

# RECORDING NOTIFICATION FOR WEBINAR ATTENDEES



ELEMENT	RECOMMENDATION
<b>Main Message</b>	This Microsoft Teams event is being recorded and will be available for others in the network to view.
<b>Consent Statement</b>	<p>By staying visible in the meeting, you consent to your image being recorded and stored for <b>12 months</b>.</p> <p>If you are visible, please be conscious of any information identifiable behind you on noticeboards, etc.</p> <p>Having your camera off will provide full functionality.</p> <p>Please raise any questions via the correct function in Teams and these will be responded to.</p>

# How to support self-regulated learners

(through exploring executive functions and metacognition)

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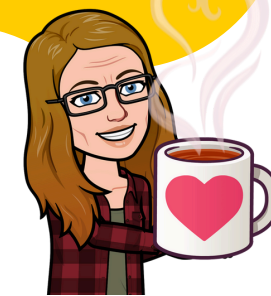
Emma Watkins (Trainee Educational Psychologist)

# Why are we here?

- Explore what it means to be a self-regulated learner
  - Cognition
  - Metacognition
  - Motivation
- Give it a go!

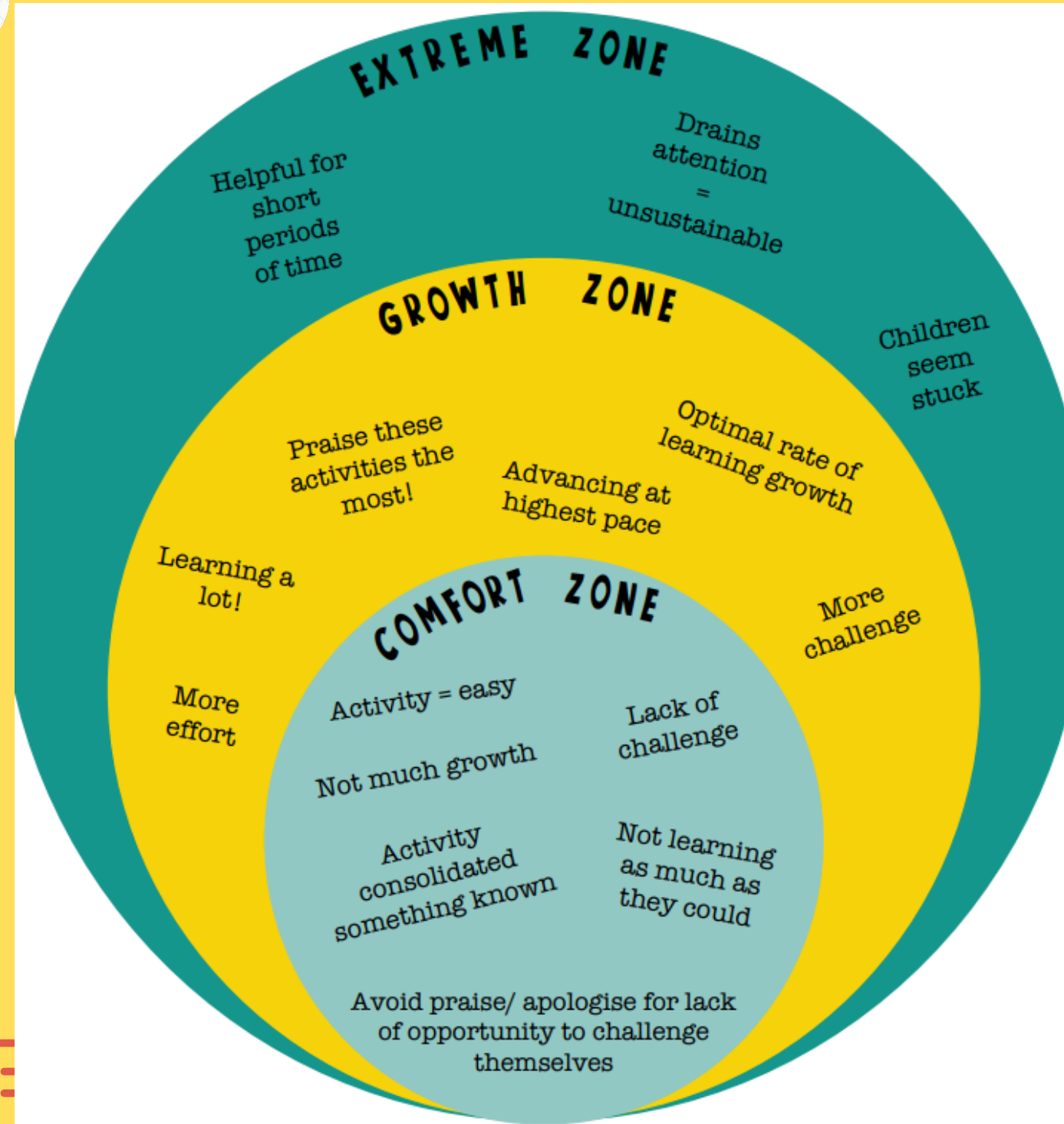


What do your  
children think learning  
Canva  
is?

