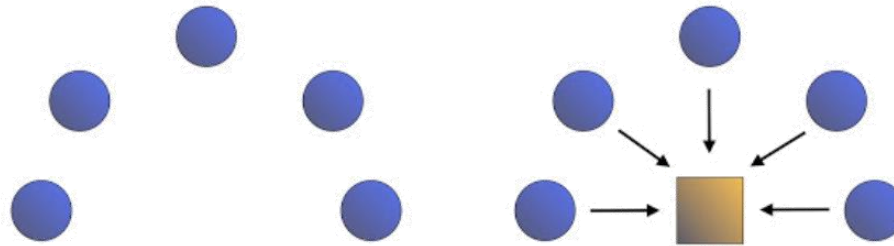
- **Creativity**
- **Left-handed persons**

- One side of the brain controls the other side of the human body

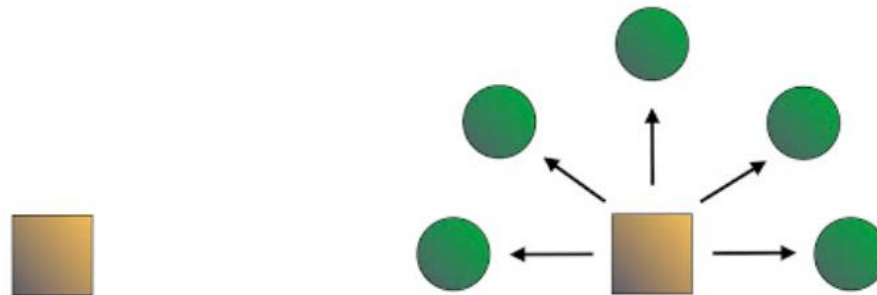


INTELLIGENCE VS **CREATIVITY**

- Convergent thinking ... focus on one solution



- Divergent thinking ... analysing several possible solutions



INTELLIGENCE VS **CREATIVITY**

- **Creative persons:** open-minded, critical, unconventional, motivated, selfconfidence, wide interests, ready for changes, divergent thinking
- **Non-creative persons:** do not accept new things, conventional, pasive, disinterest, predictable, convergent thinking



INDIVIDUAL CHARACTERISTICS ASSOCIATED WITH **CREATIVITY**

- Intellectual abilities
 - See problems in new ways
 - Recognize which ideas are worth pursuing and which are not
 - Influence on others
- Explicit knowledge (about the problem, field), and tacit knowledge (implied)
- Thinking on novel ways/style
- Personal characteristics (willingness to overcome obstacles, willingness to take risk, willingness to tolerate ambiguity (double meaning), self-efficacy, openness)
- Intrinsic task motivation



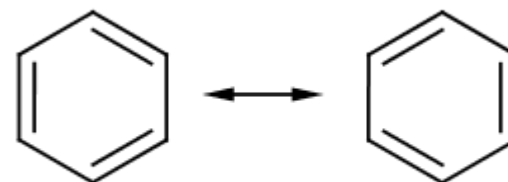
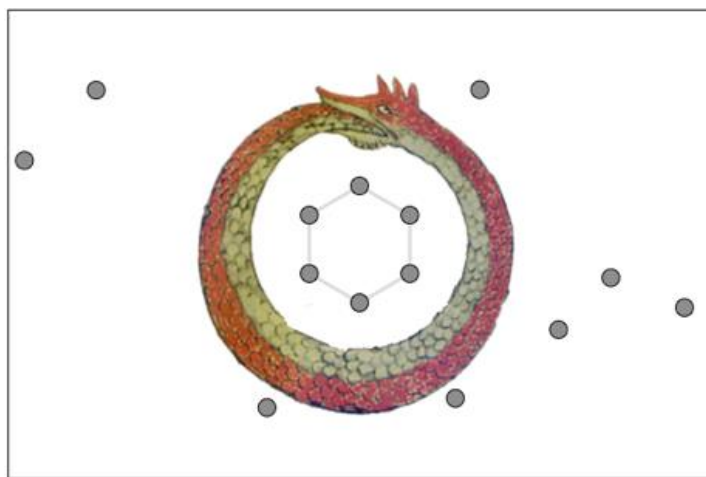
PHASES OF **CREATIVITY PROCESS**

- **Preparation phase** – learning about the problem (importance of intelligence to understand the problem)
- (**Concentration** – gym, relax, reading a book, ...)
- **Incubation** – forcing your brain to generate possible solutions for the problem (sometimes in dream)
- **Illumination** – Eureka, the idea is generated
- **Verification** – Control if the generated idea fits all the problem limitations



