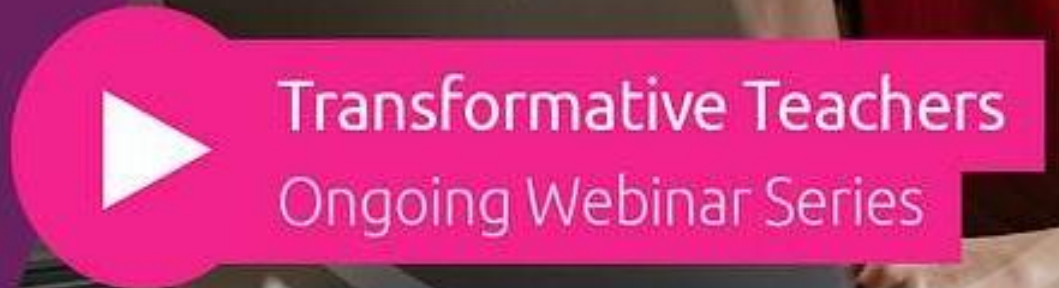


What can neuroscience offer to educators?

Presented by: Emilia Pittelli



Transformative Teachers
Ongoing Webinar Series

Overview

- ▶ 3 “keys” to learning

Key 1: The brain

Key 2: May I have your attention, please?

Key 3: Hands on!

- ▶ Recapping
- ▶ Questions



2) Attention

3) Tips & Ideas

1) The brain

3 keys to learning

Challenge:

- Metacognition
- Reflection
- Invitation



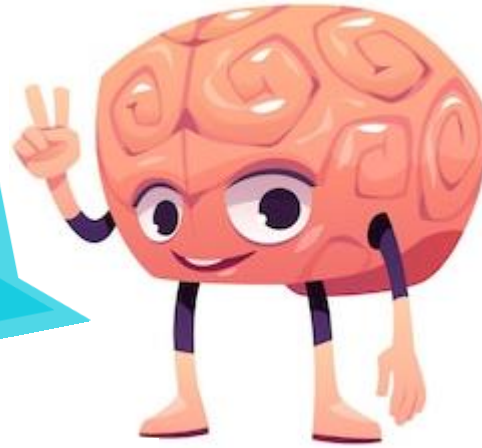
Key 1

The biology
of the brain





Same brain!