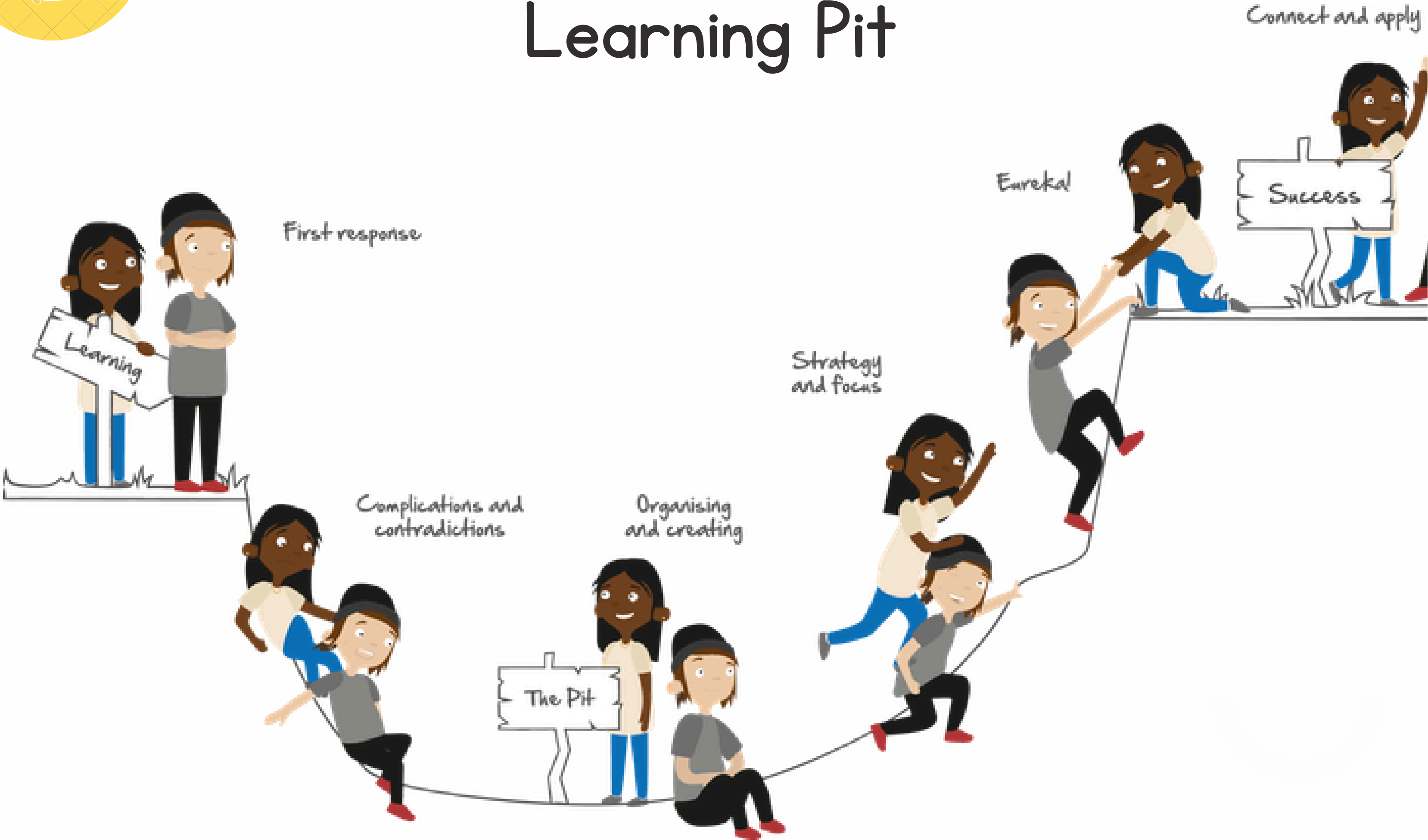


NICE  
TO  
MEET  
YOU!

# What is cognition?



# Learning Pit



# Growth Mindset



"Failure is an opportunity to grow"

## GROWTH MINDSET

"I can learn to do anything I want"

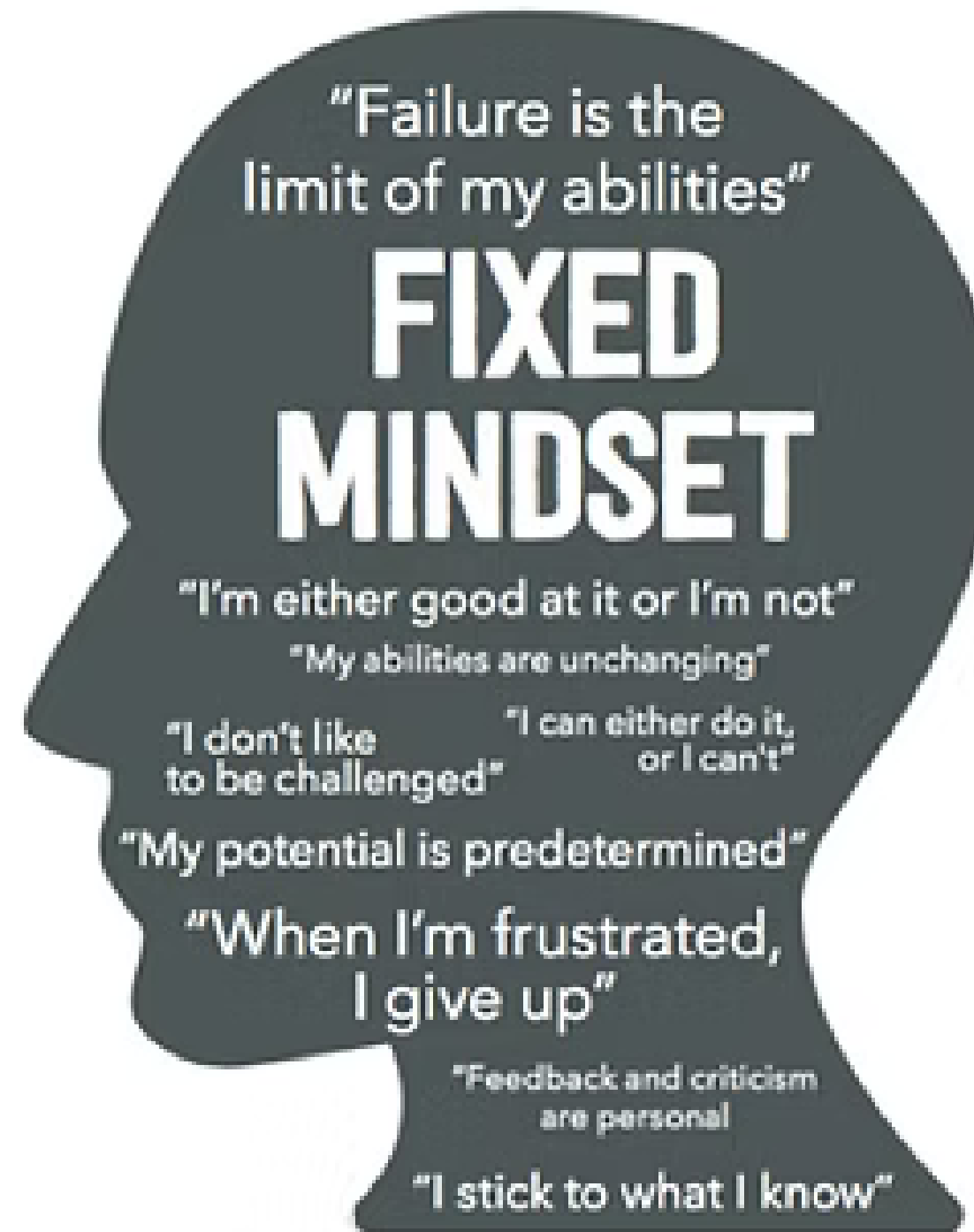
"Challenges help me to grow"

"My effort and attitude determine my abilities"

"Feedback is constructive"

"I am inspired by the success of others"

"I like to try new things"



"Failure is the limit of my abilities"

## FIXED MINDSET

"I'm either good at it or I'm not"

"My abilities are unchanging"

"I don't like to be challenged"

"I can either do it, or I can't"

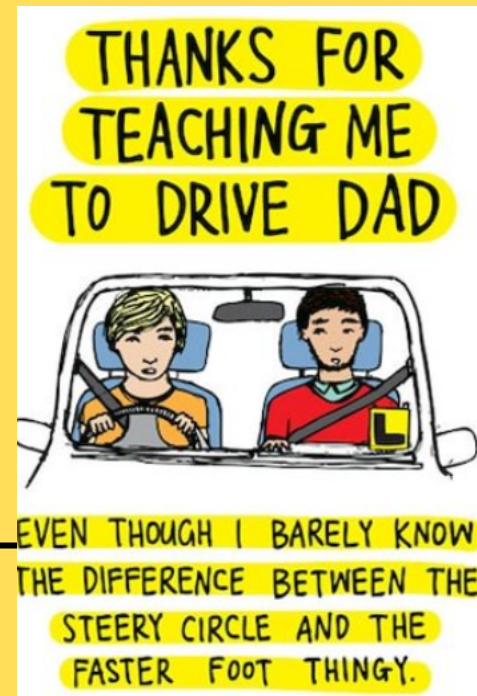
"My potential is predetermined"

"When I'm frustrated, I give up"

"Feedback and criticism are personal"

"I stick to what I know"