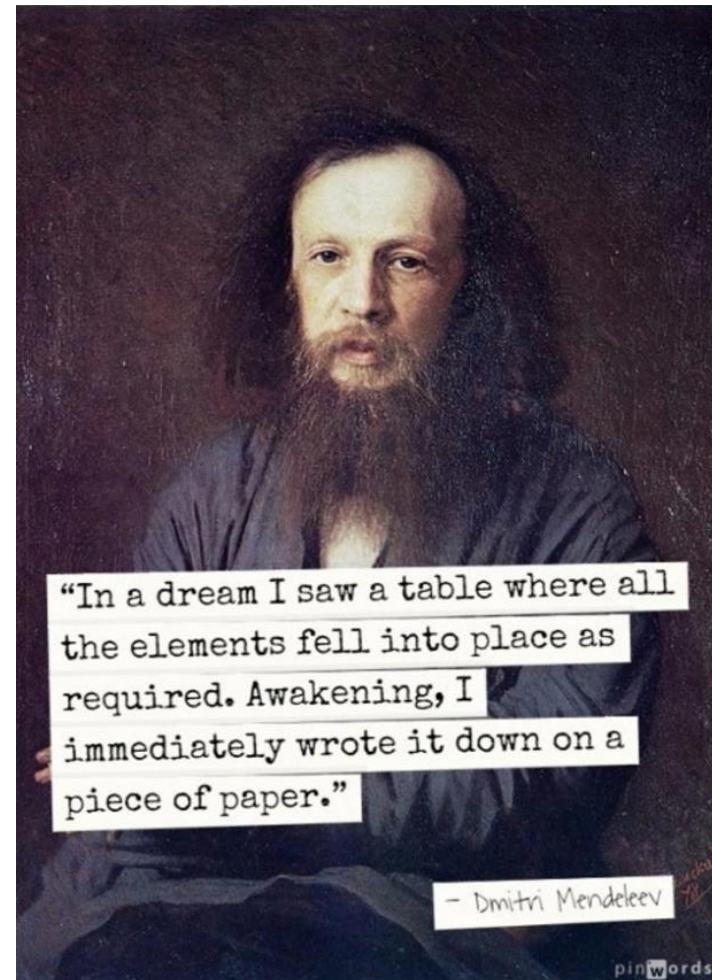
PHASES OF **CREATIVITY PROCESS**

- F.A. Kekule – Benzen
 - The structure of molecule benzen
 - Dynamic structure
 - Snake in the dream
- <http://nabreklina-ispraznosti.blogspot.com/2015/10/san-o-benzenu.html>