YOUR BRAIN

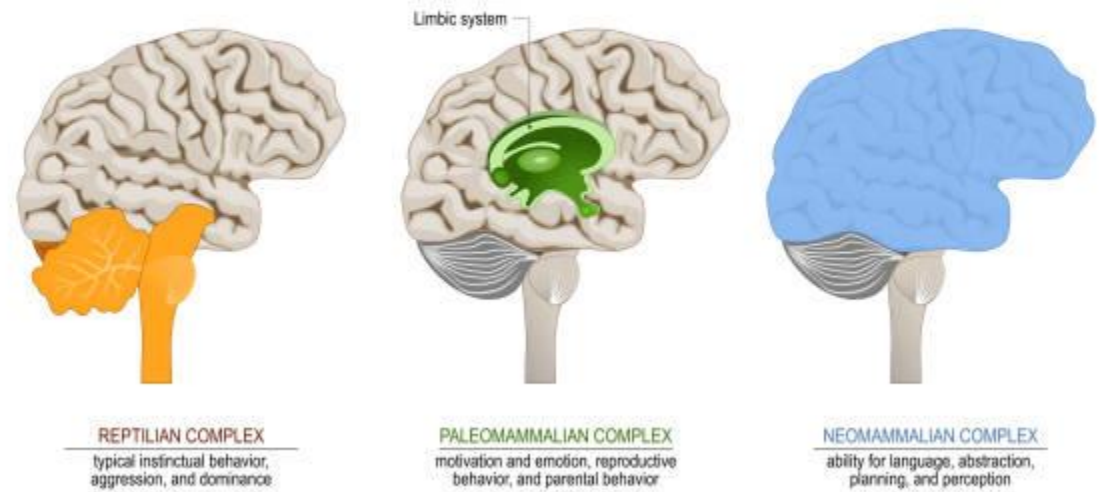
○ THE NEW BRAIN
RATIONAL

● THE MIDDLE BRAIN
EMOTIONAL

● THE REPTILIAN BRAIN
INSTINCTUAL



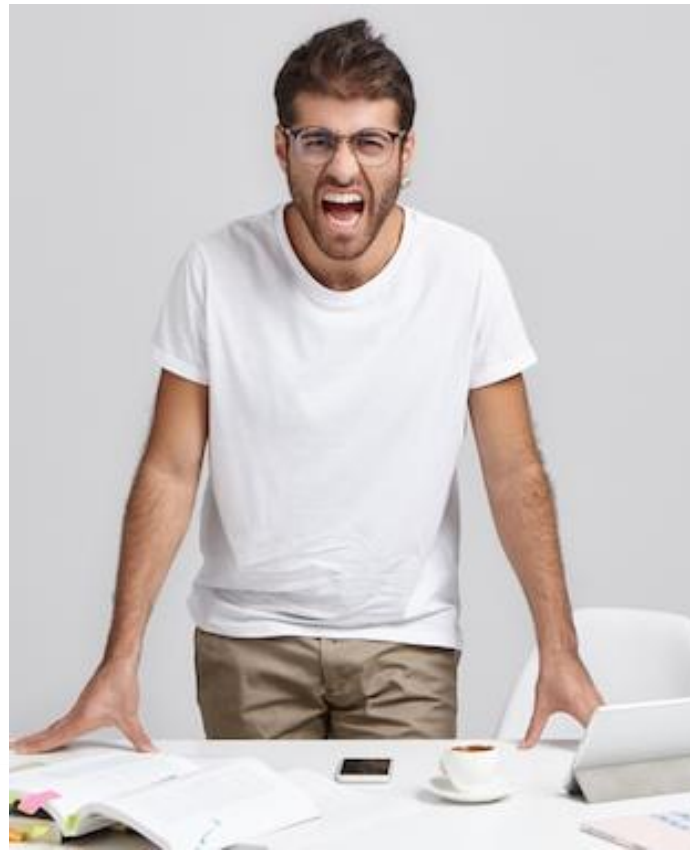
The triune brain hypothesis





REPTILIAN COMPLEX
typical instinctual behavior,
aggression, and dominance

- ▶ This is the **Instinctive brain** It's the FIRST FILTER through senses
- ▶ Main function: SURVIVAL
- ▶ UNCONSCIOUS response
- ▶ Is this useful for my survival?
- ▶ Connect content (most of the times compulsory) to their everyday lives





“I feel safe, so I can *open up the door* to a higher portion of my brain”

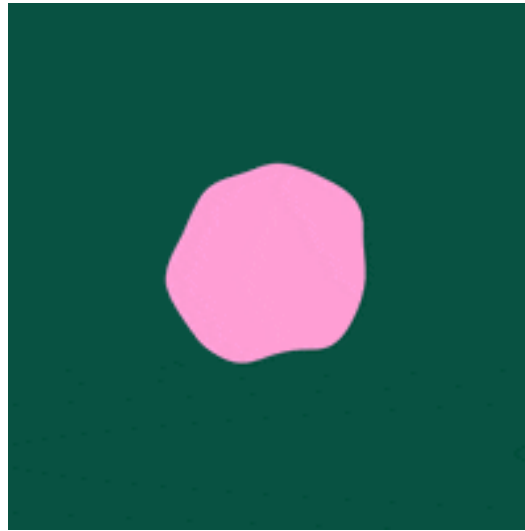
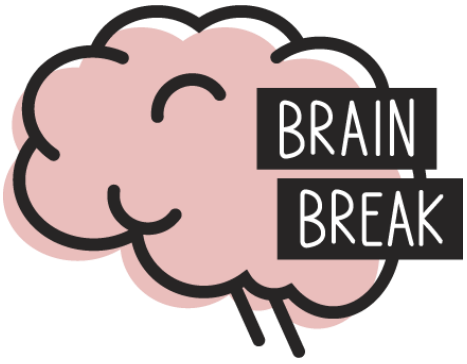




PALEOMAMMALIAN COMPLEX
motivation and emotion, reproductive
behavior, and parental behavior