# Haring's Hierarchy

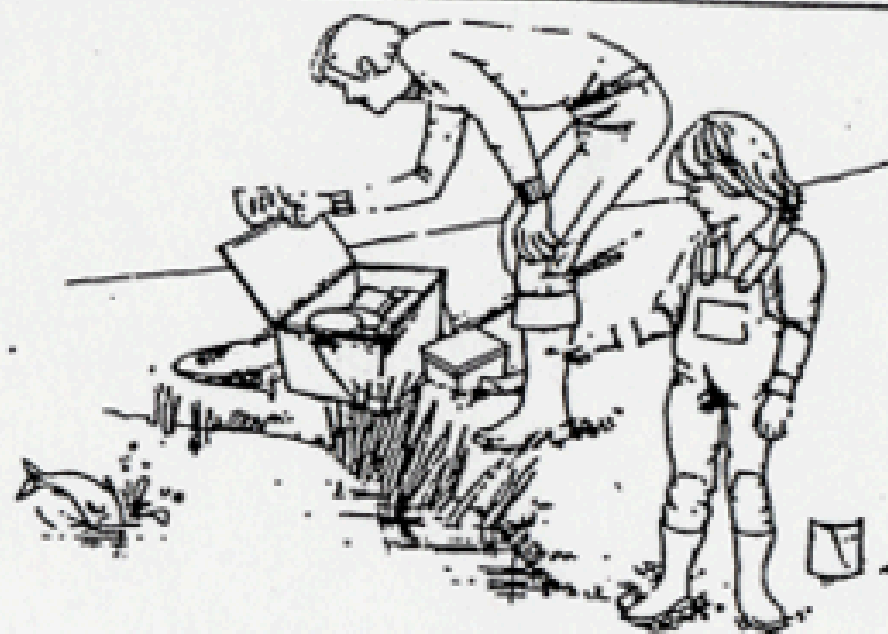


Level 1-5	Meaning	Example (Learning to drive)
Acquisition & accuracy	Minimal knowledge and skills	Quiet roads, basic skills and manoeuvres. Acquire the basics and do them accurately.
Fluency	Know what to do but not how to do it	Learn skills from accuracy stage with greater speed. Initial errors but these will decrease. Consistency and speed.
Maintenance	Can do it with effort (not second nature)	You've passed your test! Now practise, if you don't you go back to level 1 or 2.
Generalisation	Quick and accurate with minimal thinking	Experienced driver. Automaticity.
Adaptation	Minimal effort and minimal errors	No problem in unfamiliar areas or vehicles.

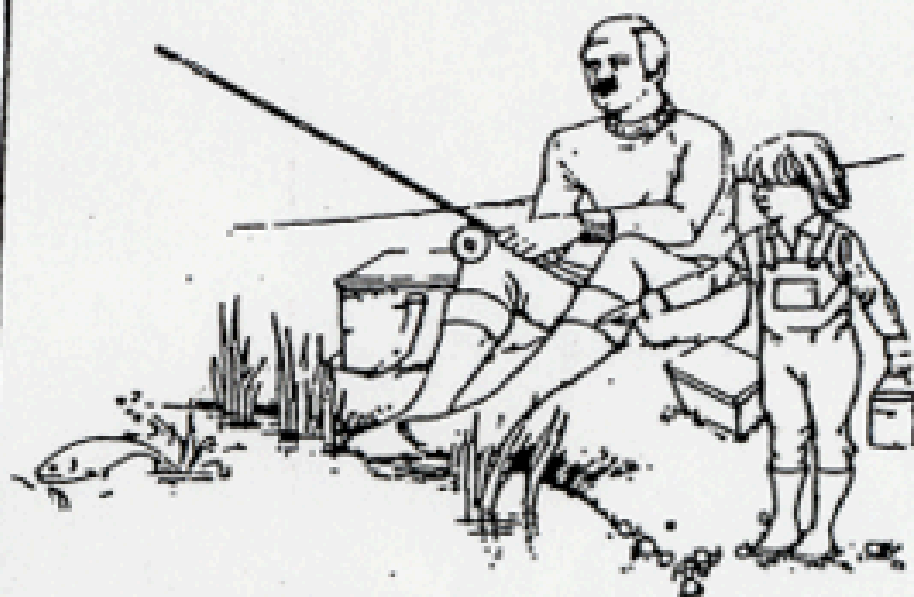




ΔιΔΔΔ



Π⊗⊗И, ΔιΔΔΔ!  
Π⊗⊗И, Π⊗⊗И!



Π⊗⊗И ι∇  
∇Χ⊙ G!□X.



Π⊗⊗И ι∇  
Π!□ι G!□X.

Write your answers in the chat :)

1. What's happening in the pictures?

2. Decode the sentences

key:

ΔιΔΔΔ = Daddy

Π⊗⊗И = look

∇Χ⊙ = the

G!□X = fish



# What are executive functions?

(and why should we care?)

·Used on a daily basis in the classroom

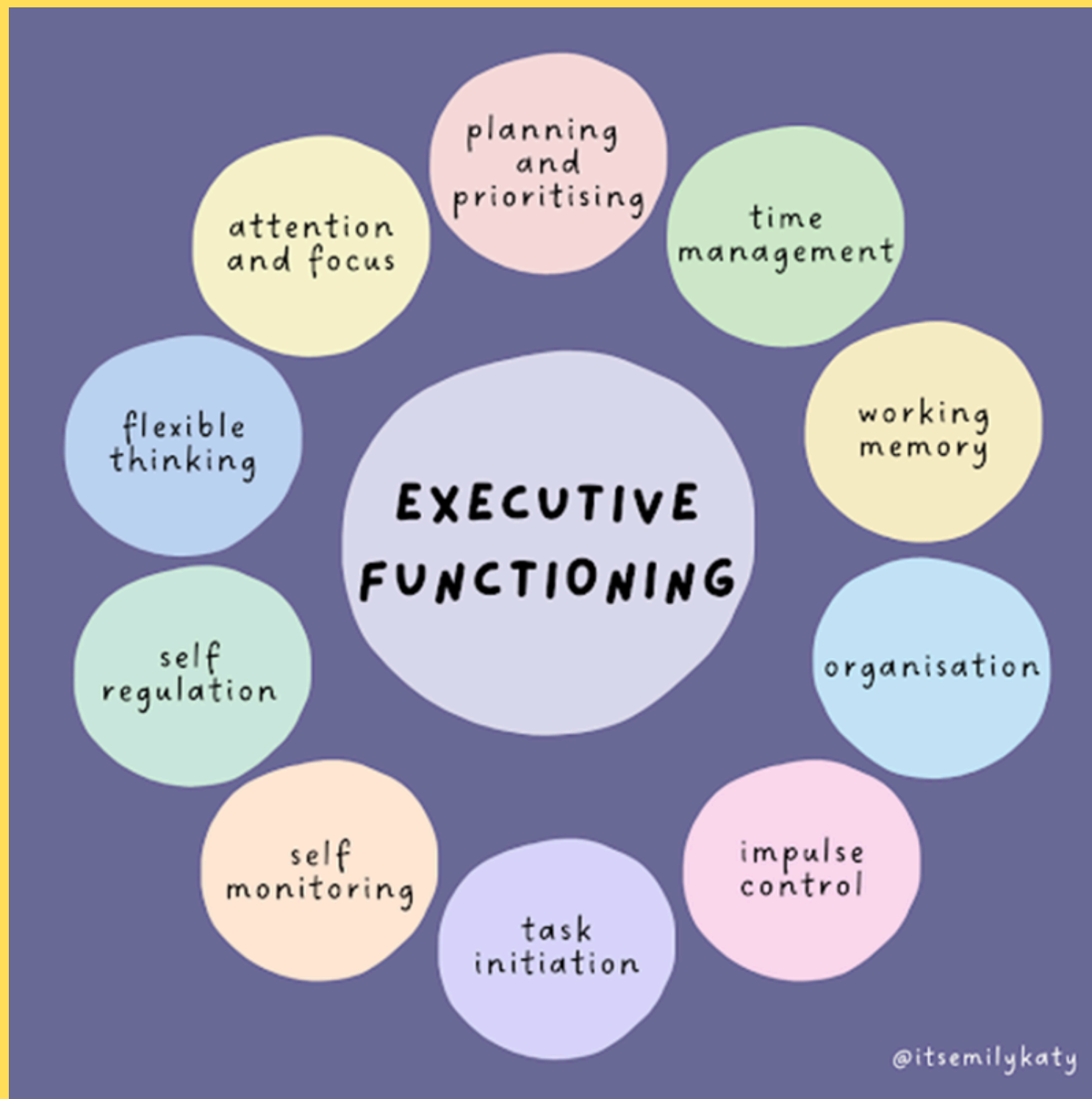
·Impacts ability to carry out some classroom activities and retain information over time