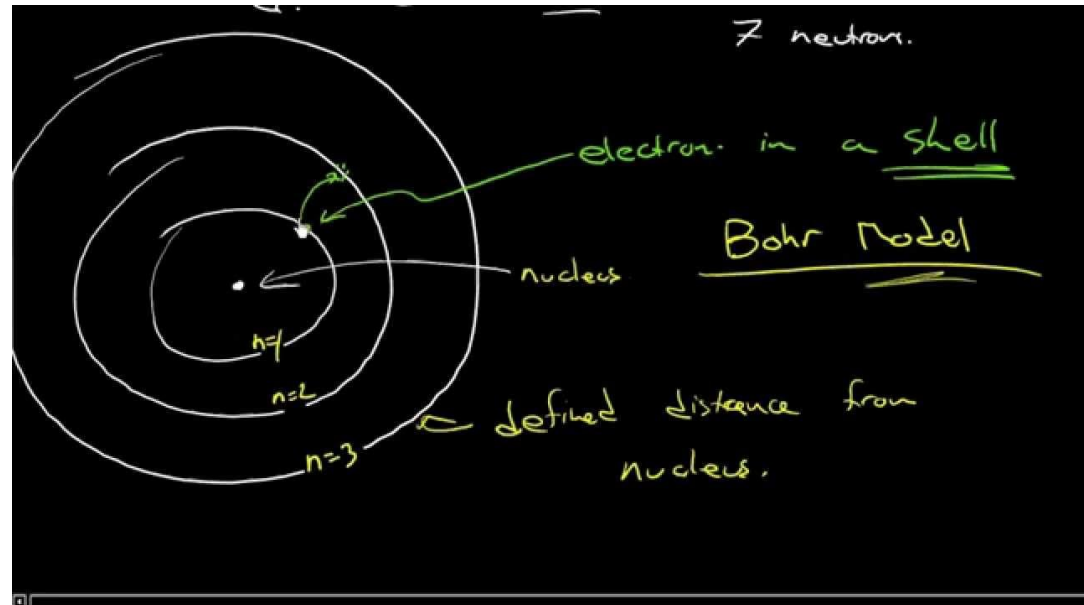
PHASES OF **CREATIVITY PROCESS**

- Dmitri Mendeleev,
Periodic Table
- Source:
<http://nabreklina-ispraznosti.blogspot.com/2015/10/san-o-benzenu.html>



PHASES OF **CREATIVITY PROCESS**

- Niels Bohr – The structure of atom (dreaming about the Sun)
- Source: Edwina Portocarrero, David Cranor, V. Michael Bove: Pillow-Talk: Seamless Interface for Dream Priming Recalling and Playback



PHASES OF **CREATIVITY PROCESS**

- Paul McCartney – Yesterday (Music/Melody of the song)
- For more than a year, the song was called “scrambled eggs.” The placeholder lyrics were absurd: “Scrambled eggs. Oh my baby how I love your legs.”
- Source: <https://medium.com/getting-art-done/yesterday-came-to-paul-mccartney-in-a-dream-was-it-a-creative-miracle-79839cb303fe>



“Yesterday” came to Paul McCartney in a dream. Was it a creative miracle?

What hope is there for you to write a hit?



David Kadavy [Follow](#)

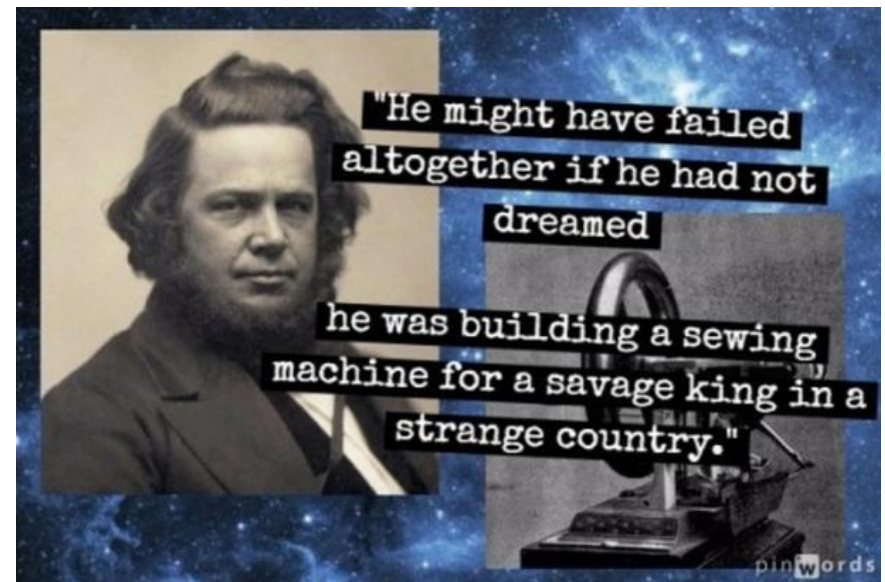
Apr 16, 2018 · 8 min read

“Yesterday” has been called the greatest song of the 20th century—some have even called it the greatest song of all time. It is one of the most-covered songs, and one of the highest-earning songs ever.

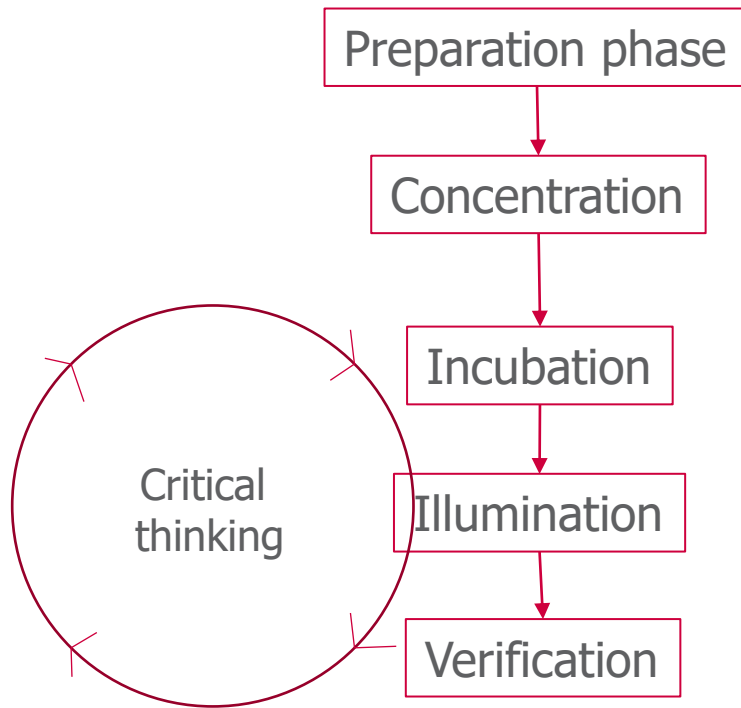
The melody to “Yesterday” came to Paul McCartney in a dream. He woke up

