



Visuals to facilitate understanding

Daniella Luca

Summer School, Brno, July 18-22

We are **visual** **beings**

**90% of the information
we take in every day is
visual**

**We process images
60,000 times faster
than text**



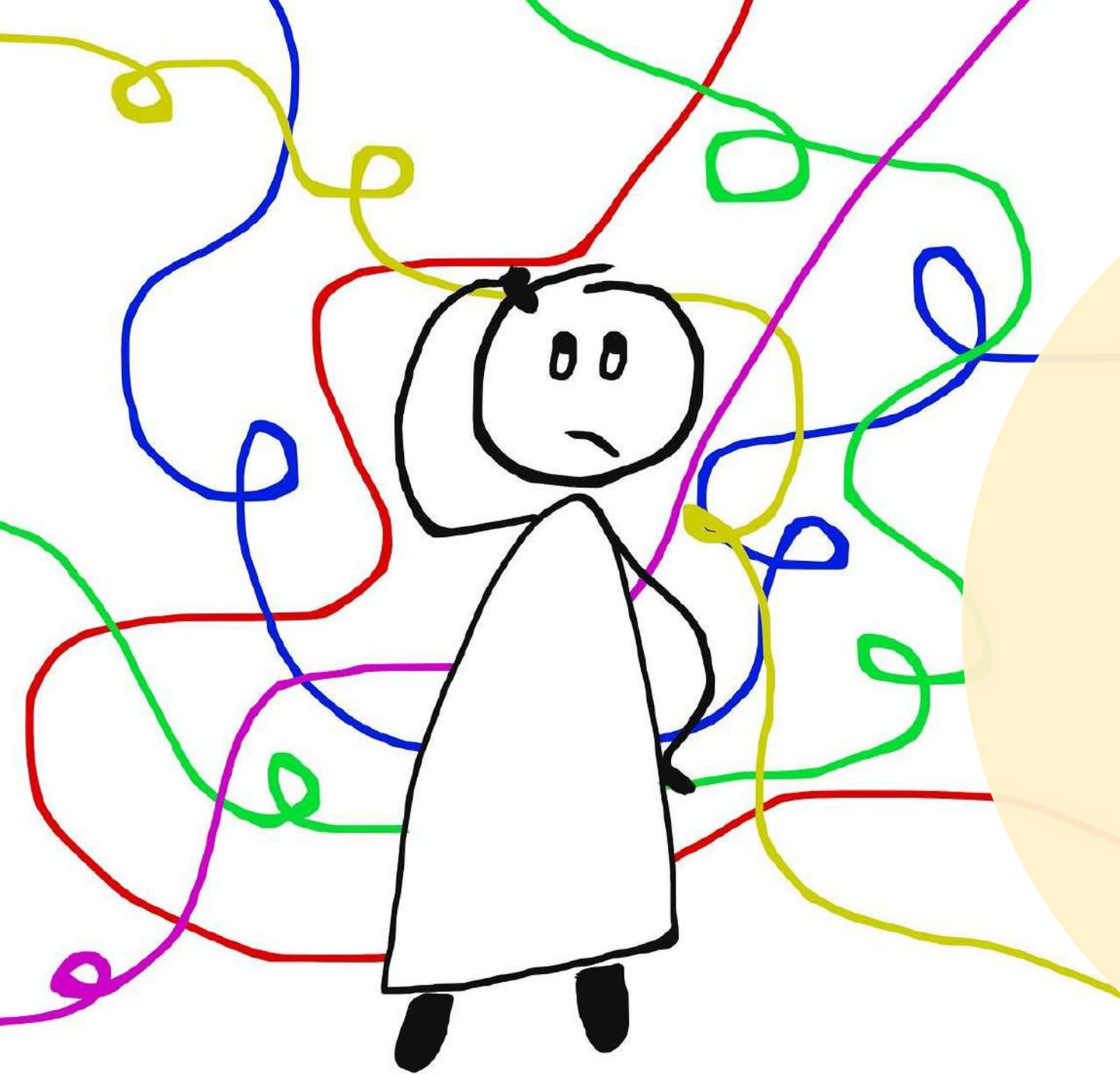


**Emotion
in an
instant**



**Cross
language
barriers**

BUT



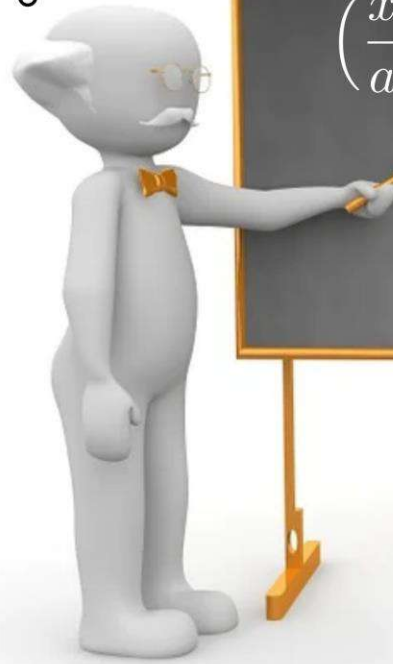
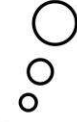
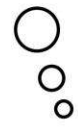
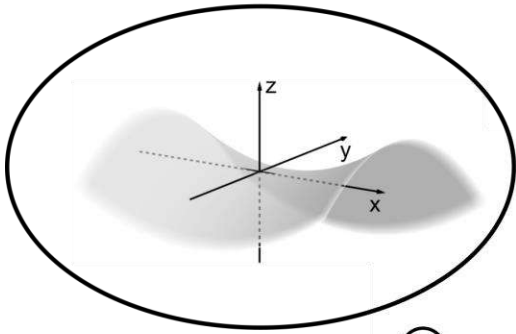
Distracts

Confuses

Takes up space

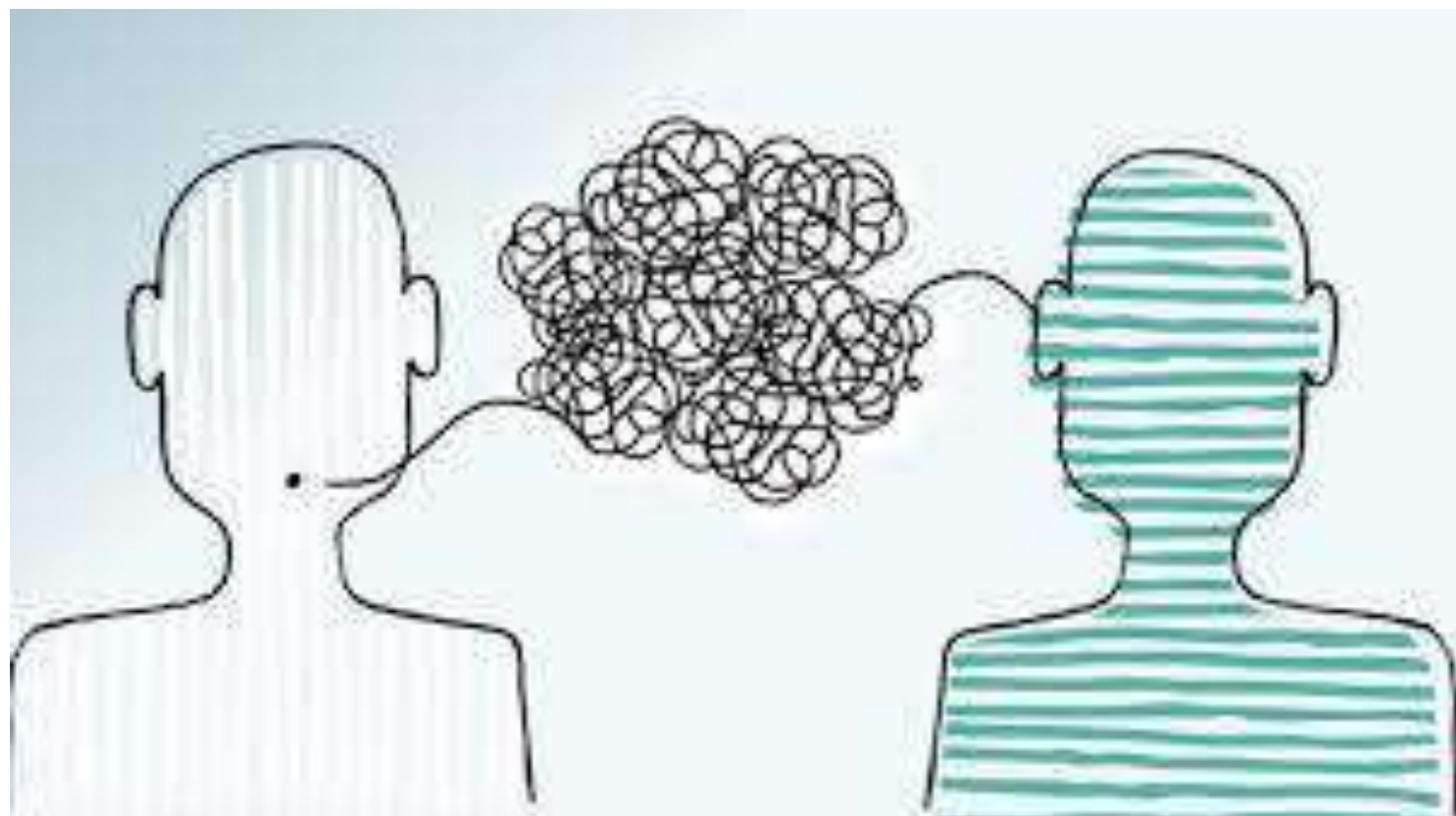
*“The single biggest problem
in communication is the
illusion that it has taken
place”*

George Bernard Shaw



$$\left(\frac{x}{a}\right)^2 - \left(\frac{y}{b}\right)^2 = \frac{z}{c}$$

Saddle point of a
hyperbolic paraboloid





time

culture

mood

experience

education

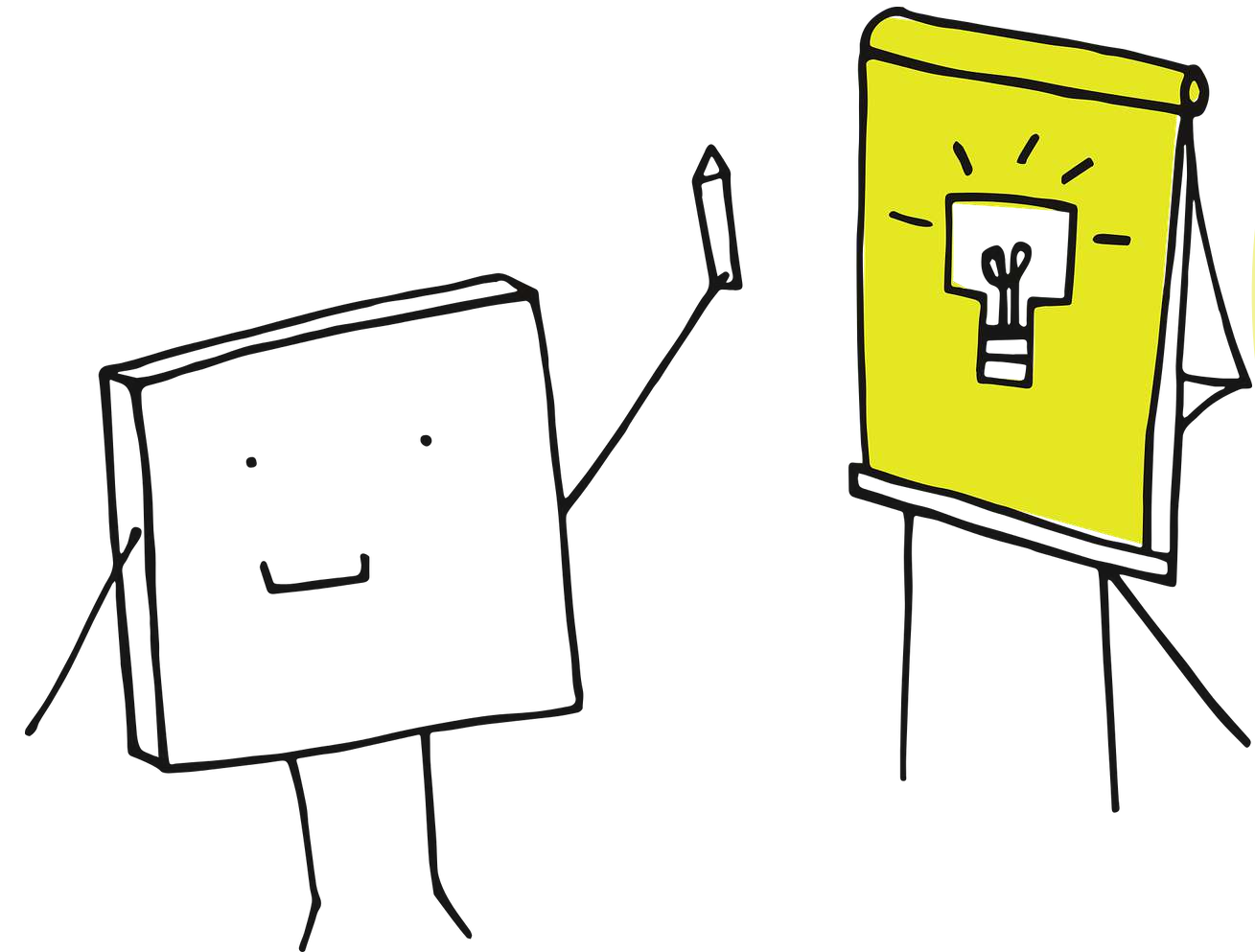
background

age

Blender

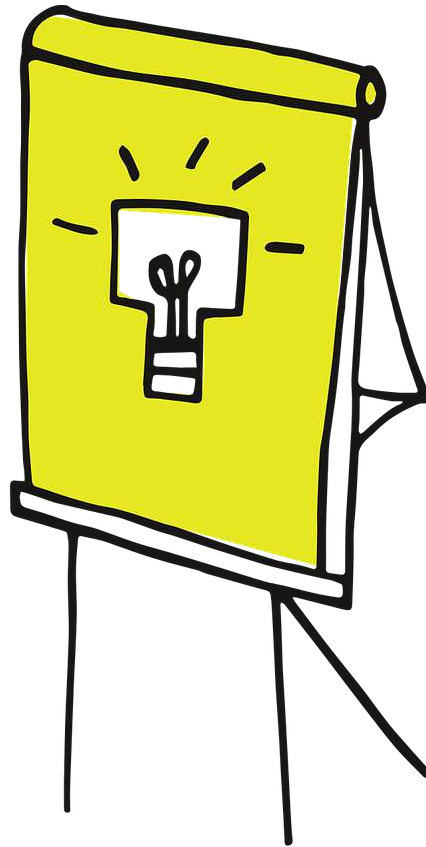
An abstract painting featuring concentric, hand-painted circles in vibrant colors like teal, magenta, and yellow. The brushstrokes are thick and expressive, creating a sense of depth and movement. The overall composition is dynamic and colorful.