·Impacts self-regulation and behaviour for learning

·Predictor of improved health, employment outcomes, and lower rates of behaviour problems, mental illness and disruptive social behaviour

·Positive relationship between EF skills and academic performance, social competence and school success

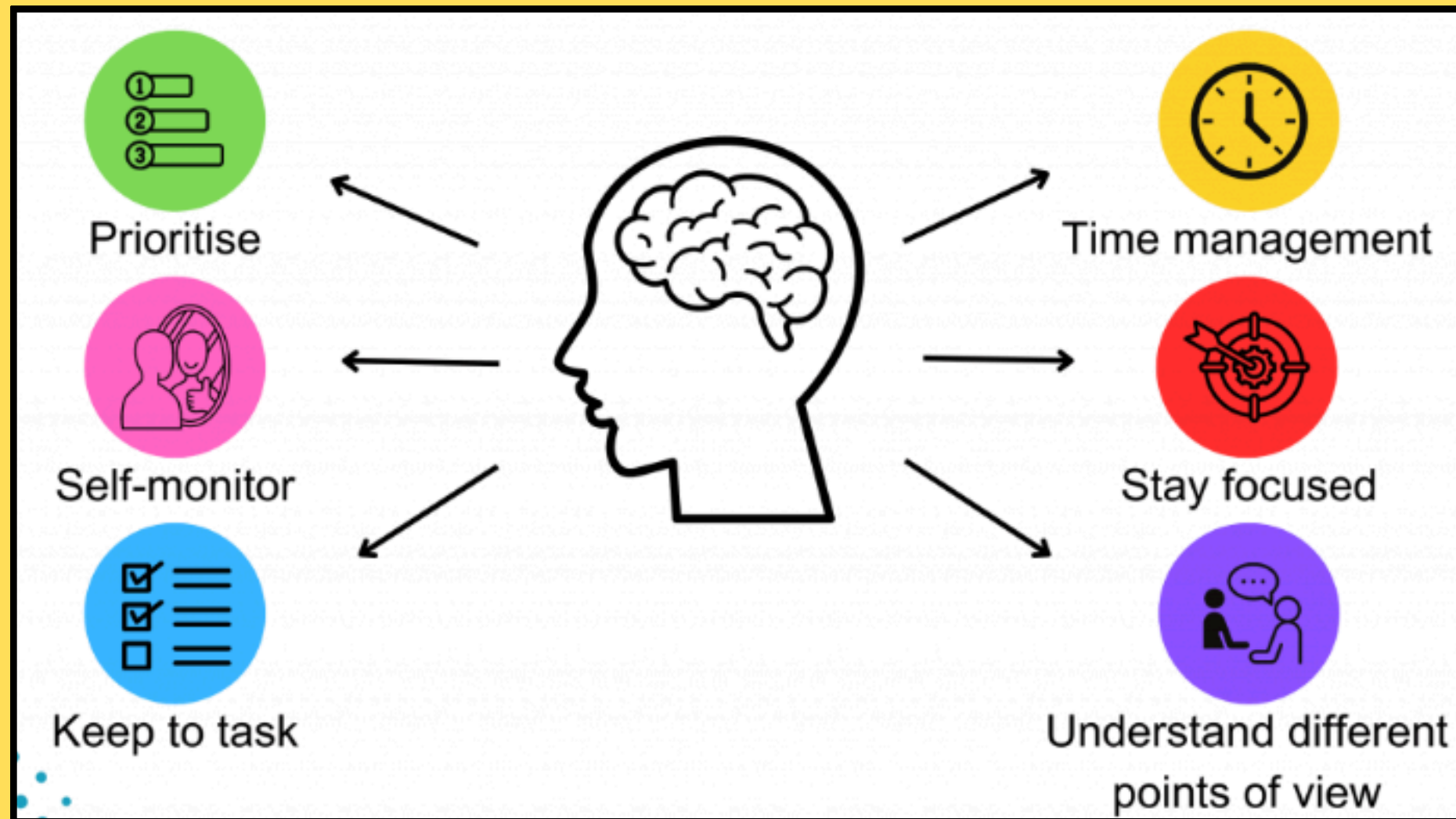
·Particularly strong relationship between WM and maths skills



# What are executive functions?



# EF and Neurodivergence



## MONOTROPISM

the benefits of an all consuming hyper-focus

helps regulate your sensory system

interests are predictable and reassuring

gain deep knowledge and skills

feel less stressed

feel in control

a wonderful flow state which makes you feel happy

Follow @autisticrealms

# How does EF develop?

## Frontal Lobe



The frontal lobe is one of five lobes of your brain.

It handles many abilities, including:



Thinking, such as reasoning, judgment and decision-making.



Learning and recalling information.



Executive functions, like attention span.