PHASES OF **CREATIVITY PROCESS**

- Elias Howe – Sewing machine (needlework)
- “He jumped out of bed, ran to his workshop, and by 9, a needle with an eye at the point had been rudely modeled. After that it was easy.”
- Source:
https://www.archive.org/stream/bemishistorygene00drap/bemishistorygene00drap_djvu.txt

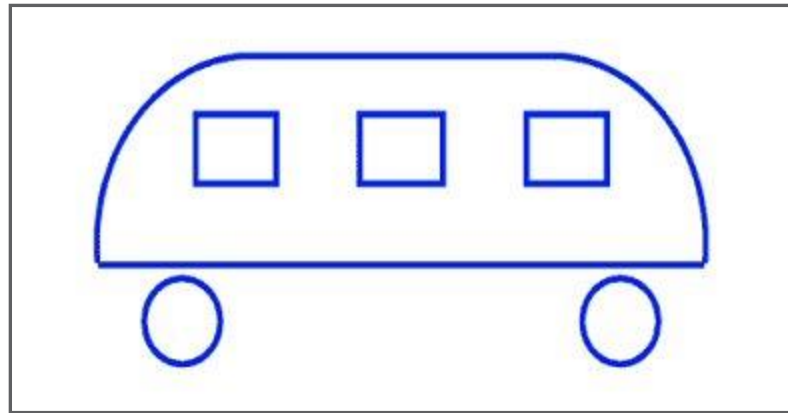


CREATIVITY AND CRITICAL THINKING



Generally speaking, creativity is associated with generating ideas, while critical thinking is associated with judging them.