**What makes
good graphics?**

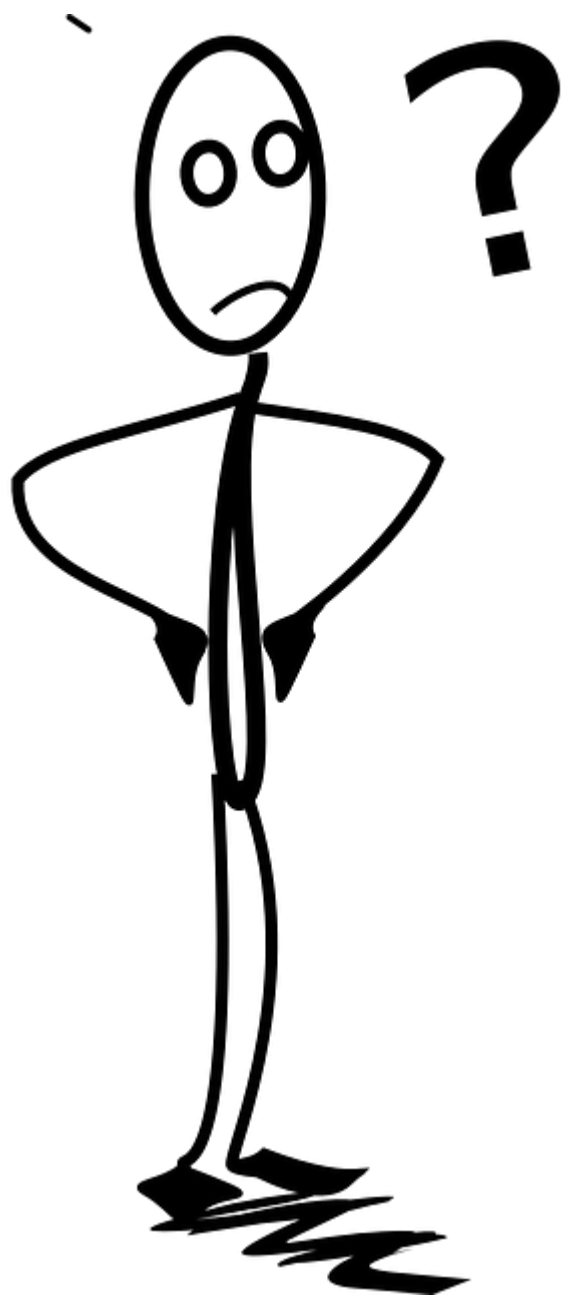


- **Illustrate**
- **Simplify**
- **Clarify**

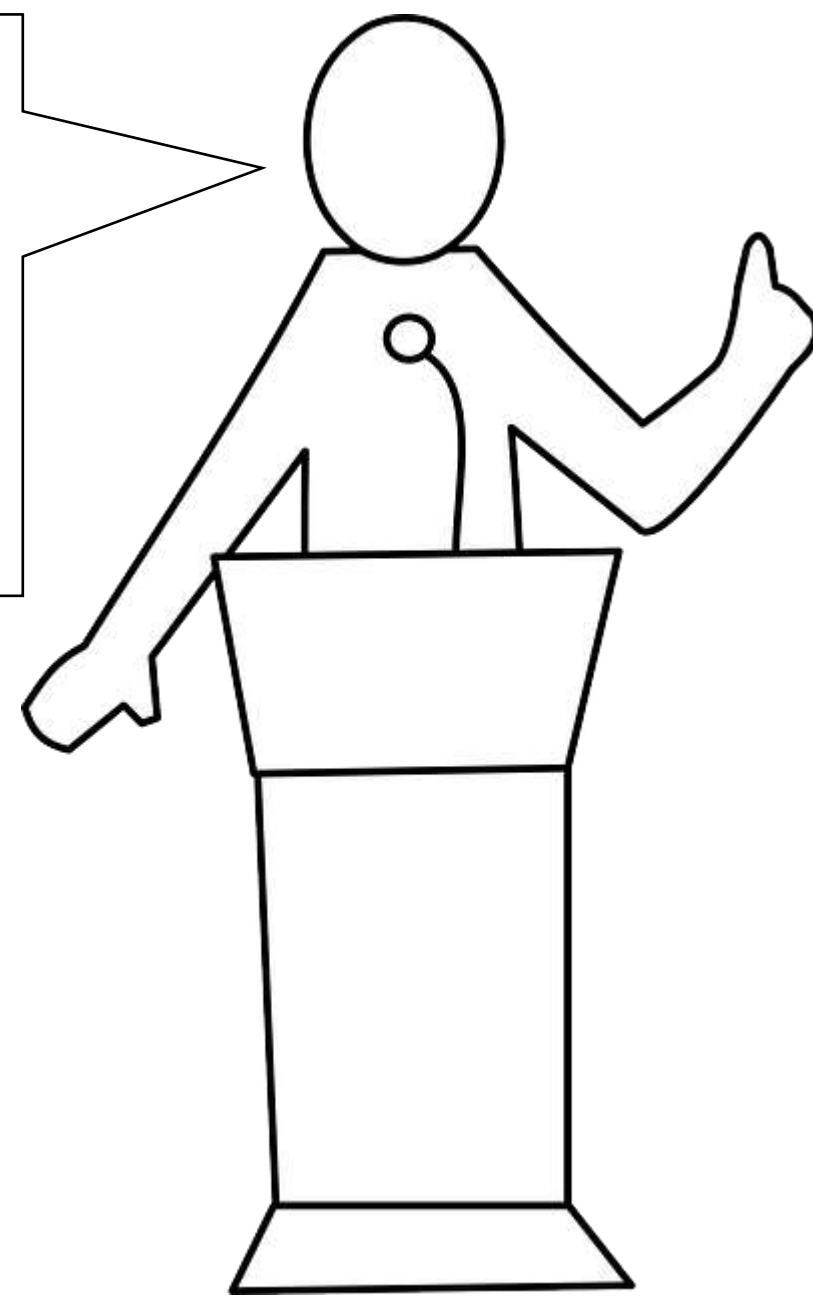
Will my graphics help my audience better understand what I'm saying?