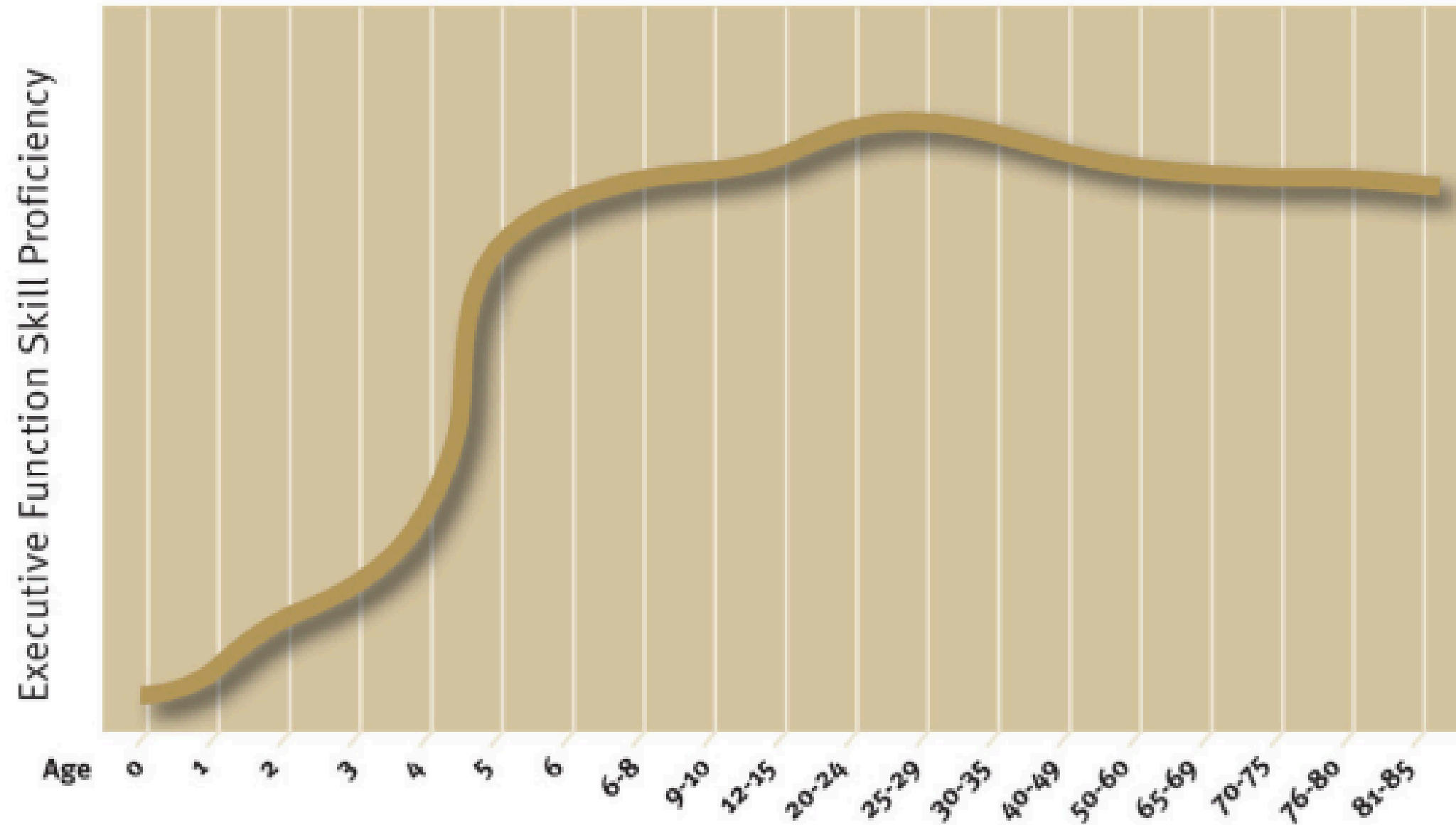


Voluntary muscle movements.



Social understanding, such as what you should and shouldn't say or do.

## Executive Function Skills Build Into the Early Adult Years



Source: Weintraub et al. (Submitted for Publication)



# What is metacognition?

The EEF definition involves three elements:

1. How learners monitor and direct their learning  
(**metacognition**)
2. The mental processes involved in knowing, understanding and learning (**cognition**)
3. Willingness to engage our metacognitive skills and apply them to learning (**motivation**)

# Making the unobserved, observable



First driving  
lesson

Cars and bikes are  
different

Roundabouts

# Why should we care about metacognition?

Increased **motivation**,  
**learning** & **academic**  
**results**

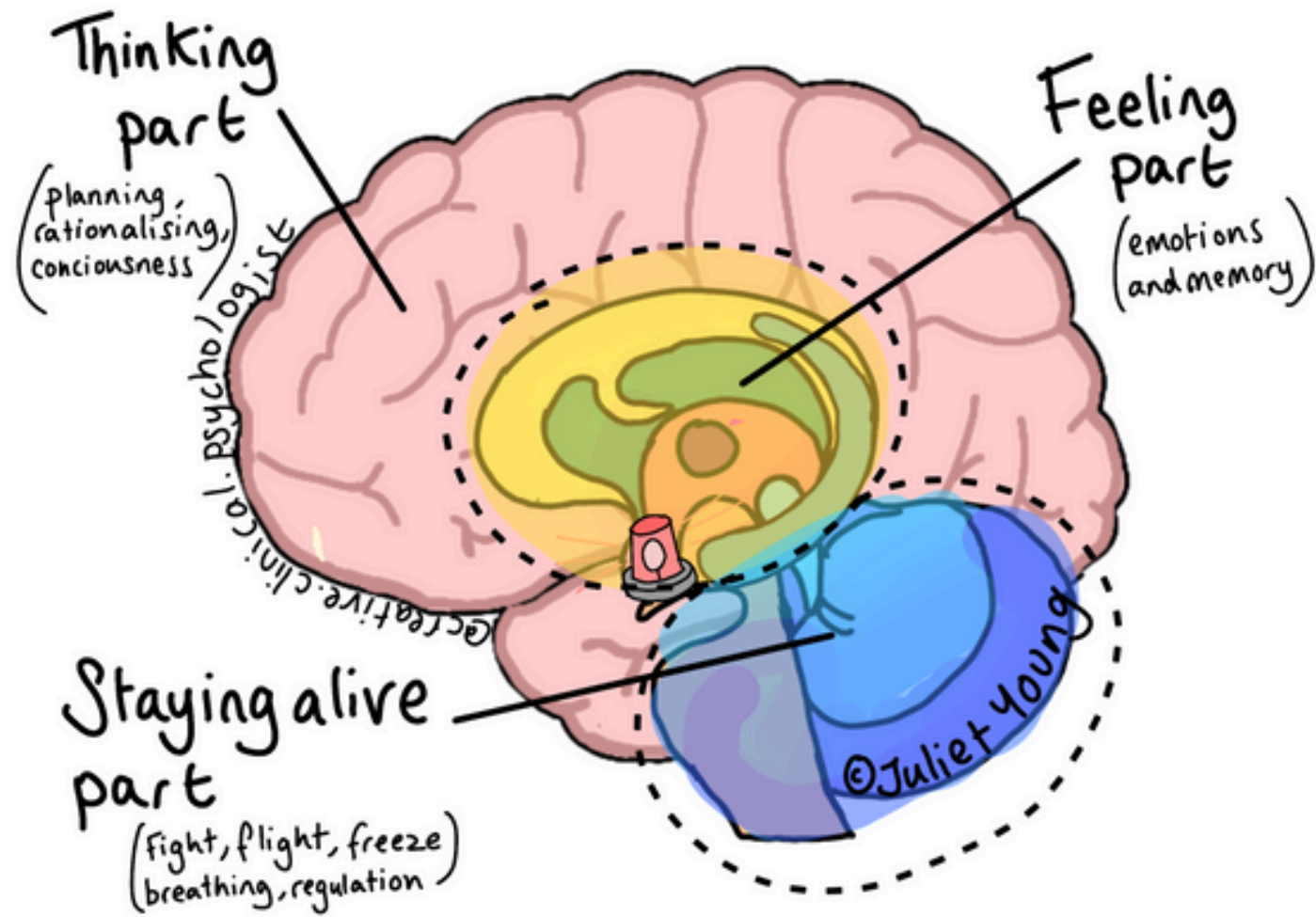


Increased connections  
between new information  
& current knowledge

Improved self-esteem  
and identification of  
barriers to learning which  
can then be overcome