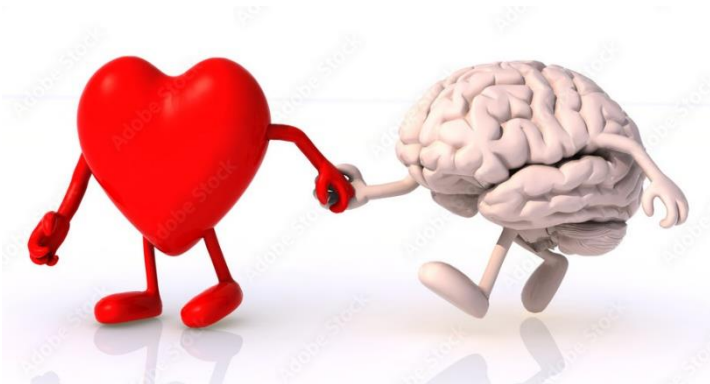
- ▶ This is the **EMOTIONAL BRAIN**
- ▶ Main function: to process EMOTIONS
- ▶ What's the function of emotions? HOMEOSTASIS (vital signs stable, oxygen, glucose, etc.)
- ▶ EVOLUTION "HIT" – **Who is more likely to go out and get some food?**





Let's go back in time...

1. What is the best memory you have as a student?
2. What is the worst memory you have as a student?



=






Key 2

May I have your
attention, please?

attention noun

 Save Word

at·ten·tion | \ ə-ˈten(t)-shən , sense 4 often (ə-), ten(ch)-ˈhət \

Definition of *attention*

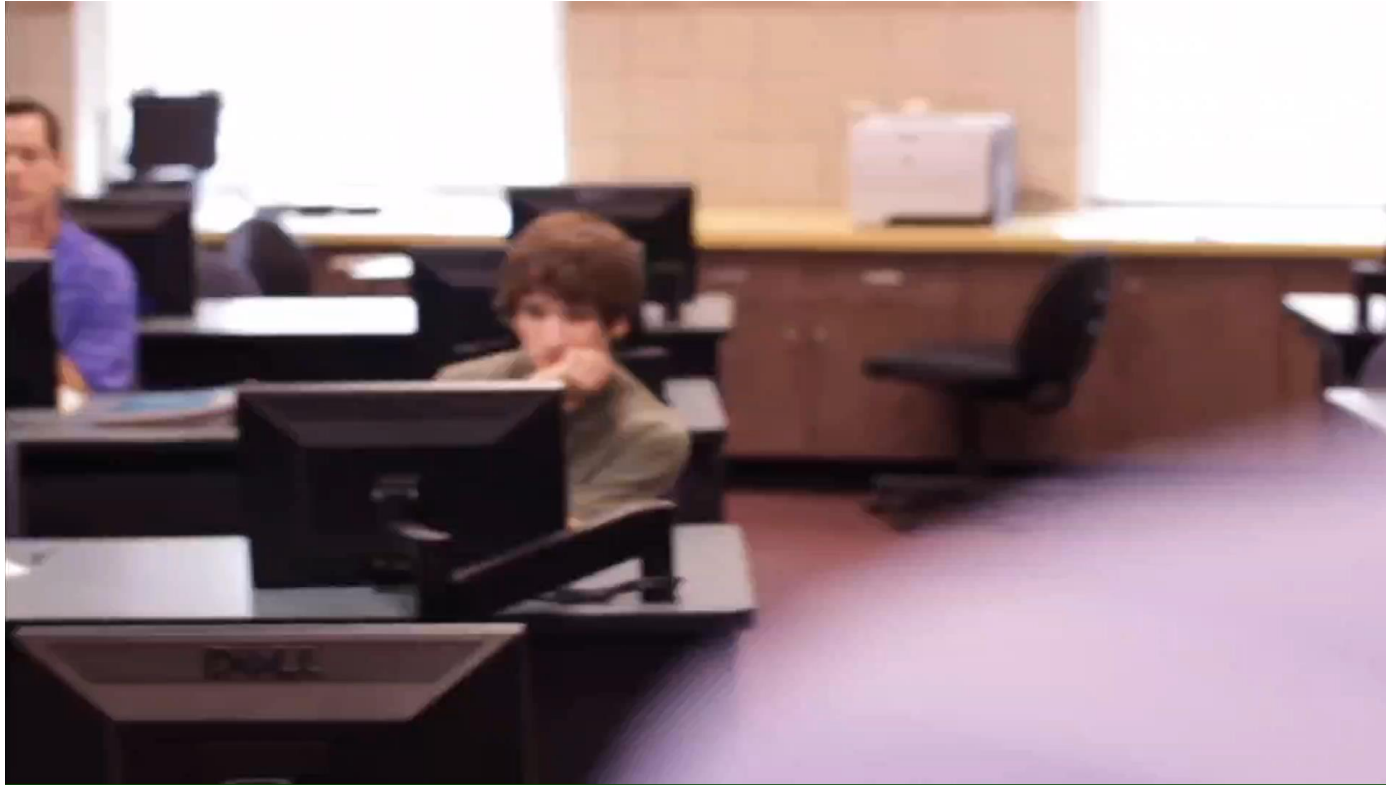
- 1 a : the act or state of applying the mind to something
// Our *attention* was on the game.
// You should **pay attention** to what she says.