CREATIVITY AND **CRITICAL THINKING**

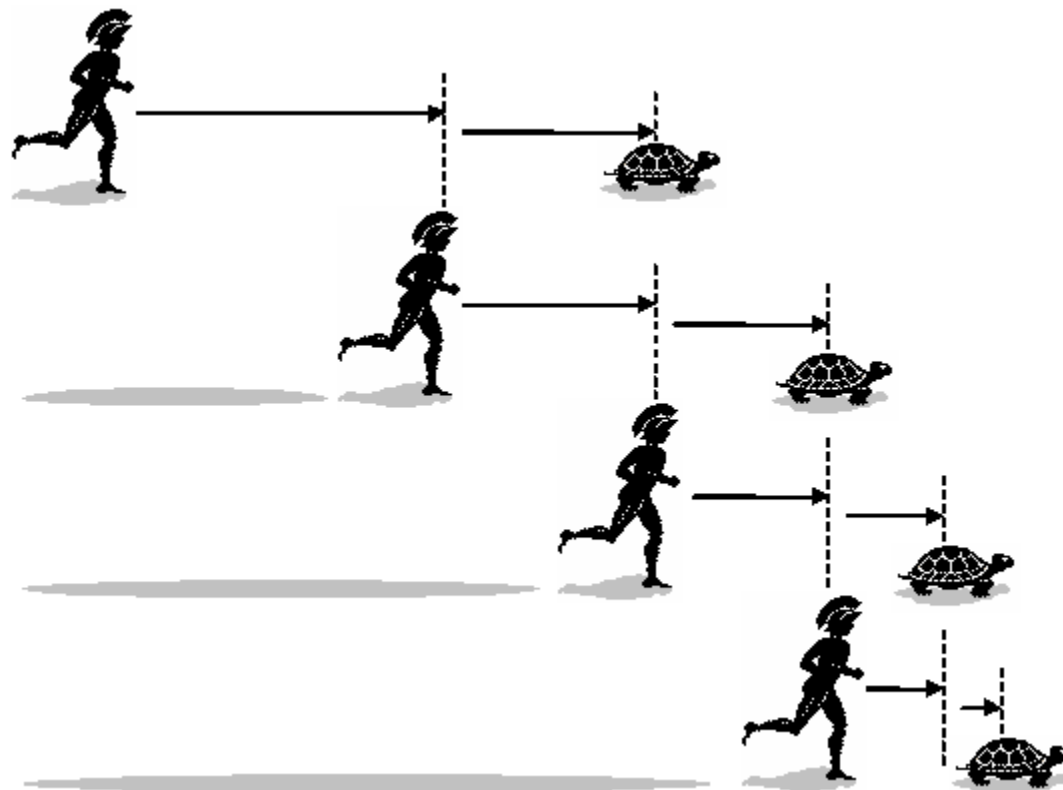


In which direction does the bus go?

- Left,
- Right,
- Impossible to determine.

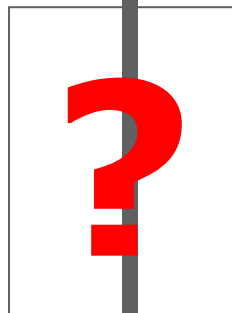
CREATIVITY AND **CRITICAL THINKING**

Greek philosopher Zenon: **Achilles** (a hero of the Trojan War) **cannot ever pass the turtle which has advantage of 10 feet even if it is 10 times faster than the turtle**



CREATIVITY AND **CRITICAL THINKING**

- Room 1: 3 switches; Room 2: 3 light bulbs
- Can we determine which switch corresponds to which bulb if we can pass the other room only once?



CREATIVITY AND **CRITICAL THINKING**



- How to measure 4 L?



CREATIVITY AND **CRITICAL THINKING**

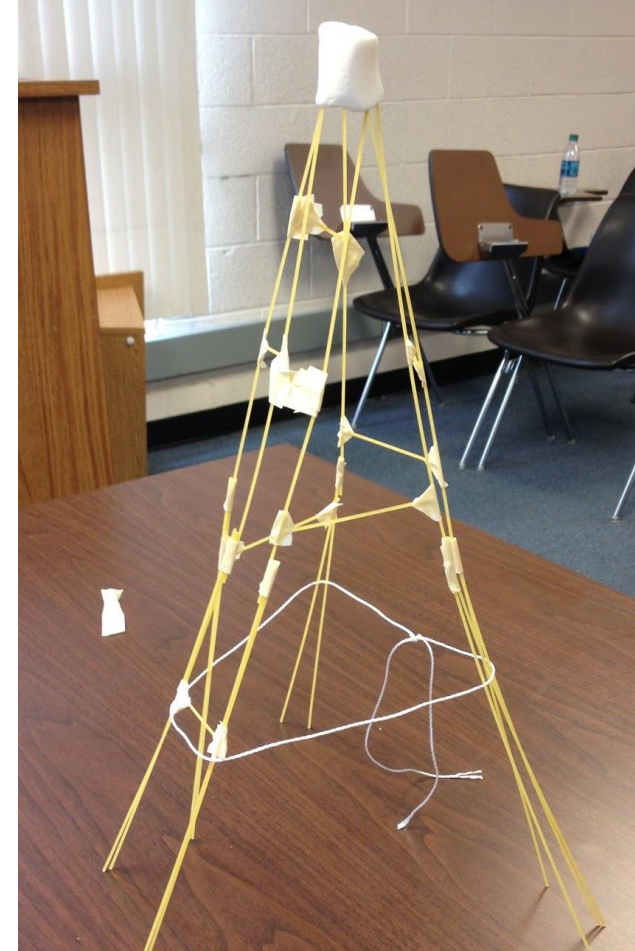
Brick is weighted 1 kilo and a half of brick

How many kilos does the brick weight?

- 1 kg
- 1.5 kg
- 1.25 kg
- 1.75 kg
- 2 kg
- 2.5 kg
- 3 kg

THE MARSHMALLOW CHALLENGE

- 4 students in group
- each team get the tape, string, spaghetti, and marshmallow
- Each team has 18 minutes to build the tallest, free-standing structure using the materials supplied to each group. The marshmallow must be attached to the top of the structure you build. After 18 minutes, I will measure the height of each structure that remains standing with the marshmallow on top. The winner is the team whose free-standing structure is the tallest.



20:00

THE MARSHMALLOW **CHALLENGE**