# The 3 Part Brain\* (MacLean)



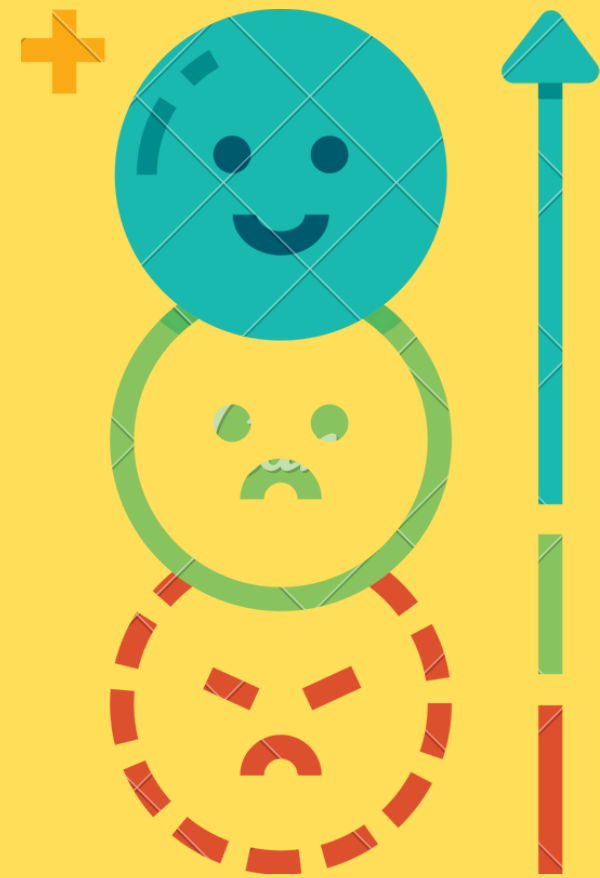
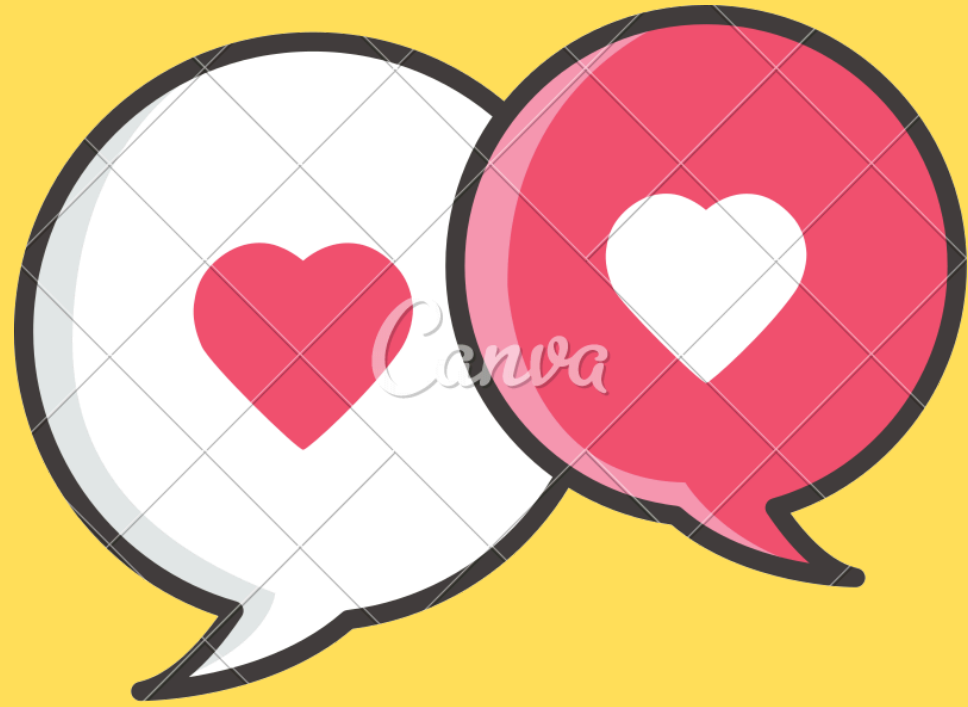
... metaphor, less of scientific accuracy

# Conditions for learning

- Physical needs: food, water, sleep
- Safety needs: personal safety, home, health
- Love and belonging need: friendship, TPR, sense of belonging



# Motivation





# What can you do?

There are lots of strategies you will already use in class to support children in sharing their thinking well. What do you do?



1

Metacognitive Knowledge: Awareness of what you do or don't know linked to a task

2

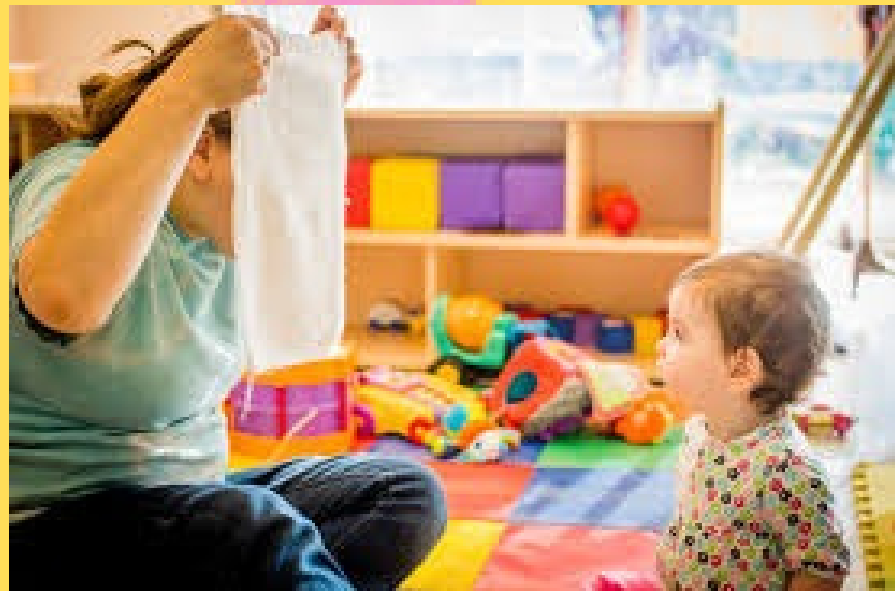
Metacognitive Regulation: Strategies used to manage thoughts, emotions, and consideration of how we monitor and manage thinking processes.