- **Illustrate**
- **Simplify**
- **Clarify**

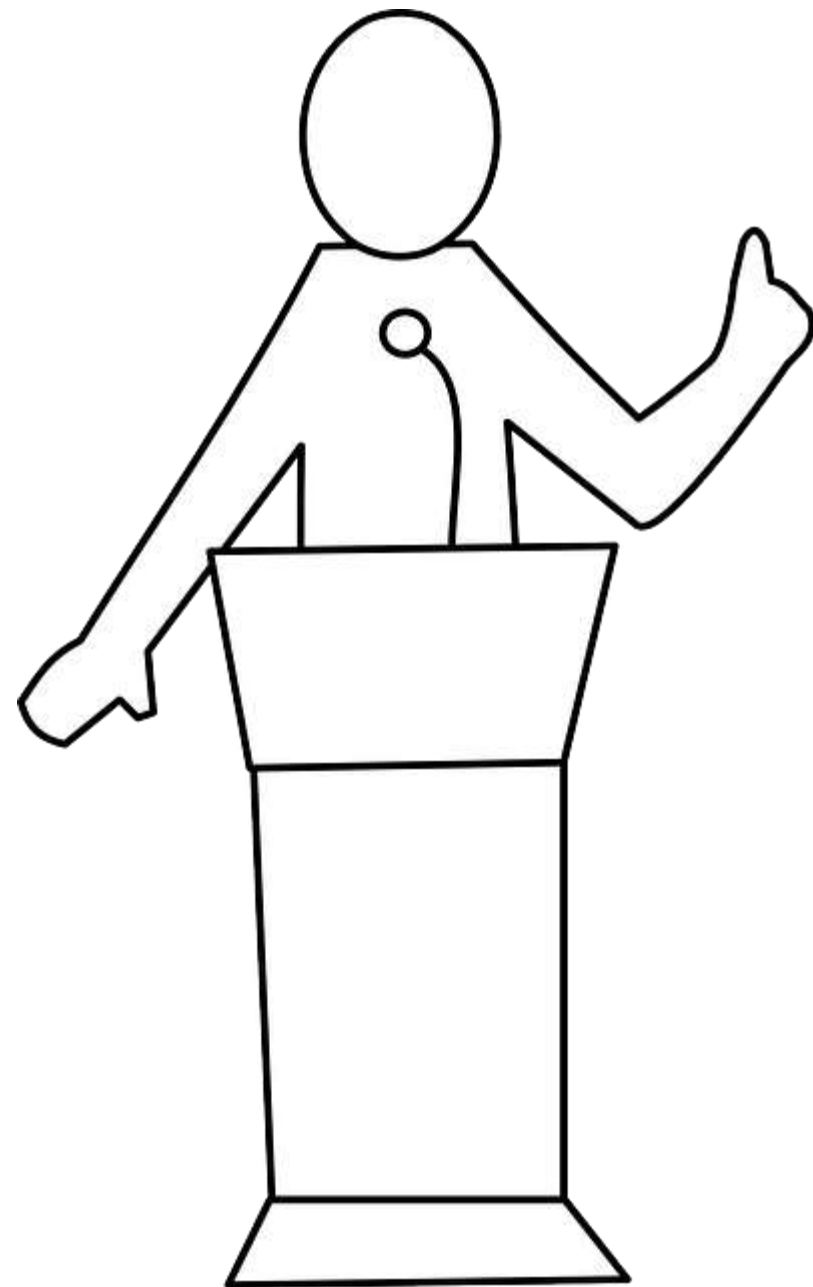


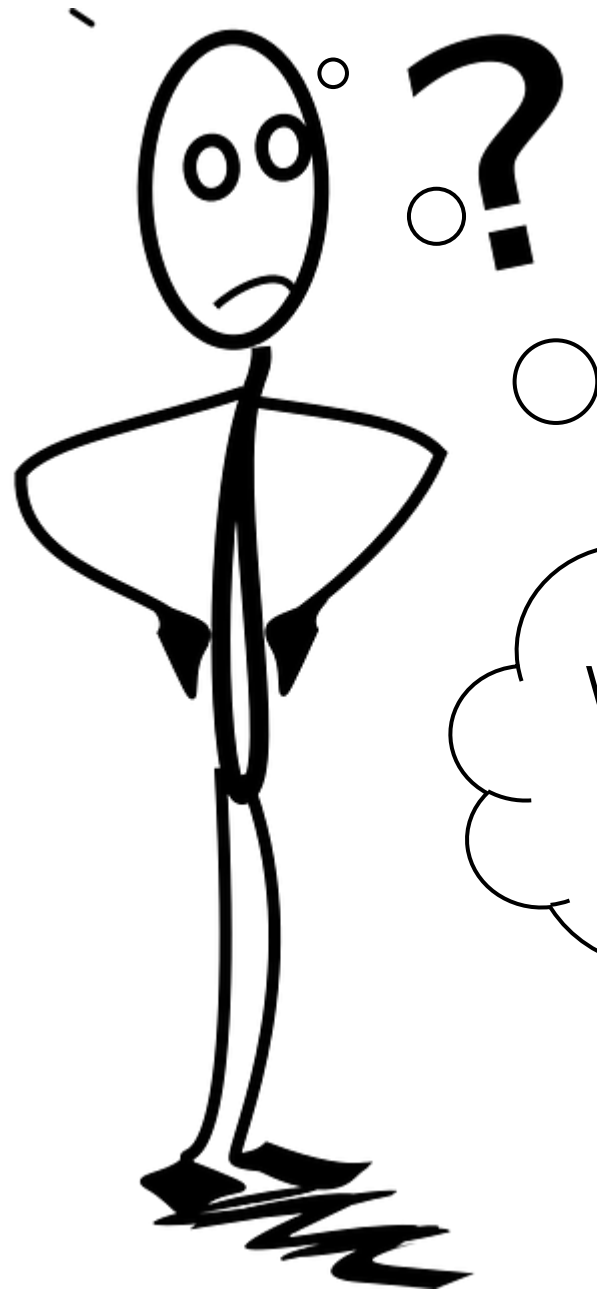
Let's take for
example
Schrödinger





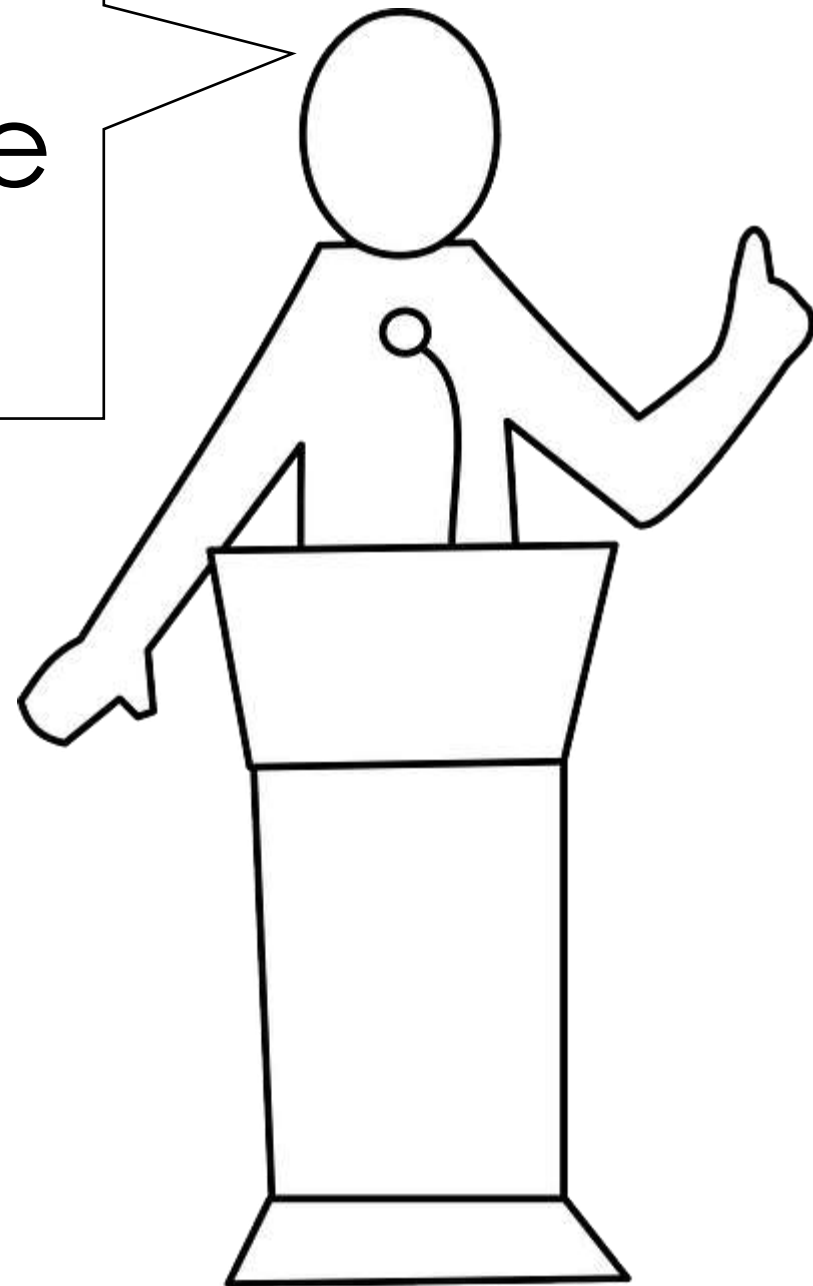
Schrödinger

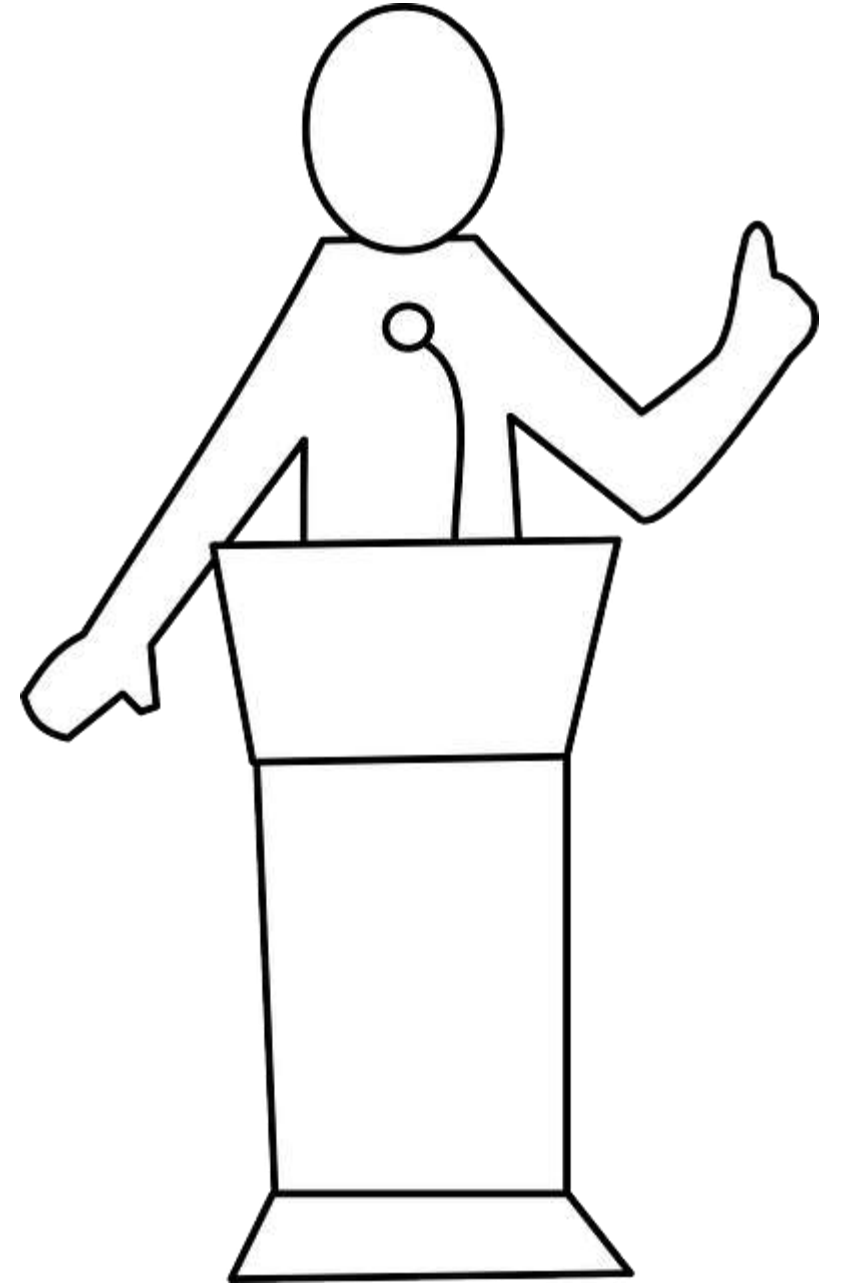
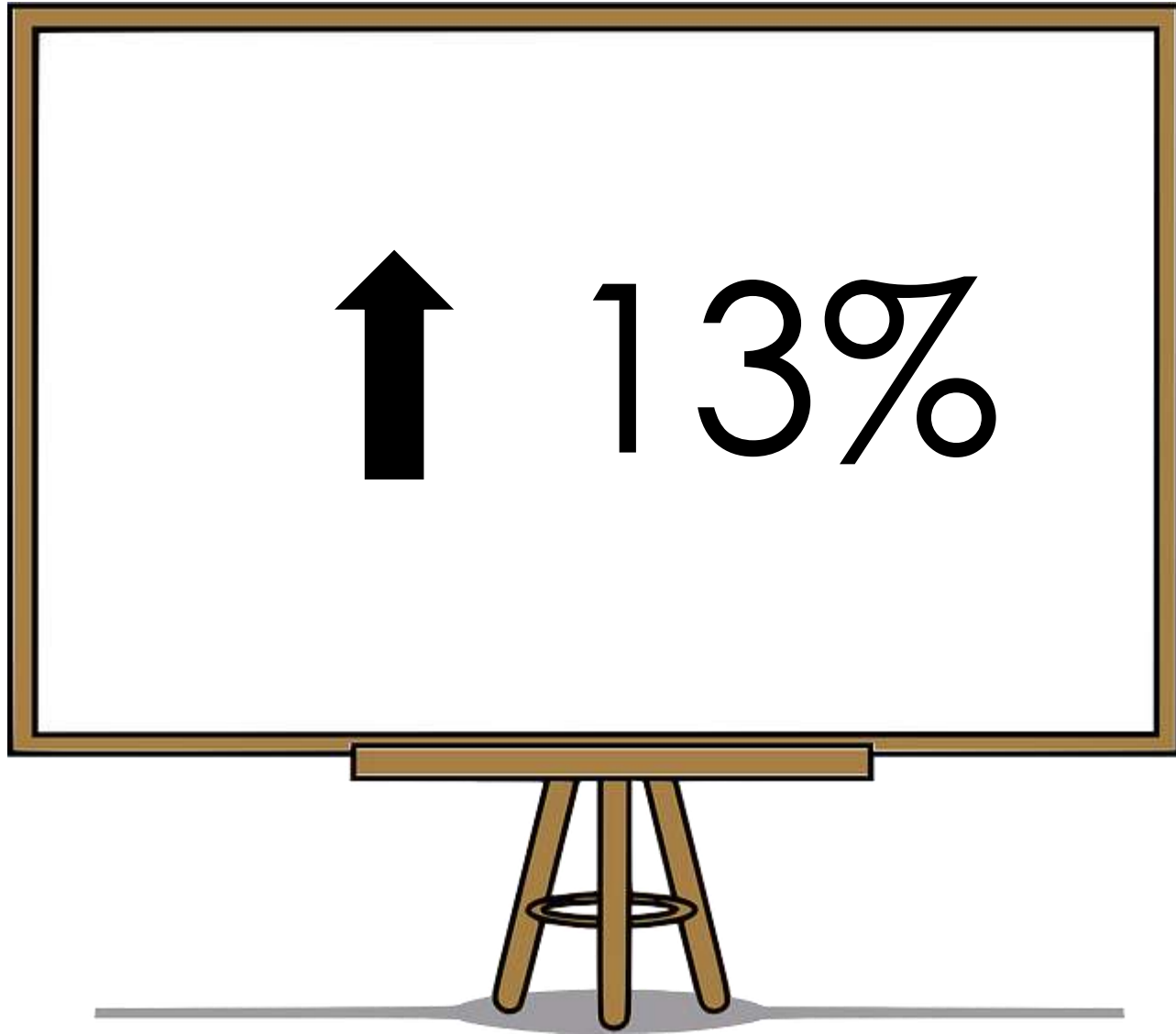




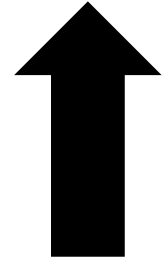
There was
an increase
of 13%

Was that 30
or 13???

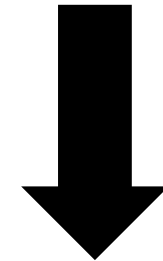




au-dessus



au-dessous



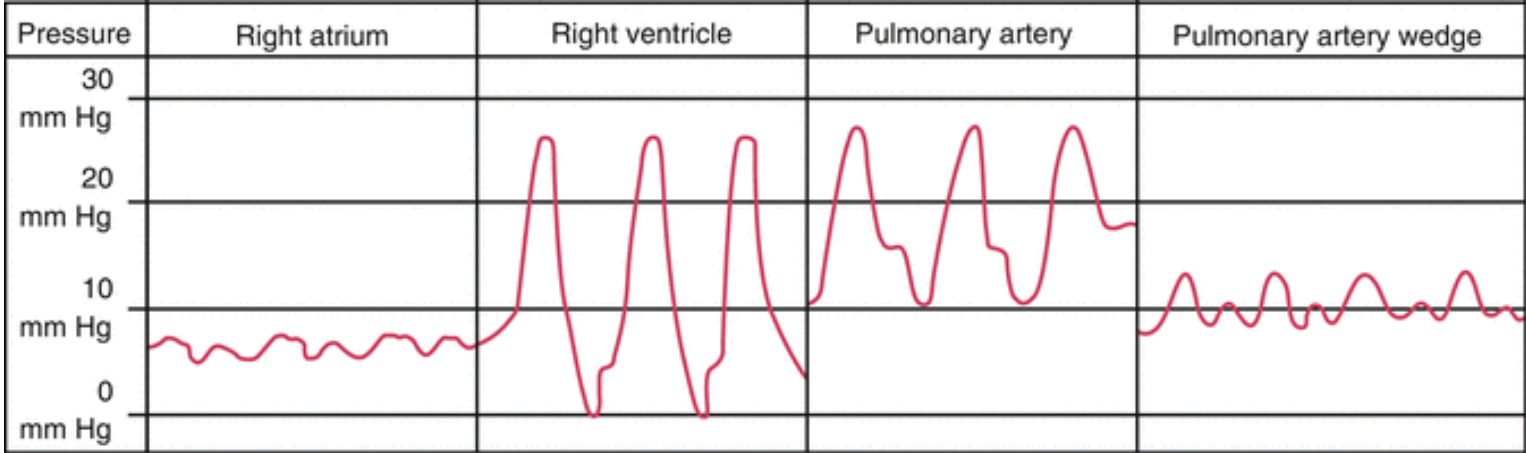
The text on your slide should't be so small that the people in the back of the room cannot read them.

The text on your slide shouldn't be so small that the people in the back of the room cannot read them.

Too small!