Diagnosis: Why?

- Are they tired?
- Is this relevant?
- Is it too difficult/too easy?
- Is the atmosphere appropriate?
- Is this boring?





- Monotonous voice
- Not engaging
- Not relevant for students
- Distraction from computers

TOO MUCH TEXT.

Stocks tumbled Tuesday -- with the Nasdaq taking a pounding -- as the political standoff in Washington continued and the partial government shutdown stretched into its eighth day.

The Dow Jones industrial average fell 159.71 points, or 1.1%, to 14,776.53 and the Standard & Poor's 500 index dropped 20.67 points, or 1.2% to 1,655.45. It was the 11th loss in the last 14 days, and the S&P 500's biggest drop in six weeks.

The Nasdaq composite plunged 75.54 points, or 2%, to 3,694.83.

Anxiety over an Oct. 17 deadline to raise the nation's debt ceiling is starting to eat away at investor sentiment as compromise in Washington remains absent, says Pat Adams, a portfolio manager at Choice Investment Management.

- Aside from the theatrics in Washington, investors will also be paying close attention Tuesday to the unofficial start of the third-quarter earnings season.
- After the closing bell, aluminum maker Alcoa and fast-foot chain Yum Brands will report.
- Analysts are expecting companies in the S&P 500 to grow their earnings 4.3% vs. the same quarter a year ago.

On Saturday, he signed several such bills, most prominently legislation stopping local law officers from detaining immigrants and transferring them to federal authorities unless they have committed certain serious crimes. And he agreed in August to let non-citizens monitor polls for elections.

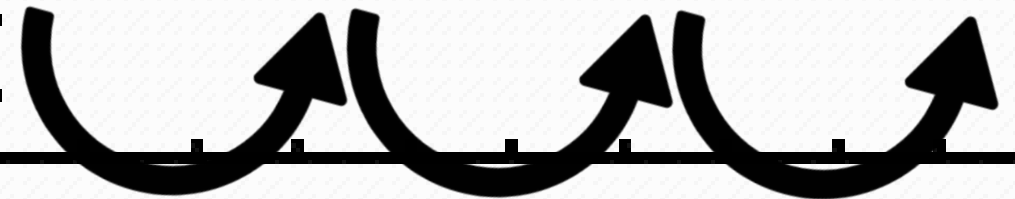
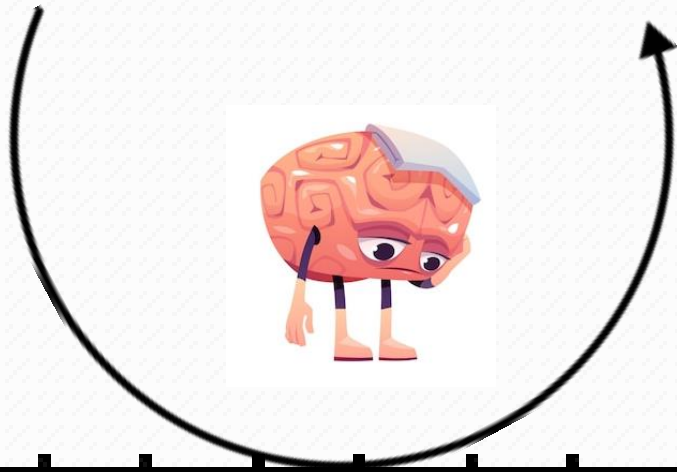
Some legal scholars had said that the measure raised profound questions about what rights and responsibilities belonged to citizens alone, and a number of newspapers published editorials urging the governor to veto the bill after the Democratic-controlled Legislature passed it, with most Republicans opposing it.