3

Metacognitive Talk: Saying aloud what you are thinking whilst doing a task



# Play Supports Executive Functions and Metacognition



Self-Regulation

Working Memory

Planning

Perseverance

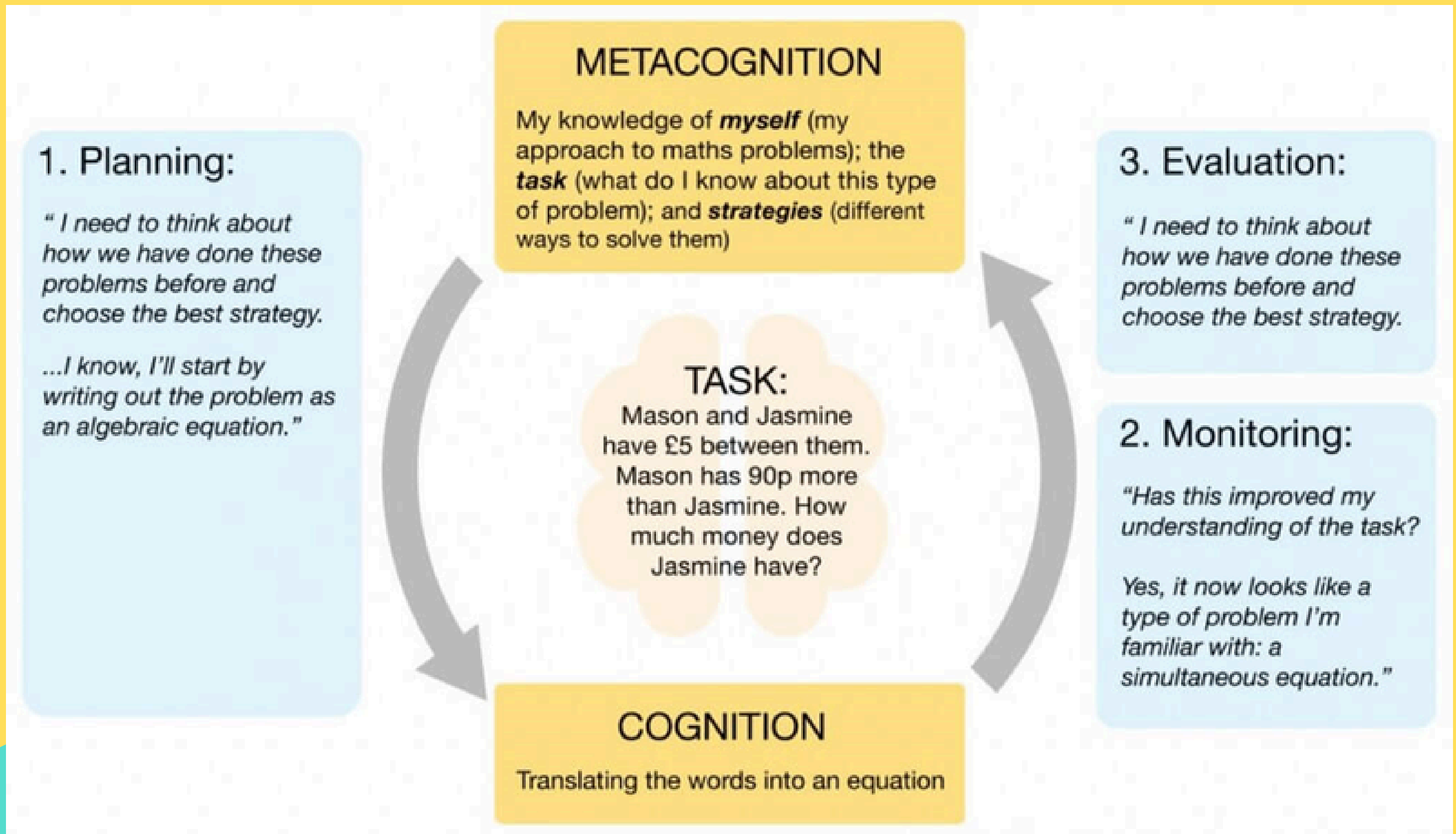
Attention and Focus

Problem Solving

Mental Flexibility

Self-Control

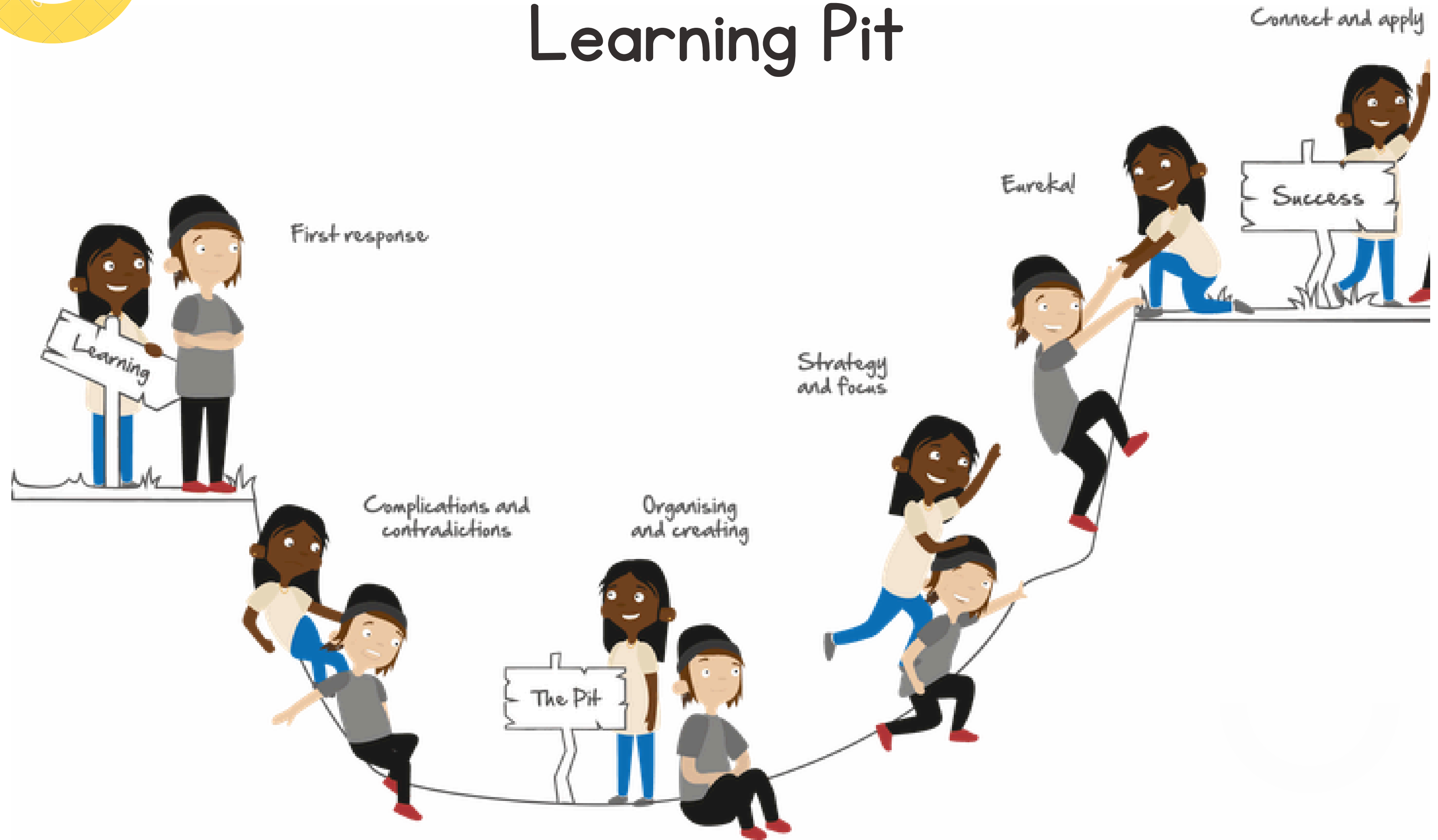
# EEF model



# Phases of metacognitive talk

	Planning (Before)	Monitoring (During)	Evaluation (After)
What?	Thinking about goals set and strategies needed to approach a task	Implement plan and monitor progress towards the goal. Changes may be made	Consider how successful strategies were in achieving goal
Questions	<ul style="list-style-type: none"> <li>• What resources do I need to...?</li> <li>• Have I done this before?</li> <li>• Was I successful?</li> <li>• What have I learnt from previous examples?</li> <li>• Where do I start?</li> <li>• What can I do first?</li> <li>• Do I need a scaffold to support me?</li> <li>• If I'm stuck, who could I ask for help?</li> </ul>	<ul style="list-style-type: none"> <li>• Am I doing well? How do I know?</li> <li>• Do I need to try a different strategy?</li> <li>• Am I meeting what the teacher asked? (success criteria)</li> <li>• How am I finding this? Why?</li> </ul>	<ul style="list-style-type: none"> <li>• How did I do?</li> <li>• How do I know?</li> <li>• What might I do differently next time?</li> <li>• What helped me?</li> <li>• What wasn't so helpful?</li> <li>• Can I use this learning in other situations?</li> </ul>