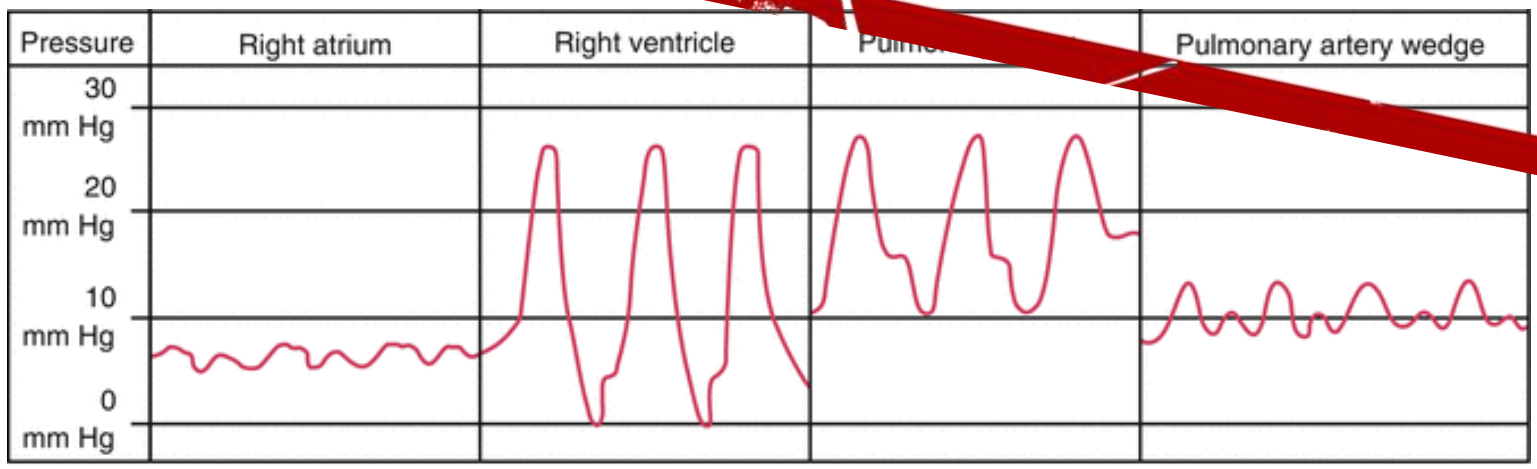
Swan-Ganz (PAC) insertion is like « Surfing through Blood Stream »



Swan-Ganz (PAC) insertion is like « Surfing through Blood Stream »



Distracting, not pertinent



Premiers repères :

CENTRAGE APPRENANT

+ ALIGNEMENT CONSTRUCTIF

Biggs et Tang, Teaching for quality learning at university



1 Objectif d'apprentissage: L'étudiant sera capable de sauter en parachute	3 Stratégie d'évaluation: Sauter en parachute
2 Activités pédagogiques : Lecture sur le parachutisme	

2 OK OK OK Le Parachutisme	Dites... ...c'est pas UN PEU risqué quand même?	3 Mamaaaaaaan 1 billion de KM
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Préservez la vie de nos étudiants
Vérifions notre alignement pédagogique

Premiers repères :

CENTRAGE APPRENANT

+ ALIGNEMENT CONSTRUCTIF

Biggs et Tang, Teaching for quality learning at university



Too busy, not readable



1 Objectif d'apprentissage: L'étudiant sera capable de...

2 Activités pédagogiques : Lecture sur le parachutisme

3 Stratégie d'évaluation: ...

2 Ok Ok Ok

Dites...

3 Mammaaaaaaan

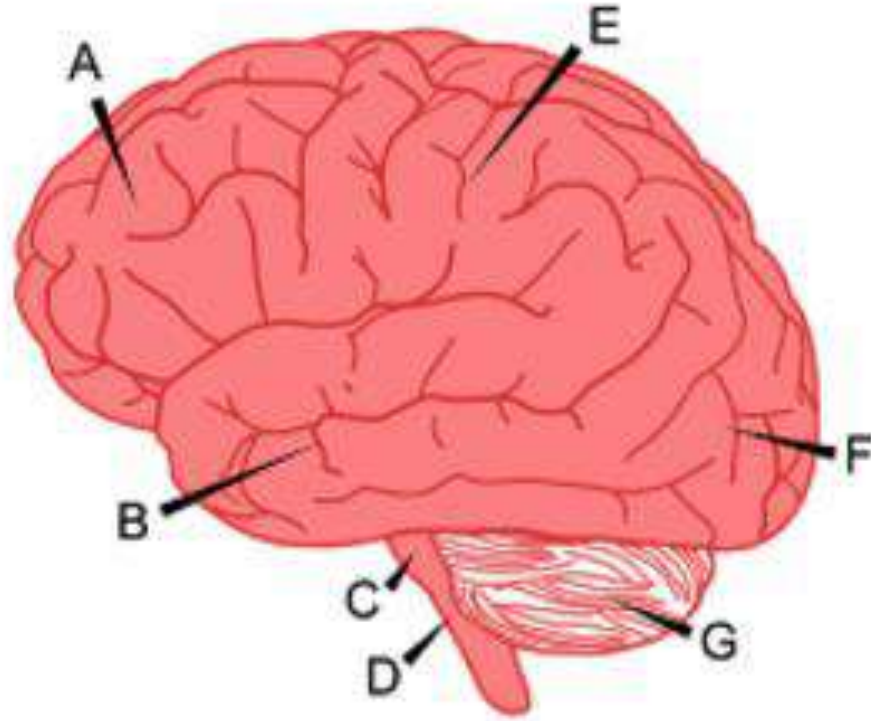
...c'est pas UN PEU risqué quand même?

1 billion de Kw

PhDelirium.com

TIS

Préserveons la vie de nos étudiants
Vérifions notre alignement pédagogique

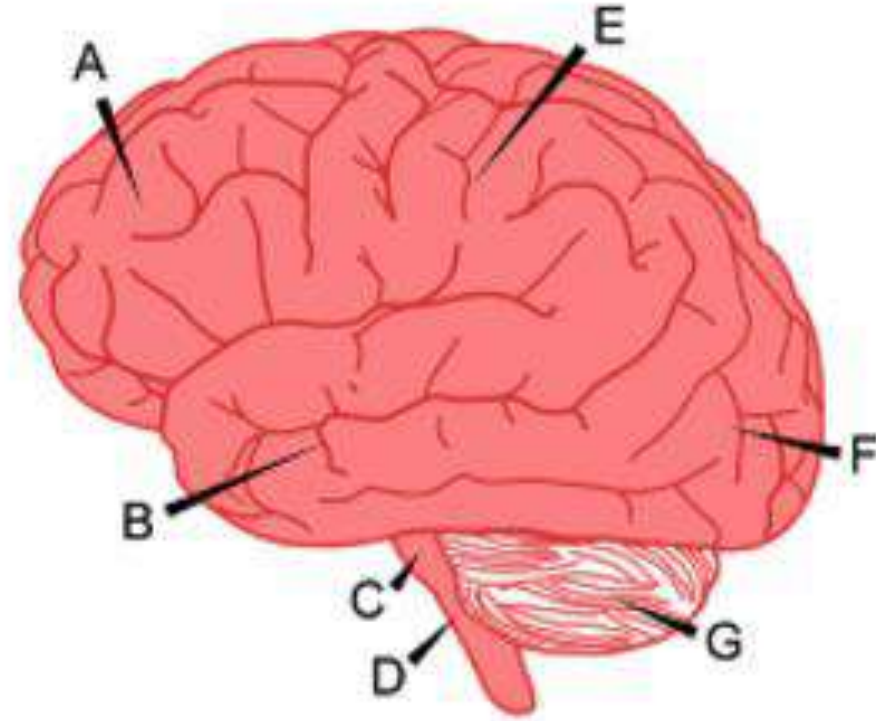


A - Frontal Lobe
B - Temporal Lobe
C - Pons
D - Medulla Oblongata

E - Parietal Lobe
F - Occipital Lobe
G - Cerebellum

One point ✓

Simple and clear ✓



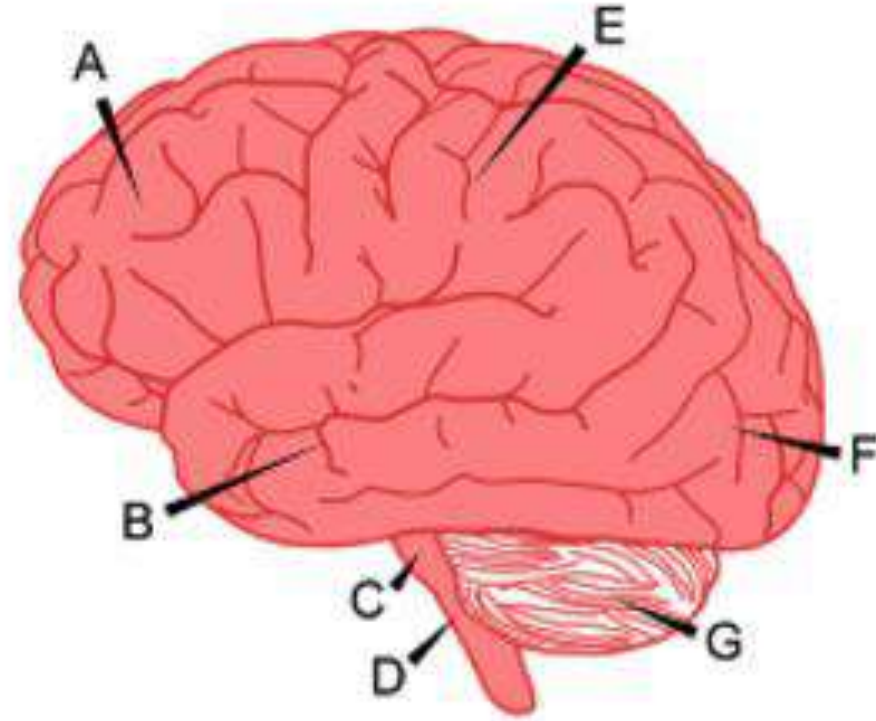
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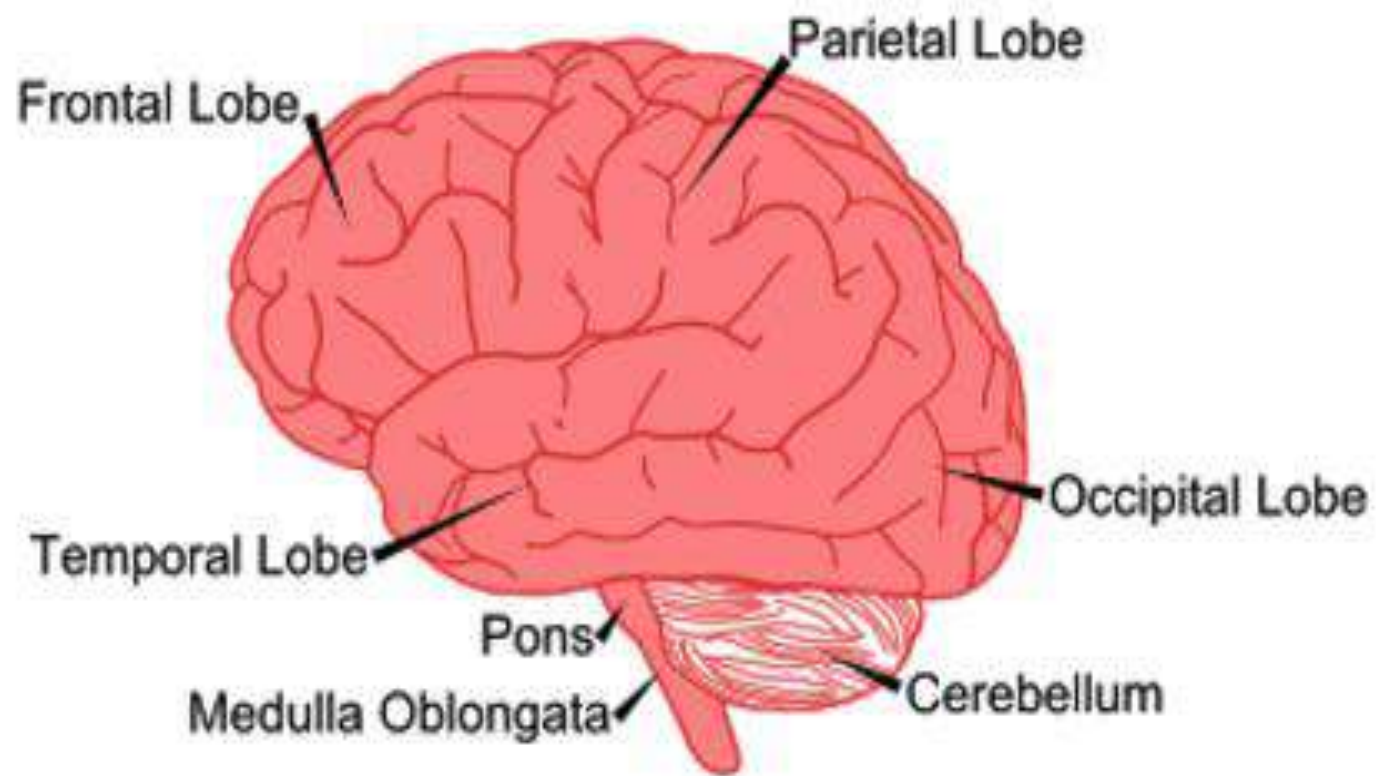
Simple and clear ✓