BEM Principle

Beginning

End

Middle

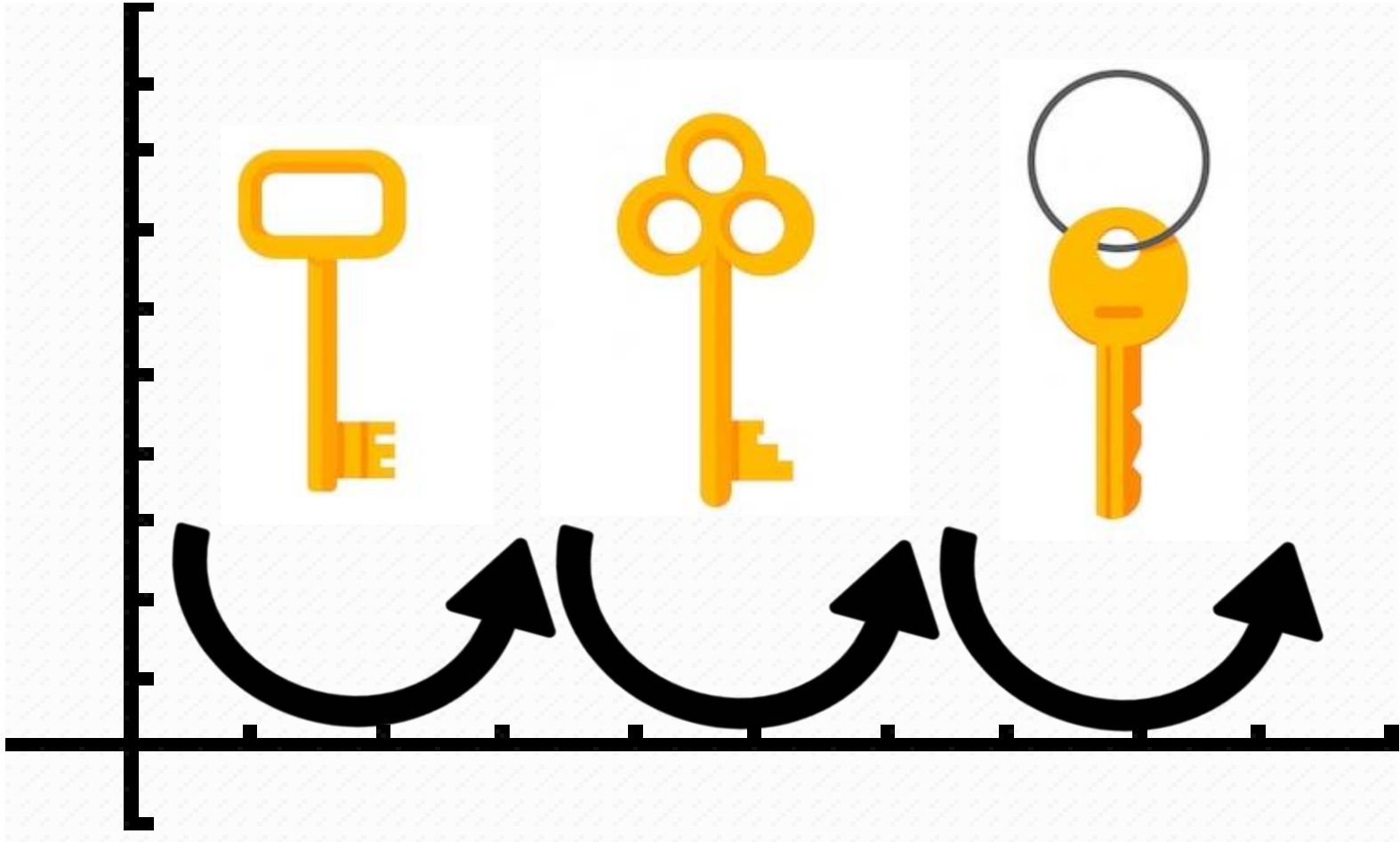


Brain Breaks

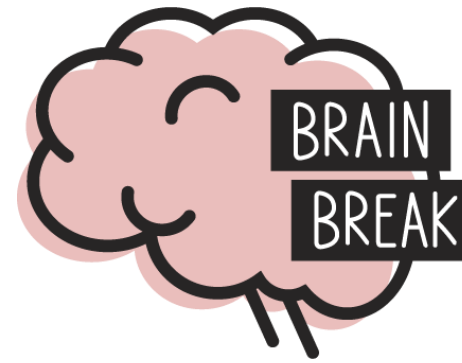
WHY brain breaks will help students...