# Learning Pit



# Metacognitive Strategies

Strategy	Definition	Description
Organising & Transforming	Overt or covert rearrangement of instructional materials to improve learning	Making an outline before writing an answer
Self-instruction	Self-talking the steps to complete a given task	Talking through steps to complete a maths problem
Self-evaluation	Setting standards & using it for self judgement	Checking work before handing it in
Help-seeking	Efforts to seek help from peer, teacher or other adult	Using a study buddy
Task strategies	Analysing tasks and selecting specific, advantageous methods for learning	Creating mnemonics to remember facts

# Classroom Strategies at a Glance

## Emotional Control

Use deep breathing, meditation, exercise

Listen to upbeat music

Run, drink water, nutrition

Try self-talking in a playful voice

Use 'worry time' or a worry box

## Working Memory

Ask the teacher to "jot that down, please"

Write 'DC' next to questions you double-check

Feed information to your ears  
(auditory strength)

Feed information to your eyes  
(visual strength)

## Organization

Count the steps across your fingers

Practice saying first, second, third

Count the steps across your fingers

Make a goal for every 5 minutes

## Sustained Attention

Find a personal connection to your work

Say, "We'll talk more later" to end socializing

Mirror someone who is steady and calm

Use noise cancelling headphones

Sit right at the front

Callum wants to shout out the answer, but instead he waits patiently and puts his hand up.

1. Response inhibition
2. Working memory
3. Emotional control
4. Flexibility
5. Sustained attention
6. Task initiation
7. Planning and prioritising
8. Organisation
9. Time management
10. Goal-directed persistence
11. Metacognition

Jenny keeps three numbers in her head and works out the average without writing them down.

1. Response inhibition
2. Working memory
3. Emotional control
4. Flexibility
5. Sustained attention
6. Task initiation
7. Planning and prioritising
8. Organisation
9. Time management
10. Goal-directed persistence
11. Metacognition

While solving a maths problem, Jamal realises he's stuck, so he stops, rereads the question, and decides to draw a diagram to help him understand.

1. Response inhibition
2. Working memory
3. Emotional control
4. Flexibility
5. Sustained attention
6. Task initiation
7. Planning and prioritising
8. Organisation
9. Time management
10. Goal-directed persistence
11. Metacognition

Katie is able to manage her disappointment at not being picked first for the team.

1. Response inhibition
2. Working memory
3. Emotional control
4. Flexibility
5. Sustained attention
6. Task initiation
7. Planning and prioritising
8. Organisation
9. Time management
10. Goal-directed persistence
11. Metacognition

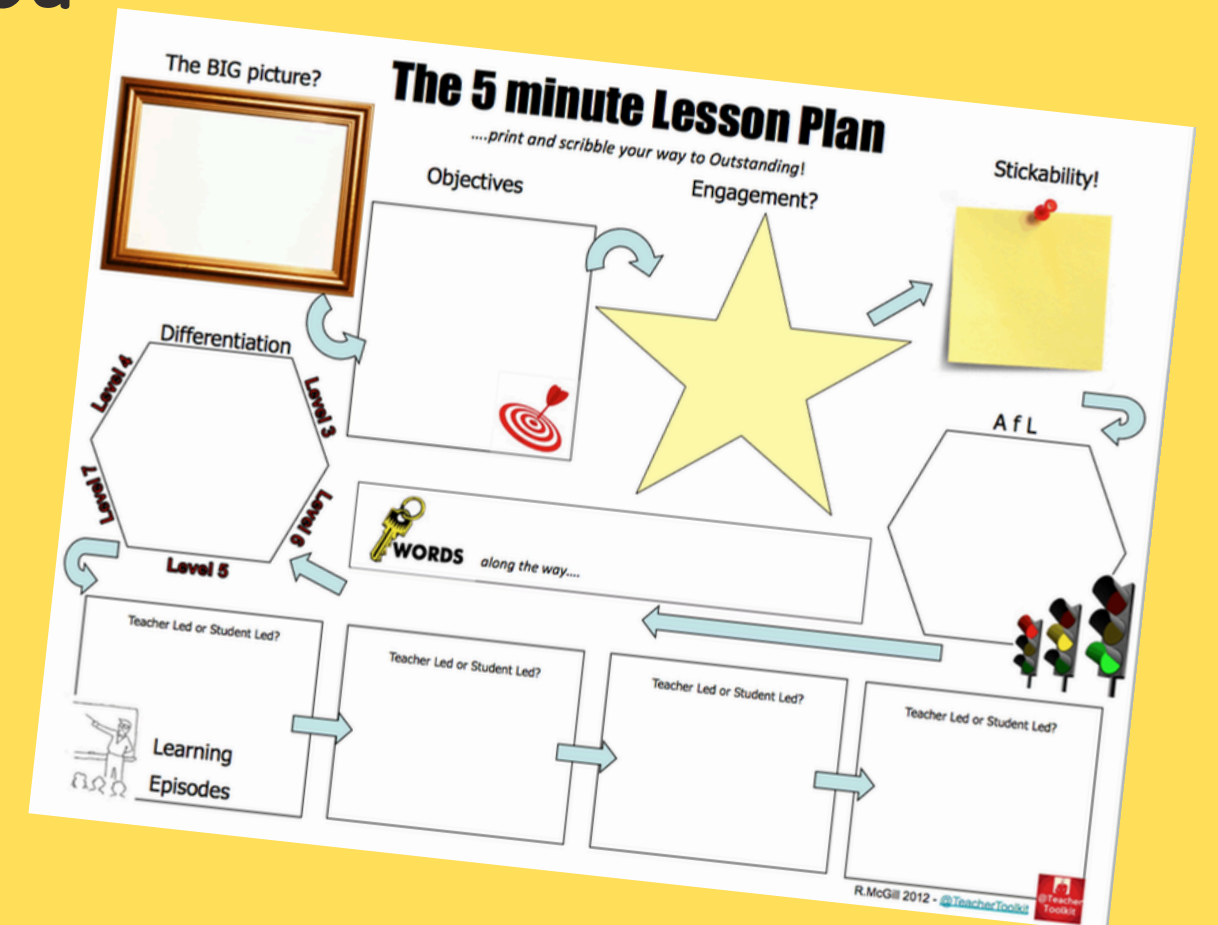
# Over to you...

What do your children think learning is?

Think about your lessons tomorrow:

What metacognitive strategies are you using or would you like to use?

What questions can you plan to ask?



# Thank You

Q

A