Wasted processing ✗



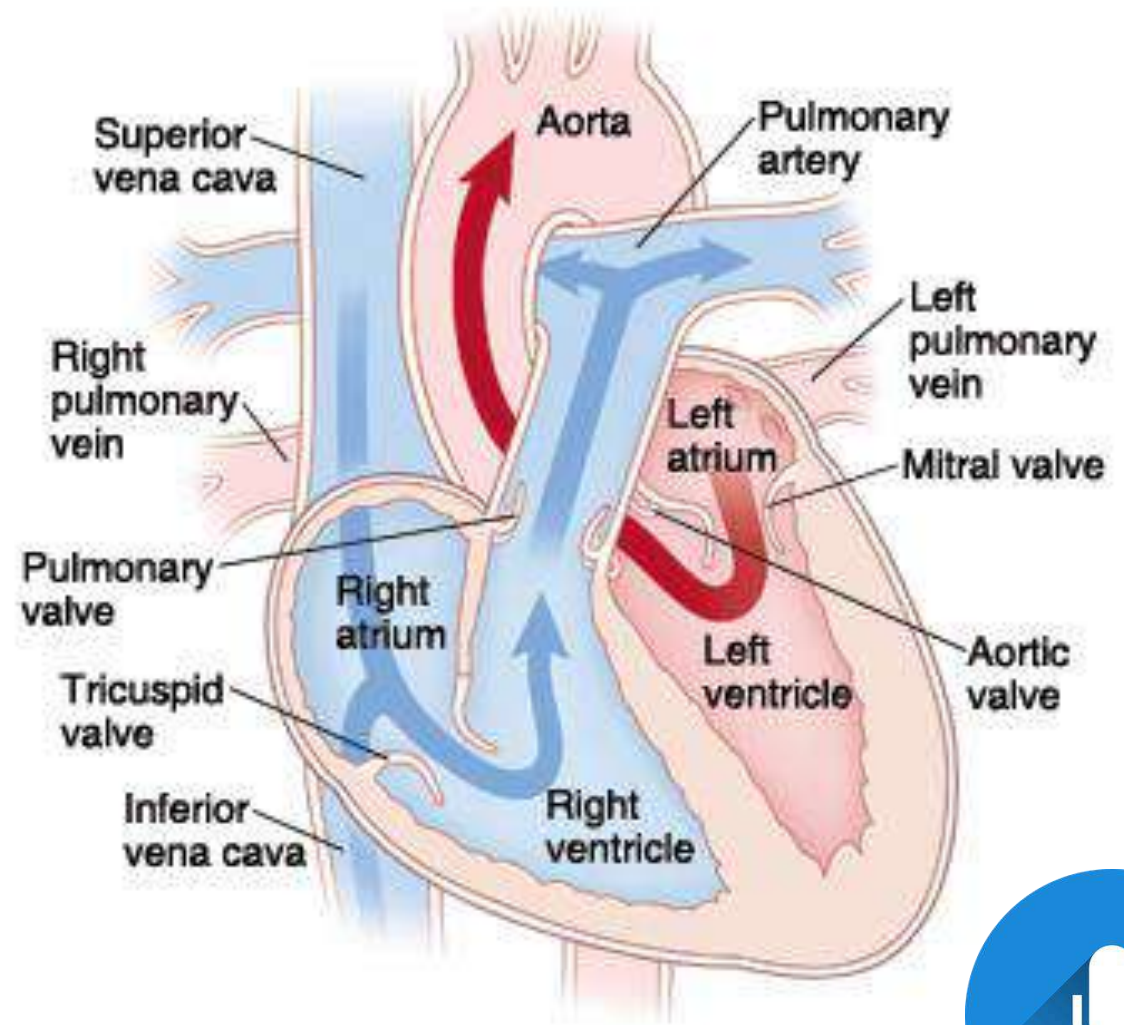
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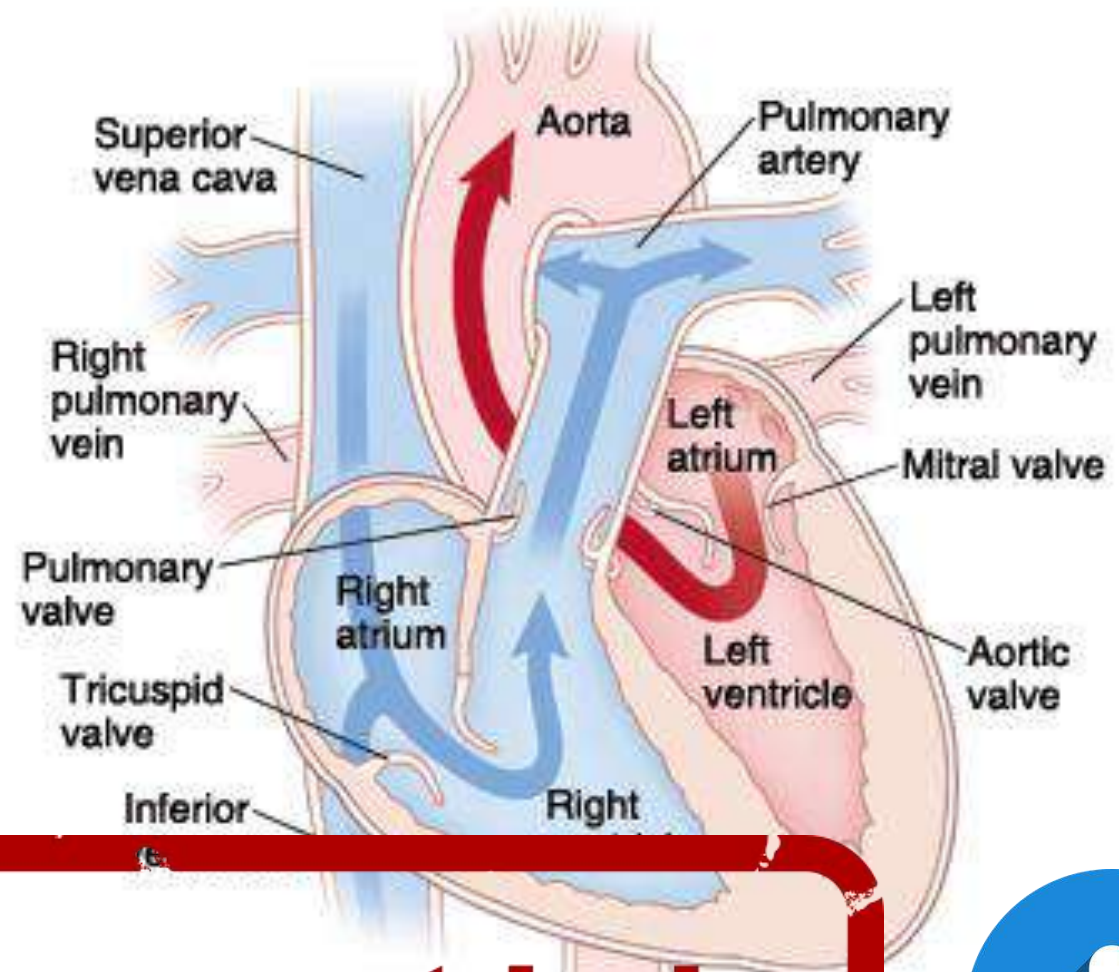
How the heart works

As your heart muscle contracts, it pushes blood through your heart. Your heart pumps blood from its left side, through the aorta (the main artery leaving the heart) and into the arteries. The blood travels through your arteries, which divide off into smaller and smaller blood vessels called capillaries.



How the heart works

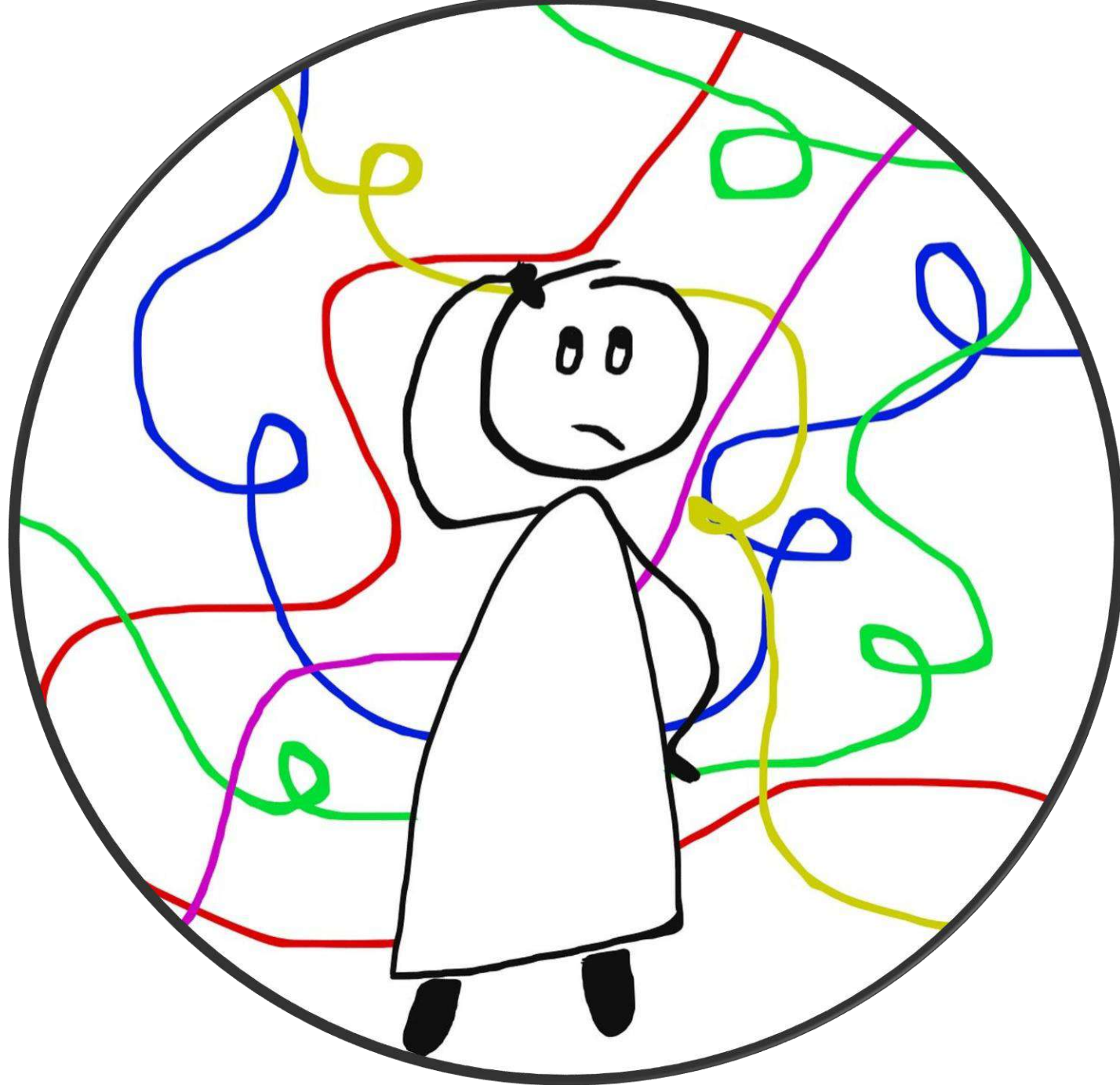
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Redundancy does not help