1. They will become more efficient
2. Activating their brains will help them boost a positive attitude.
3. They will relieve stress.
4. New creative ideas will come after brain breaks.
5. Breaks help enjoy the learning process





¡Estas son
las 10 canciones
más felices
del mundo!



Follow up activity:

What are the top 5 songs that make you feel good?

Create a list on Spotify compiling all songs – *"3rd B Feels good!"*





Key 3

Hands on!



MEMORY

- Extremely strong neuron activation
 - Repetition
- Involve emotions (chemicals)



How do you go through these two “filters” to get to the neo cortex?

01

PERSONAL

- Survival
- What’s in it for me?

02

CONTRAST

- Speed up the process of the message
- Time consumes energy /Faster is always better
- By saving time the brain saves energy!

03

MEMORABLE

- enough Info,
but not too much

04

VISUAL

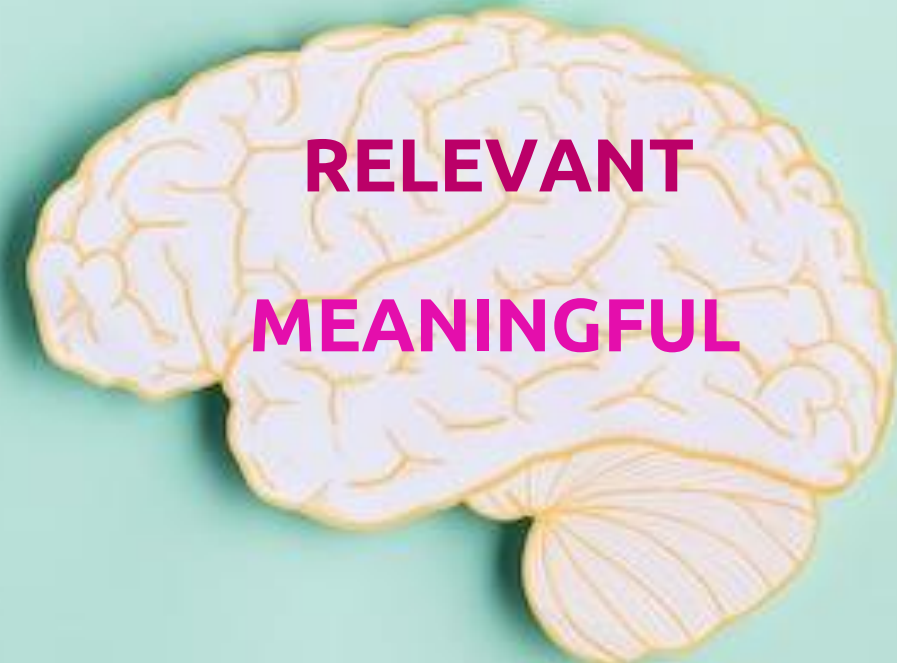
- Dominant sense
- Connected to student’s
life – more relevant

05

EMOTION

- Motivation
- Tangible memory

What if Twitter Existed Throughout Human History?





GALILEO GALILEI

@ItalianAstronomer

I'm not gonna lie fam, I've been doing some research, and it turns out the sun is the center of the solar system