Minimum amount of text



Keywords or phrases

Signaling principle

1

Signaling principle

1

2

Signaling principle

1

2

3

Signaling principle

1

2

3

4

Signaling principle

1

2

3

4

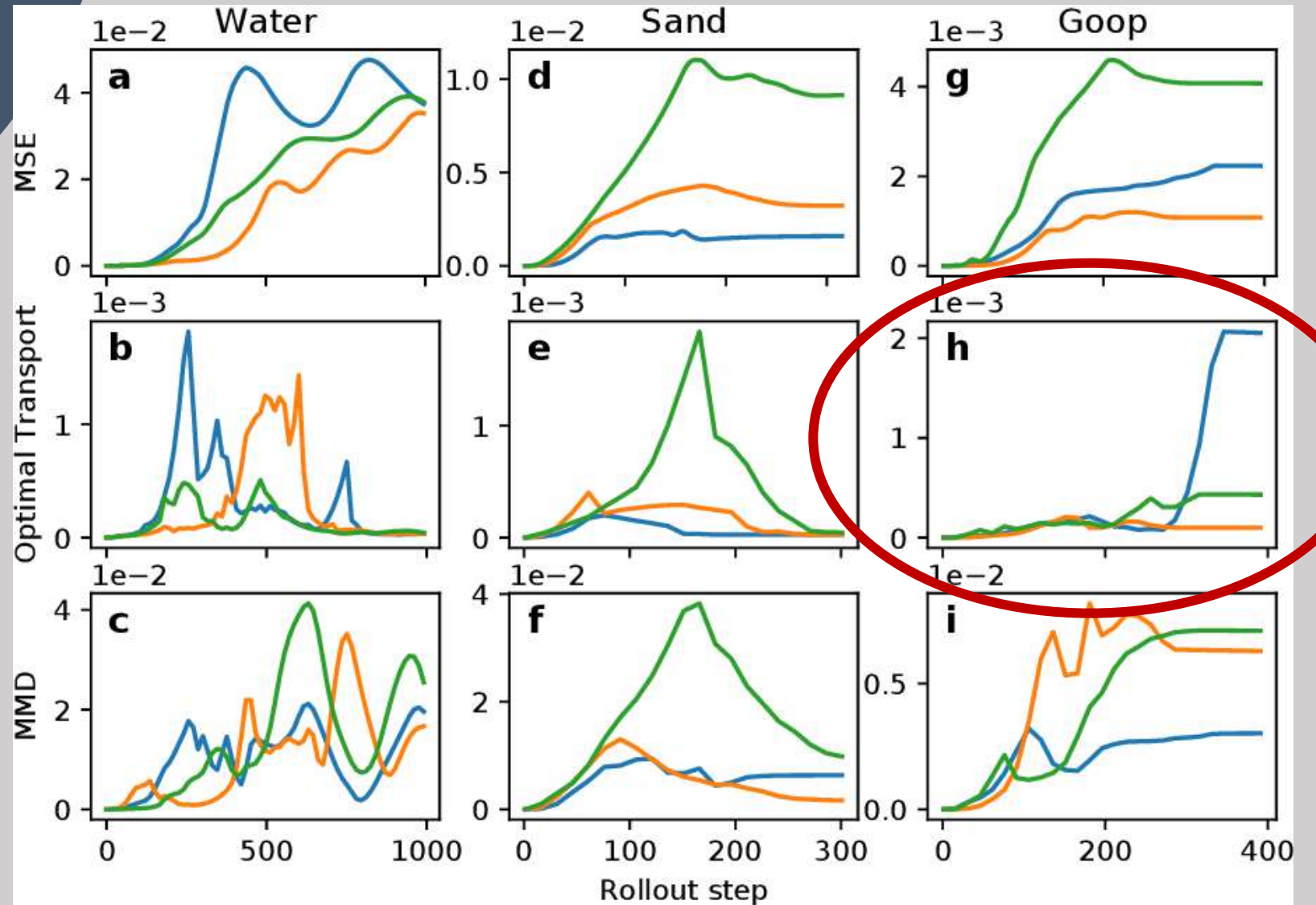
Signaling principle

Name	Symbol	Antiparticle	Spin	Charge	Mass	Interaction mediated	Observed
Photon	γ	Self	1	0	0	Electromagnetism	Yes
W boson	W^-	W^+	1	-1	80.385 ± 0.015	Weak interaction	Yes
	Z	Self	1	0	91.1875 ± 0.0021		
Z boson	Z	Self	1	0	91.1875 ± 0.0021	Weak interaction	Yes
Gluon	g	Self	1	0	0	Strong interaction	Yes
	H^0	Self	0	0	125.09 ± 0.24		
Higgs boson	H^0	Self	0	0	125.09 ± 0.24	Mass	Yes

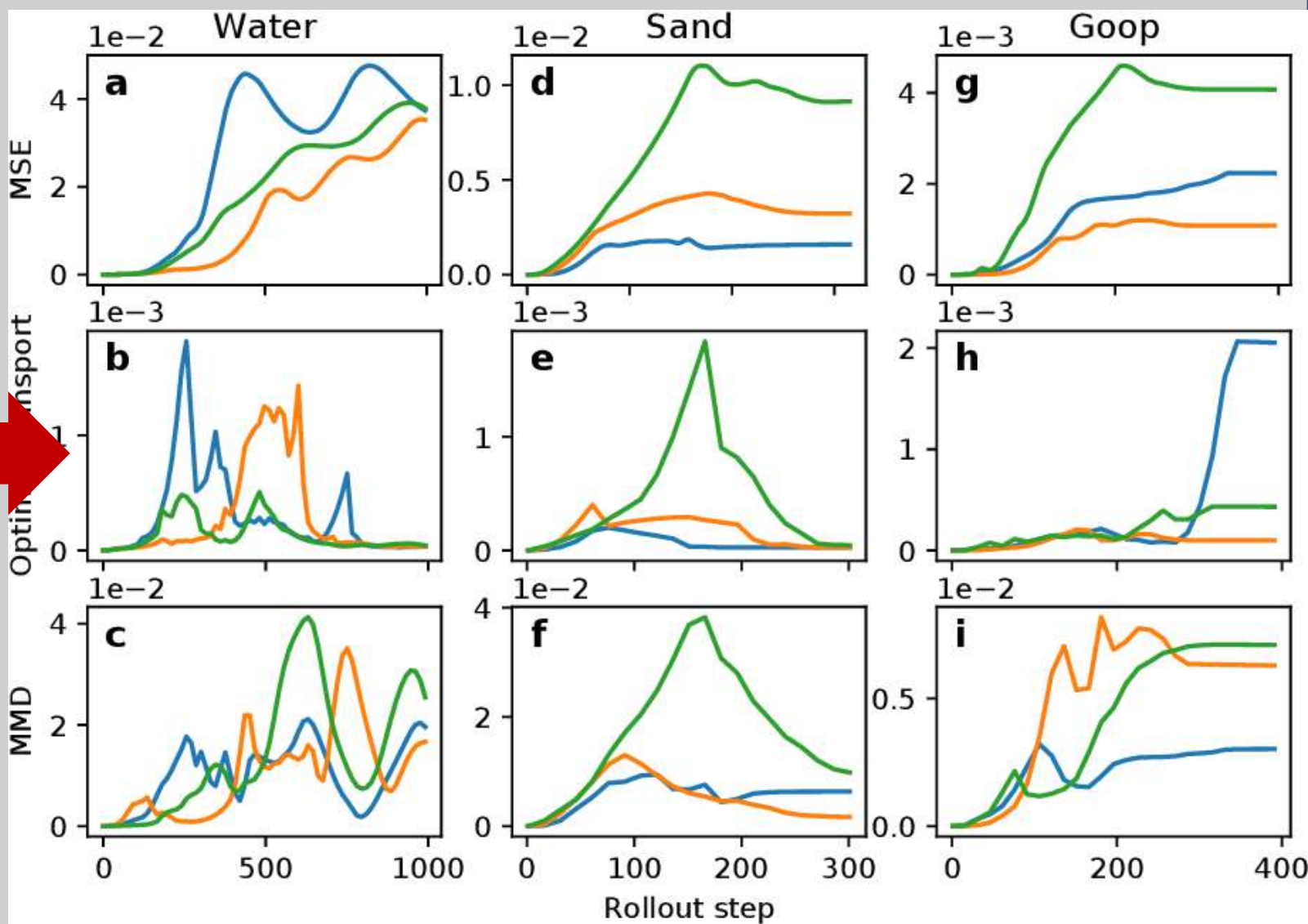
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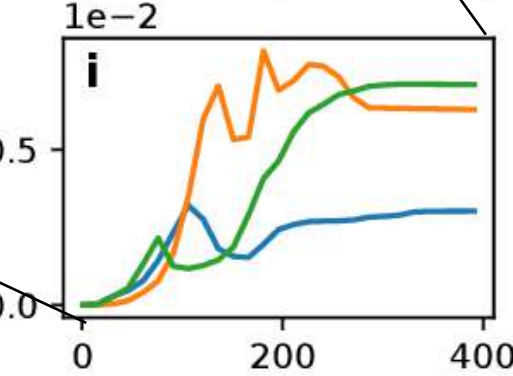
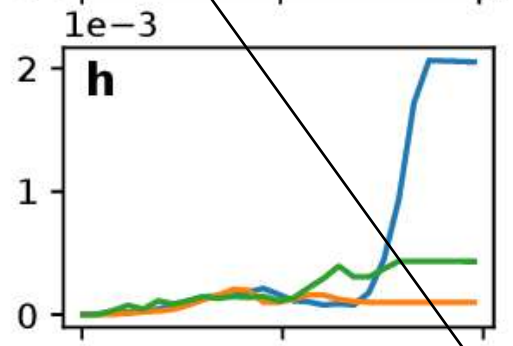
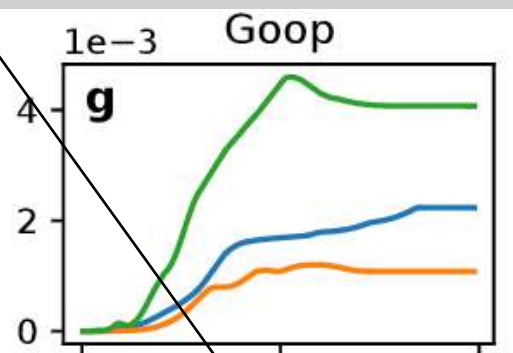
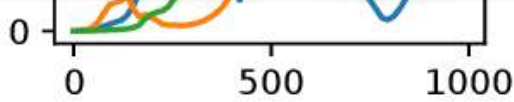
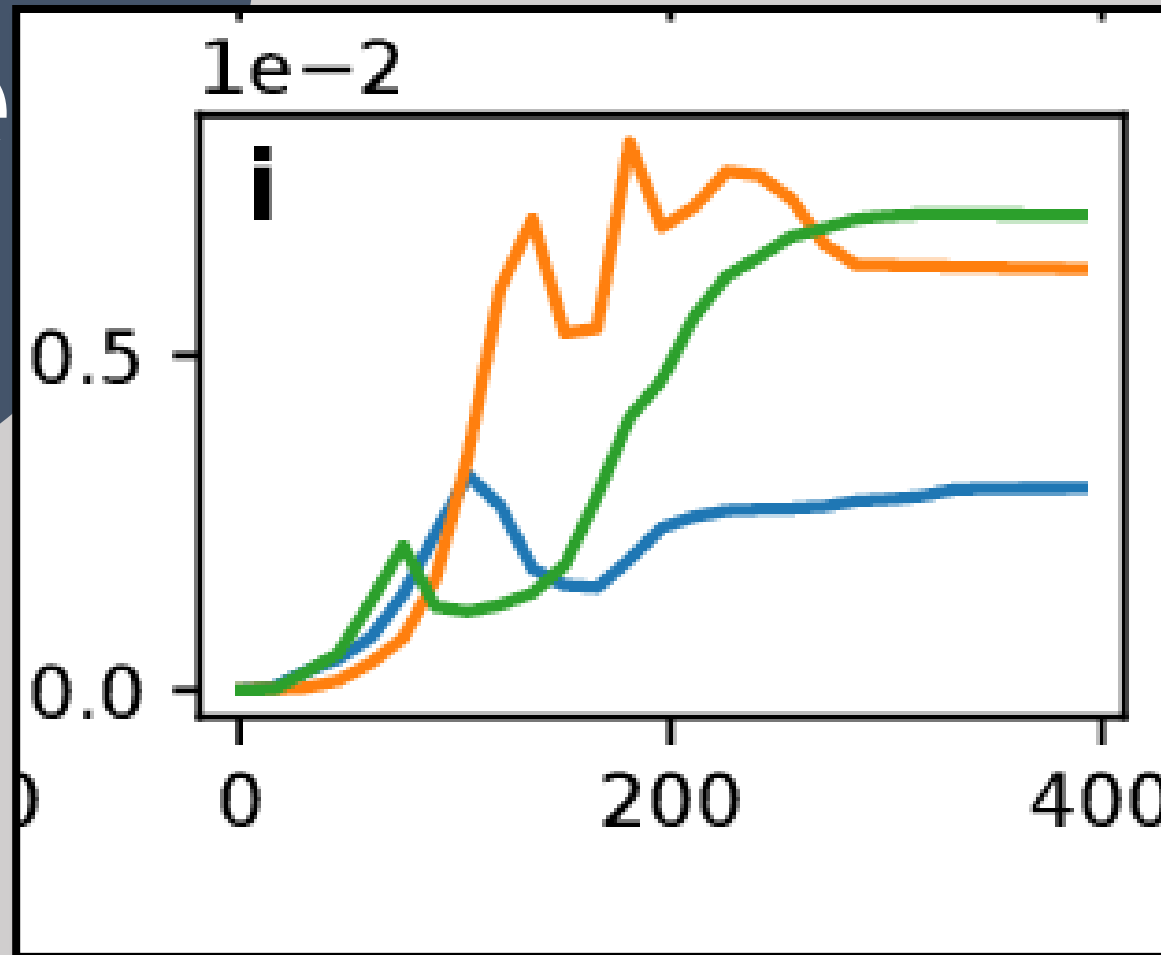
Signaling principle



Signaling principle

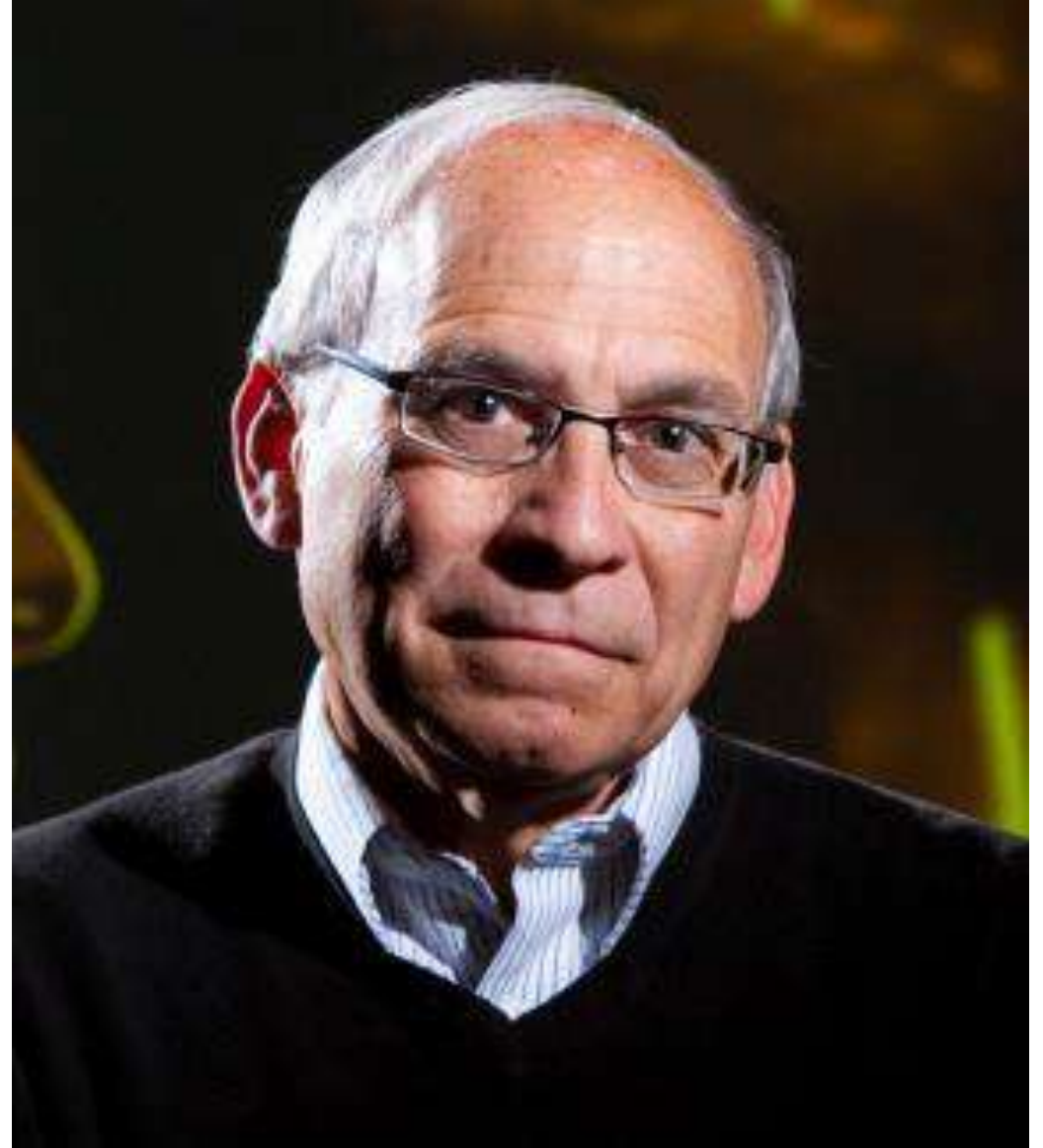


Signaling principle



Rollout step

Richard
E. Mayer



Principles of Multimedia Design

1. Coherence Principle
2. Signaling Principle
3. Redundancy Principle
4. Spatial Contiguity Principle
5. Temporal Contiguity Principle
6. Segmenting Principle
7. Pre-training Principle
8. Modality Principle
9. Multimedia Principle
10. Voice Principle
11. Personalization Principle
12. Image Principle



Interaction

Synchronous



Asynchronous

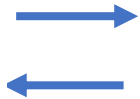


Synchronous

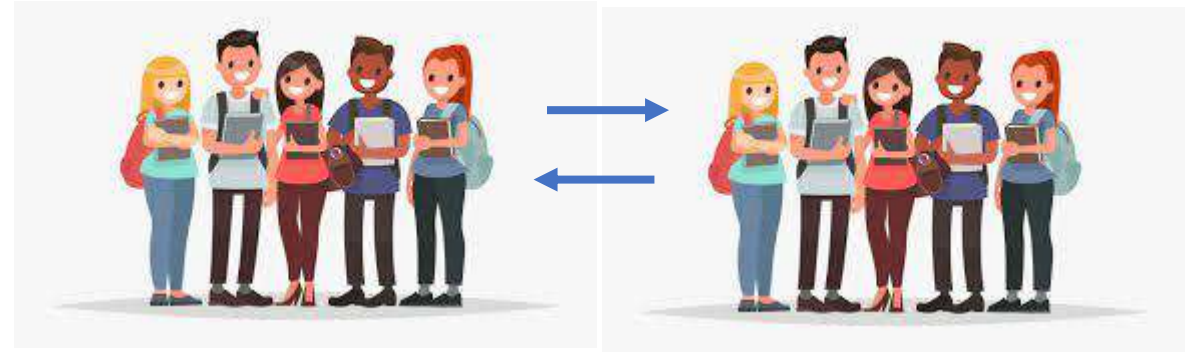


- Icebreakers
- Quizzes
- Open questions

Synchronous



- Icebreakers
- Quizzes
- Open questions



- Think pair share
- Case study
- discussions

Ease the tension



Icebreakers

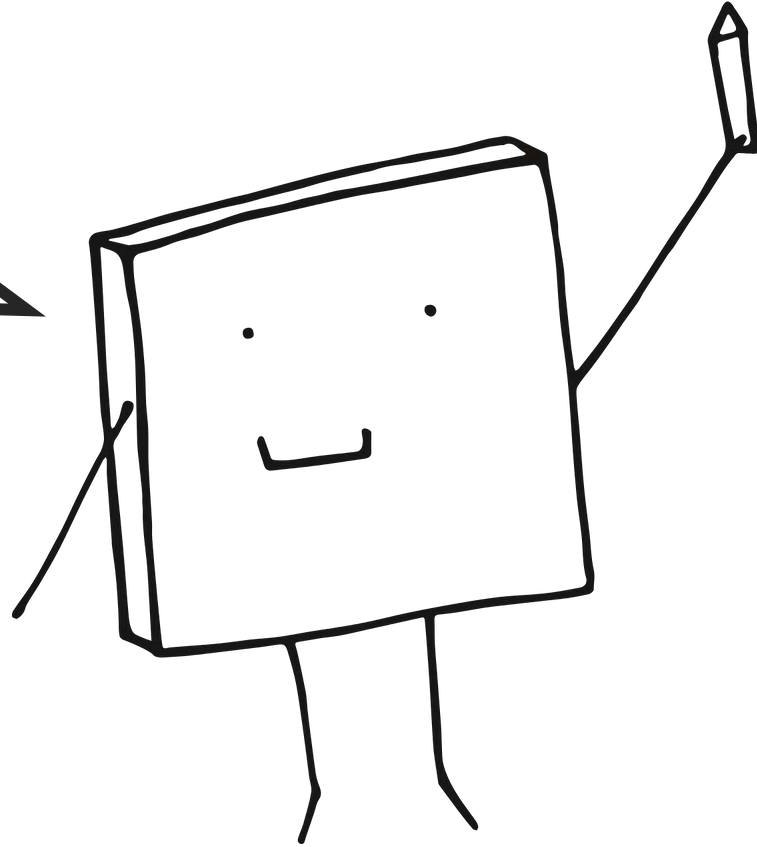
Assess prior knowledge



Quizzes

Teaser

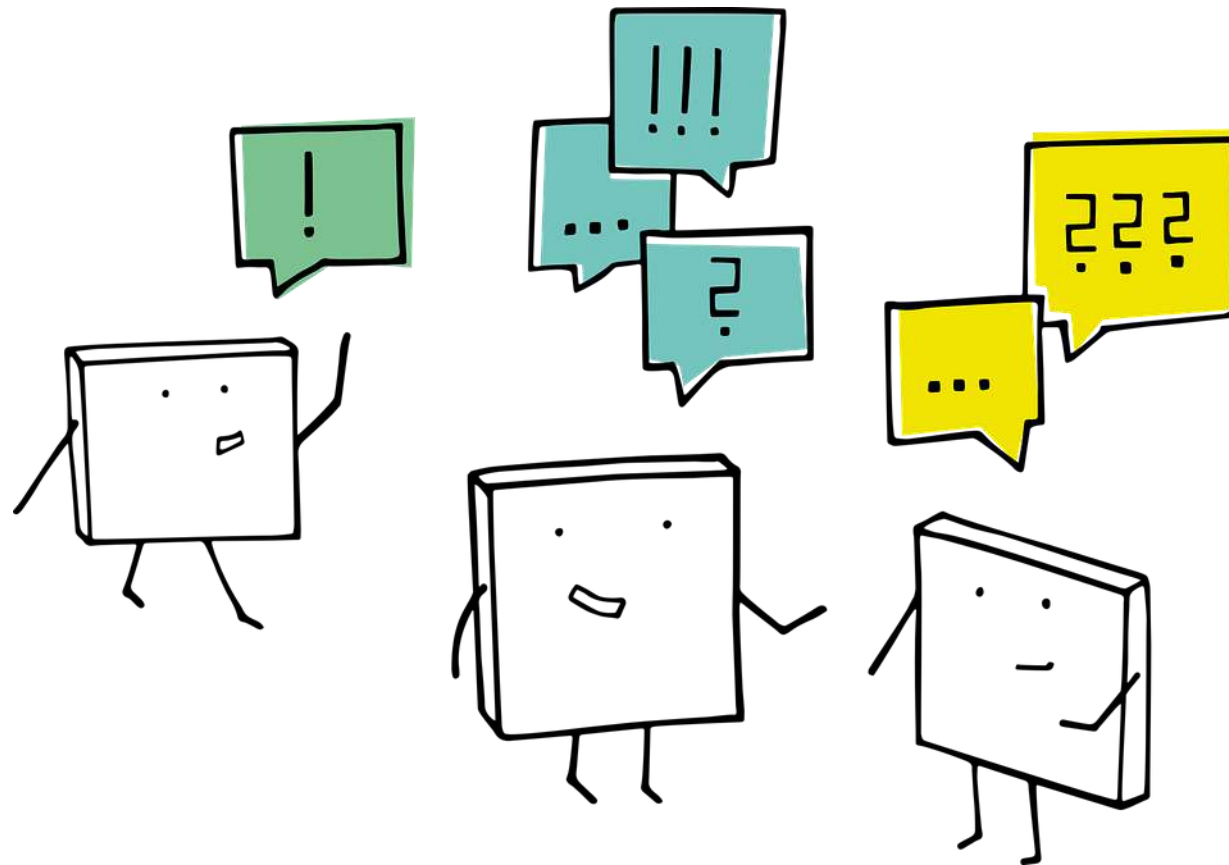
**This sound
interesting! I
want to know
more!**



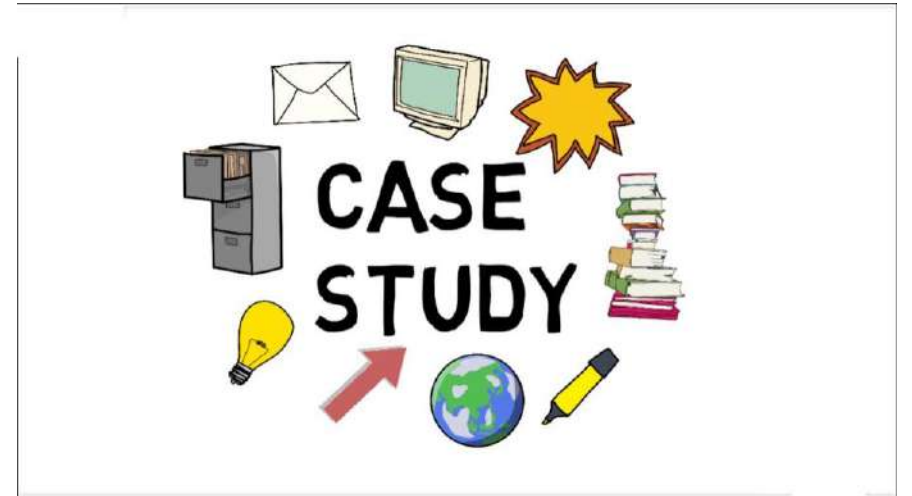
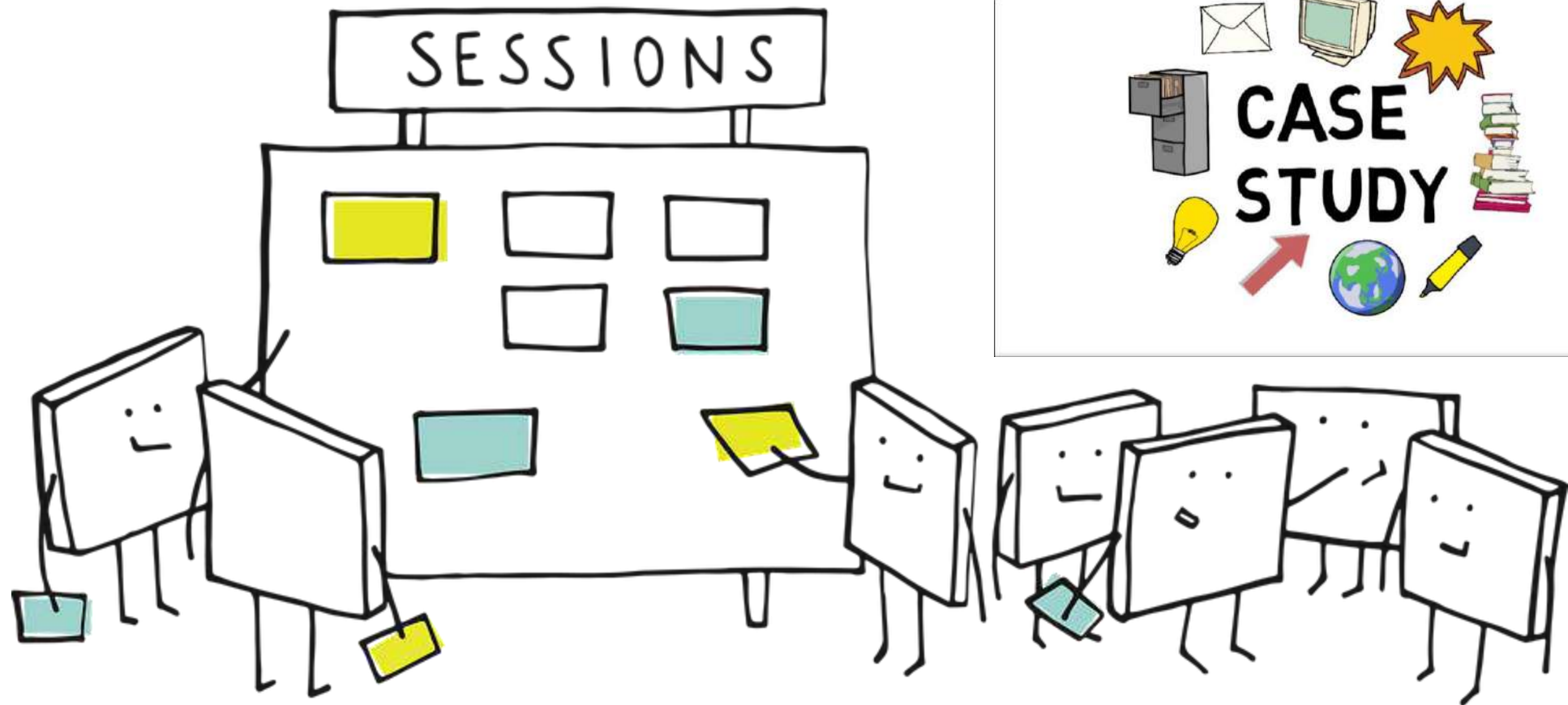
THE WIBBLY WOBBLY MILLENNIUM BRIDGE IN LONDON