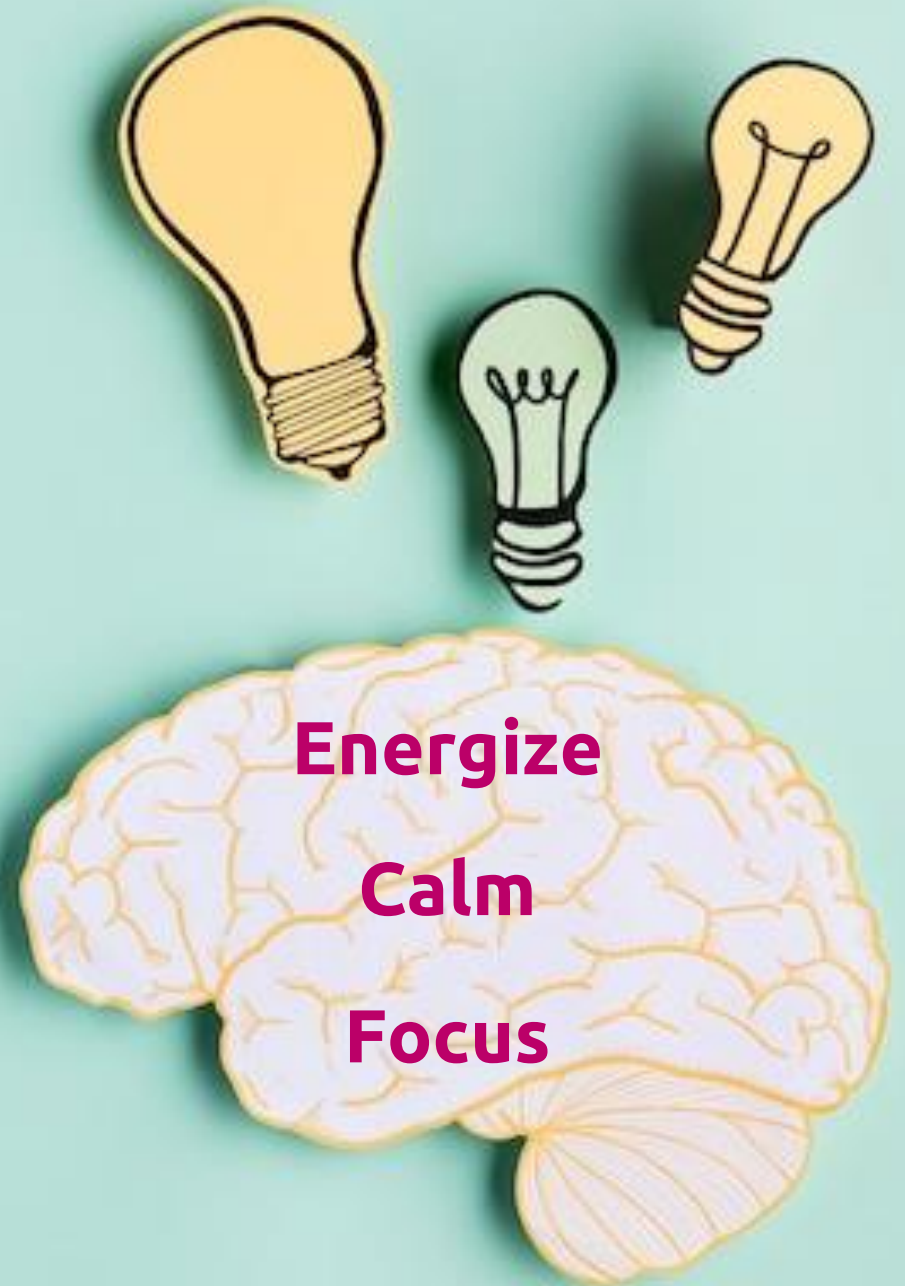
Learn more about how European experts agree on the Geocentric Model. Trust the science. Listen to the experts

2:00 PM • 1632 A.C. • Twitter from Rome



Brain Breaks: Examples with BEM

Not all brain breaks are created equal. They should be responsive to the students.



MIDDLES

Energize

To help students **wake up** after they have been sitting for too long.

- MUSIC (Musical chairs, Freeze, Plates, Dance like..., Zumba)
- SIMON SAYS
- LINE UP!
- HUMAN KNOT
- JUMP SKIP COUNTING

Focus

To get everyone back in the **learning and thinking** mindset.

- I Spy...
- Alliteration
- Cloud Gazing
- Riddles
- Tongue twisters

Calm

To bring everyone **back down** after an exciting activity.

- Deep Dive
- Superhero Pose
- Stretch It
- Guided meditation

ENDINGS

- Act it out!
- Jeopardy-style game
- Trivias
- Optimistic closure
- Recapping (Kahoot)





Let's recap!



CONTRAST PERSONAL RELEVANT



C P R





- 3 brains
- Filters
- Safety & emotions



- Attention
- BEM principle



- Memory
- Relevance
- Brain breaks



Questions?



Thank you for attending



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