Check learning

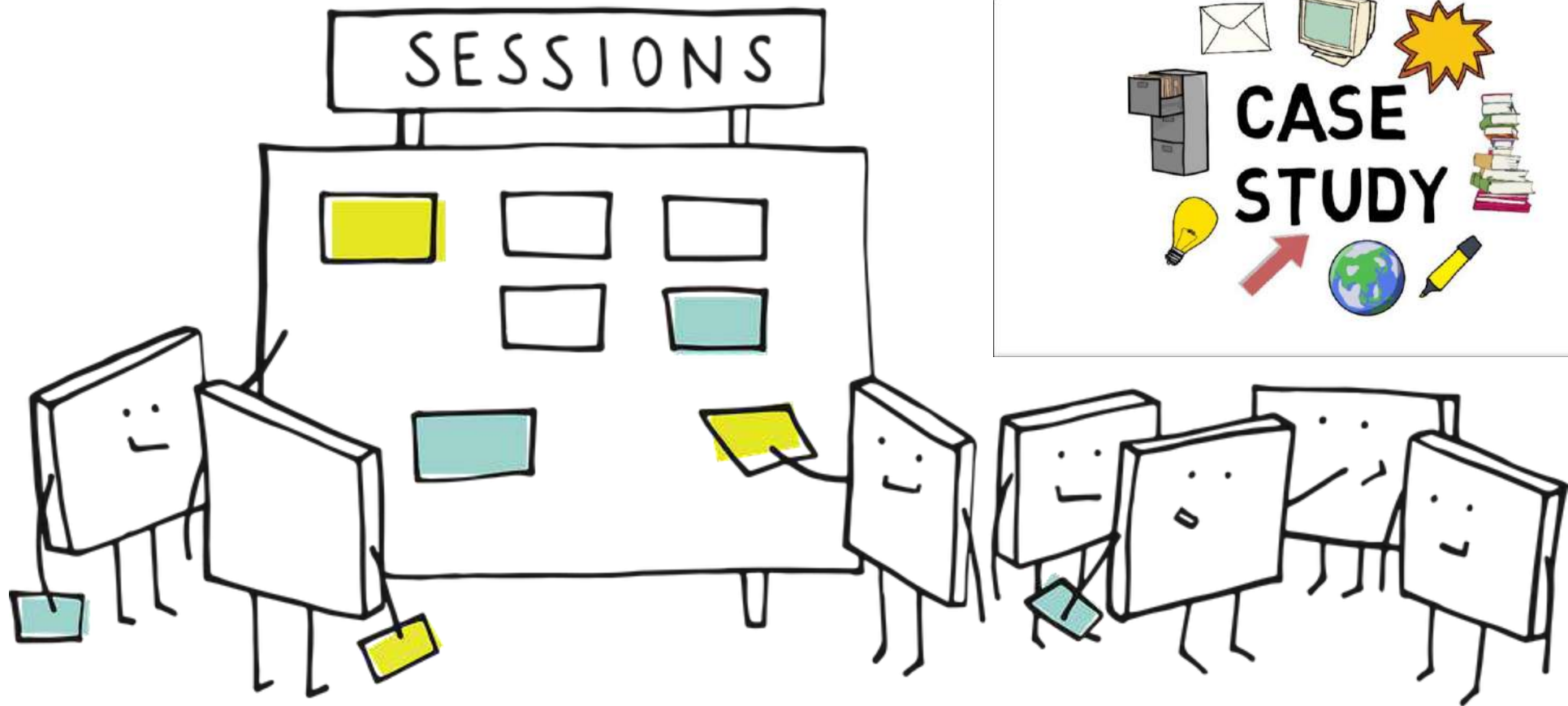


Consolidate learning





Synchronous



How to participate?



1

Connect to www.wooclap.com/BRNO2022

2

You can participate

wooclap

Kahoot!

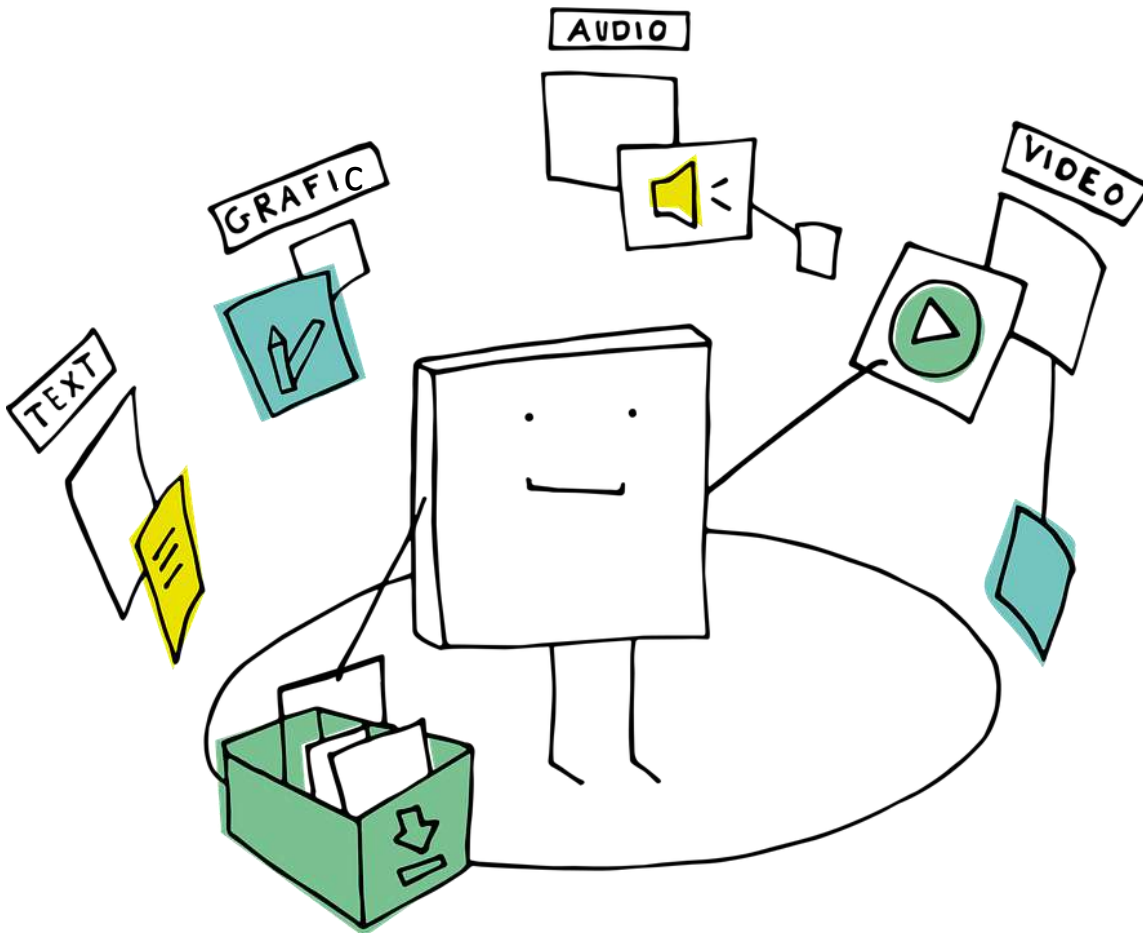


miro



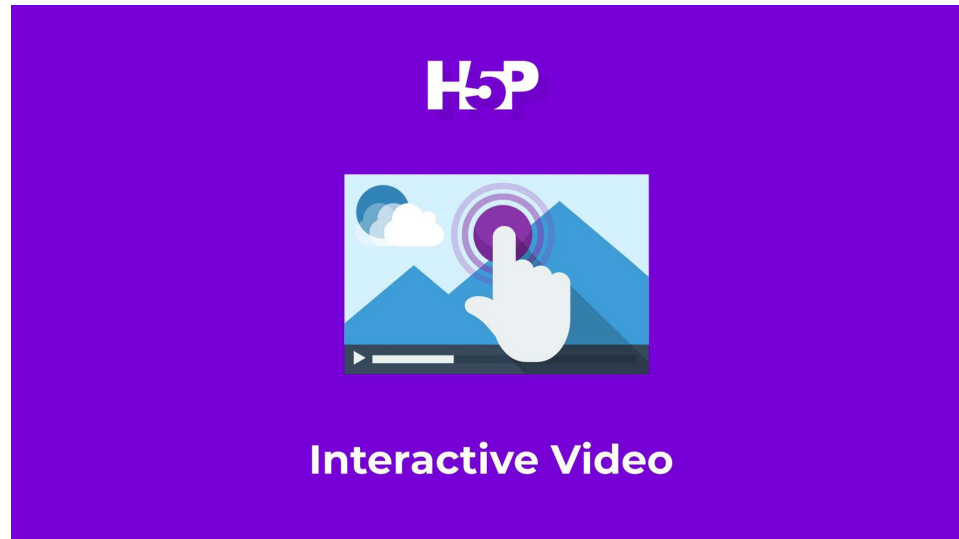
genially

Asynchronous



LMS
(Moodle)

LMS (Moodle)



Perusall®

H5P



Interactive Video

Perusal1[®]

<https://perusal.com/>



2. Say how long it will last

3. State the learning objectives. Learning objectives are broad statements written from an instructor's perspective that give the general content and direction of a learning experience. What will the students be able to do once they have completed the course? How will they apply the skills and competencies to other fields? The learning goals aren't necessarily observable or measurable.

4. State what the student will be able to do (and what they are expected to do) at the end of the course (learning outcomes). It can be useful to think about the assignment (backward design) they should be able to complete at the end of the course to identify the learning outcomes. A learning outcome describes, in observable and measurable terms, what a student is able to do as a result of completing a learning experience. To find out more on learning outcomes and learning objectives visit: <https://resources.depaul.edu/teaching-commons/teaching-guides/course-design/Pages/course-objectives-learning-outcomes.aspx>

To write the learning outcomes, many professors like to use Bloom's Taxonomy. The verbs associated with each step in the Taxonomy can help define learning outcomes. To find out more about Bloom's Taxonomy visit: <https://www.celt.iastate.edu/teaching/effective-teaching-practices/revised-blooms-taxonomy/>

- 5. Do you expect your students to have some prior knowledge of the subject?
- 6. How will you be delivering this course? Will it be in person, in a classroom or will it take place online?
- 7. Will the classes be synchronous or asynchronous?
- 8. Will the course be blended or flipped? If yes, which virtual learning space will you be using (Moodle, Edunao, Miro board, Google Classrooms, Perusall, etc.)?

Put all this information in the table below :

You Course

- 1. Title of the course
- 2. Duration

Current conversation [Close]

I don't understand the difference between learning outcomes and learning objectives.

Jan 19 12:32 pm

Rich text editor toolbar: Bold, Italic, Text color, Background color, Bulleted list, Numbered list, Link, Unlink, Image, Table, etc.

[Here is a website that clarifies the difference between learning outcomes and learning objectives.](#)

Not yet submitted: press Enter to submit. Submit



First of all, you'll start with the course as a whole :

1. Give your course a title
2. Say how long it will last
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Put all this information in the table below :

You Course

1. Title of the course

Notes ✕

+ New
Open ▾
Share
📄
🗑️

B
I
A
🎨
x²
😊
</>
🖼️
🔗
📁

How to use Perusall notes

- Click **New** to start taking notes. You can create any number of notes. All of your work is saved automatically as you type.
- You can combine your own notes with snippets from the content by highlighting the document with this panel open. (You can also open the same note from within another document to combine snippets from multiple documents into the same note.)
- Click **Open** to continue working on a note you've already created, or to open a note that has been shared with you.
- Click **Share** to share this note with another student or instructor in the course. When a note is shared, it can be viewed and edited by each person you share it with.
- Notes you take here do not affect your grade, and are private to you unless shared with others.





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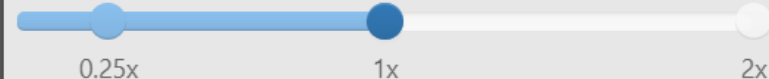
1. Title of the course

Read aloud

⏮ ⏪ ⏸ ⏩ ⏭ + Start thread

Scroll to the part of the document that you would like to read aloud, and then click ⏮. At any time, you can click **Start thread** to start a conversation about the text that is currently being read aloud.

Read-aloud speed:



Read-aloud language:

