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A hand is shown from the bottom, reaching upwards towards a bright, glowing sun at the top of the frame. A faint rainbow is visible in the background, arching across the sky. The overall scene is bathed in warm, golden light, suggesting a sunrise or sunset. The background is slightly blurred, focusing attention on the hand and the sun.

Memory Support for Life

Practical Ways to
Strengthen Memory

Practical Ways to Strengthen Memory

How Memory Works

Understanding Weaknesses

Other Factors that Impact
Function

Take Action to Strengthen
Memory



Brain Science Old School

- ▶ **Brain functions are determined genetically**
- ▶ **Weakness can only be accommodated**
- ▶ **New brain cells stop forming soon after birth**

The Current Science

- ▶ Cognitive ability is not genetically set
- ▶ Cognitive functions are changeable throughout a lifetime - Neuroplasticity





New Neurons Continue to Form in Adult Human Brains

July 3, 2025

“Certain brain functions, such as memory formation and mood regulation, involve the birth of new neurons”

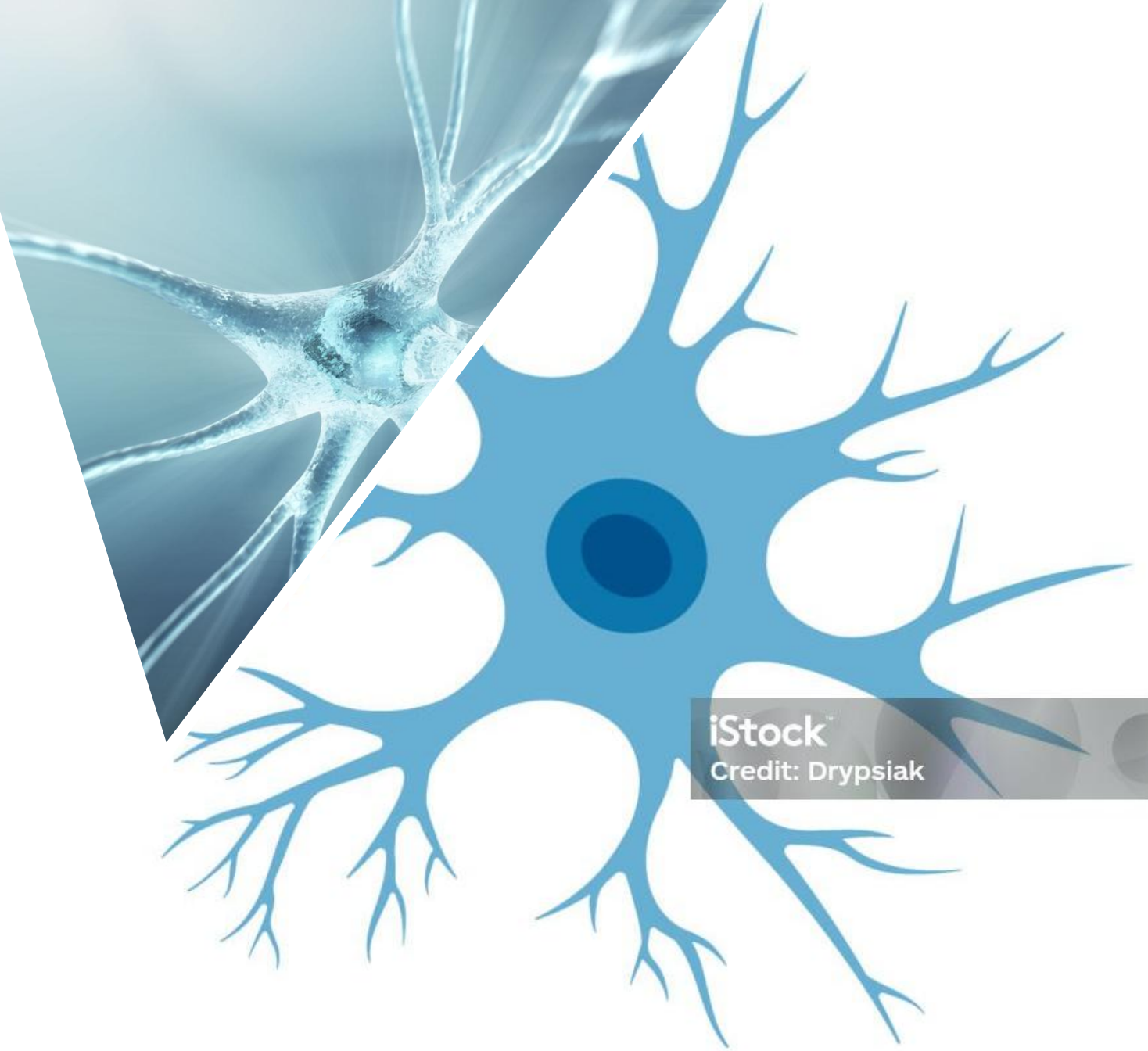
“We have now been able to identify these cells of origin, which confirms that there is an ongoing formation of neurons in the hippocampus of the adult brain,” Frisén said.

<https://www.the-scientist.com/new-neurons-continue-to-form-in-adult-human-brains-73136>

How Memory Works

Synaptic Remodeling

- ▶ 86+ million neurons, thousands of connections
- ▶ Dendrites transmit signals between neurons
- ▶ Spines live on dendrites - form and change minute-to-minute
- ▶ REM sleep refines connections

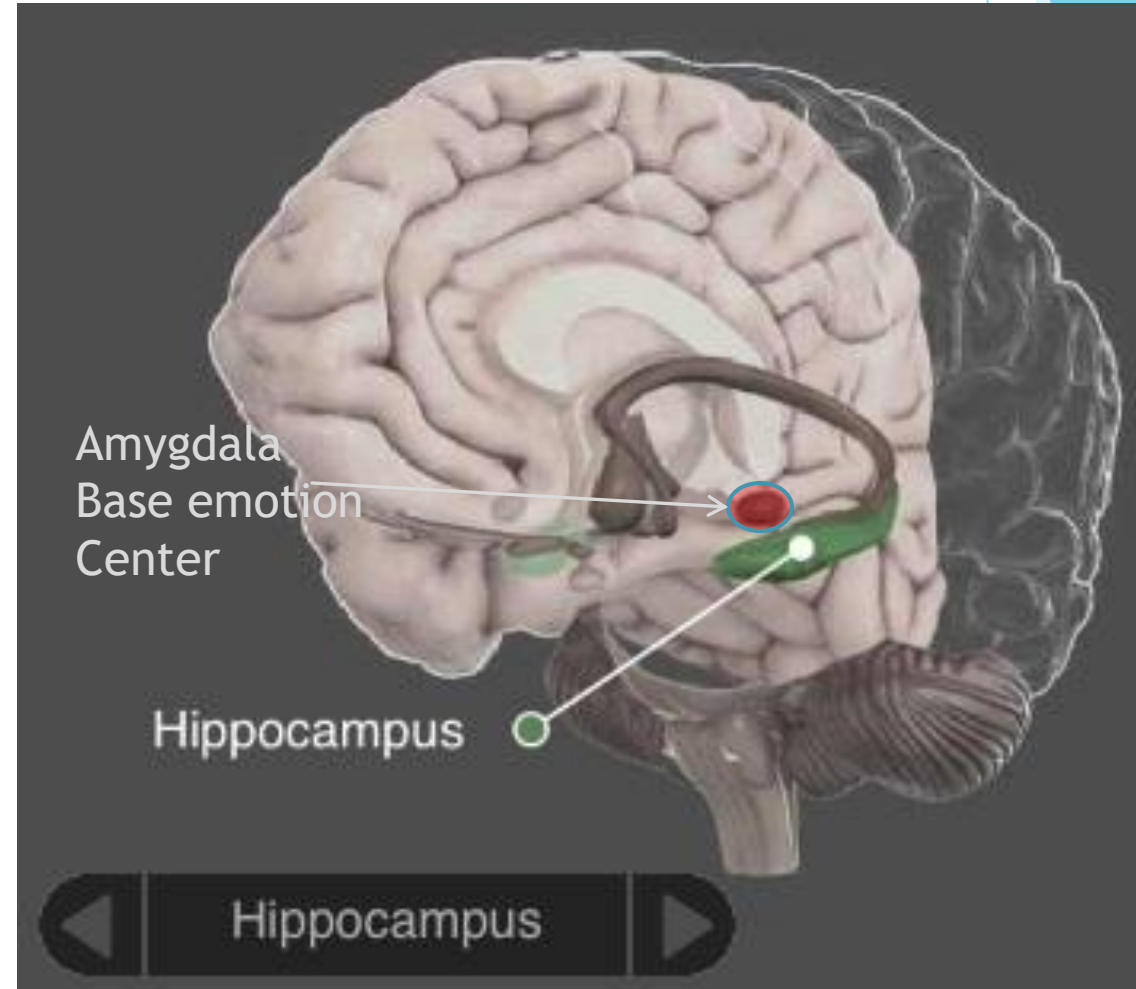


iStock™
Credit: Drypsiak

Hippocampus

Primary Function:
Memory Control

Stress floods the
memory center
with cortisol and
hinders retrieval
and storage



5 Primary Cognitive Functions

Alerting, Orienting,
Executive Attention,
Encoded Memory
and Working Memory

Like an Orchestra -
functions need to be
coordinated



Your Brain is Like an Orchestra



Conductor - watching
butterflies
Forgets which page



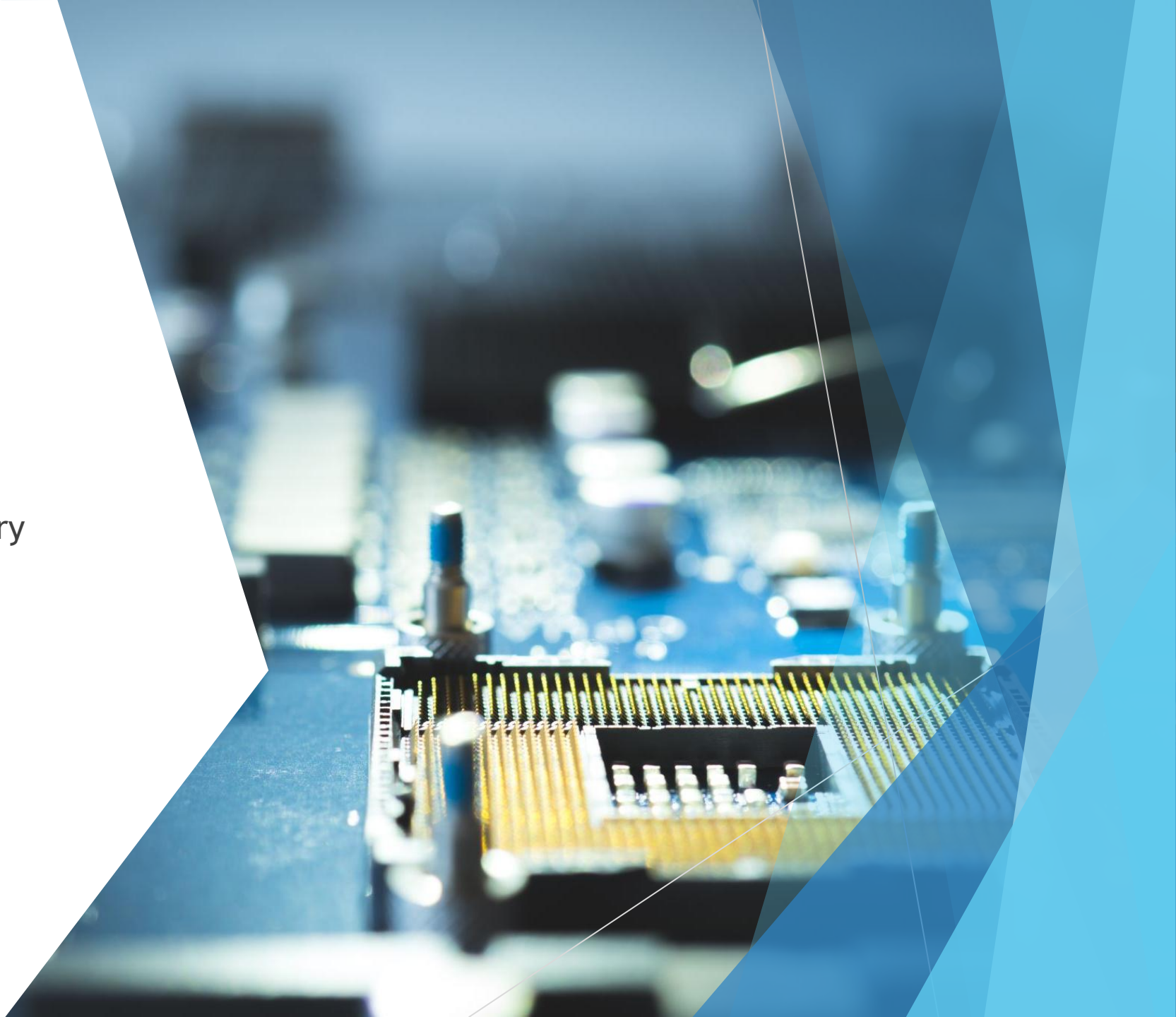
Wind instruments in a
different key



Percussion section at a
different tempo

Memory Works Better

- ▶ Interest (emotions, novelty)
- ▶ Association
- ▶ Encoded versus Working Memory





Declarative

Semantic

Episodic



Procedural



Visual




Auditory

Types of Memory

- ▶ Reflect upon your strengths
- ▶ Cognitive Function Assessments can pinpoint weaknesses objectively
- ▶ www.Creyos.com

Understanding Weaknesses

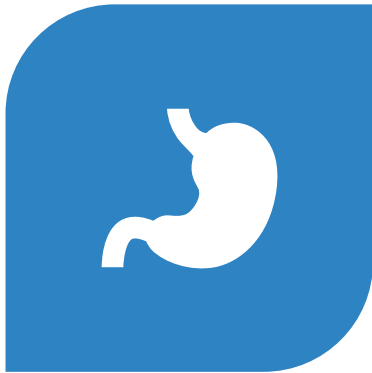


Creyos enables healthcare professionals to assess cognitive function related to memory. Individual tasks evaluate visuospatial working memory, spatial short term memory, working memory, and episodic memory.

- Number Ladder
- Spatial Span
- Paired Associates
- Token Search

Standardized, objective measurement using the Creyos Health platform allows us to effectively guide our work and gauge progress.
Used for research - 30 years

Factors That Impact Memory Function



STRESS -
CORTISOL

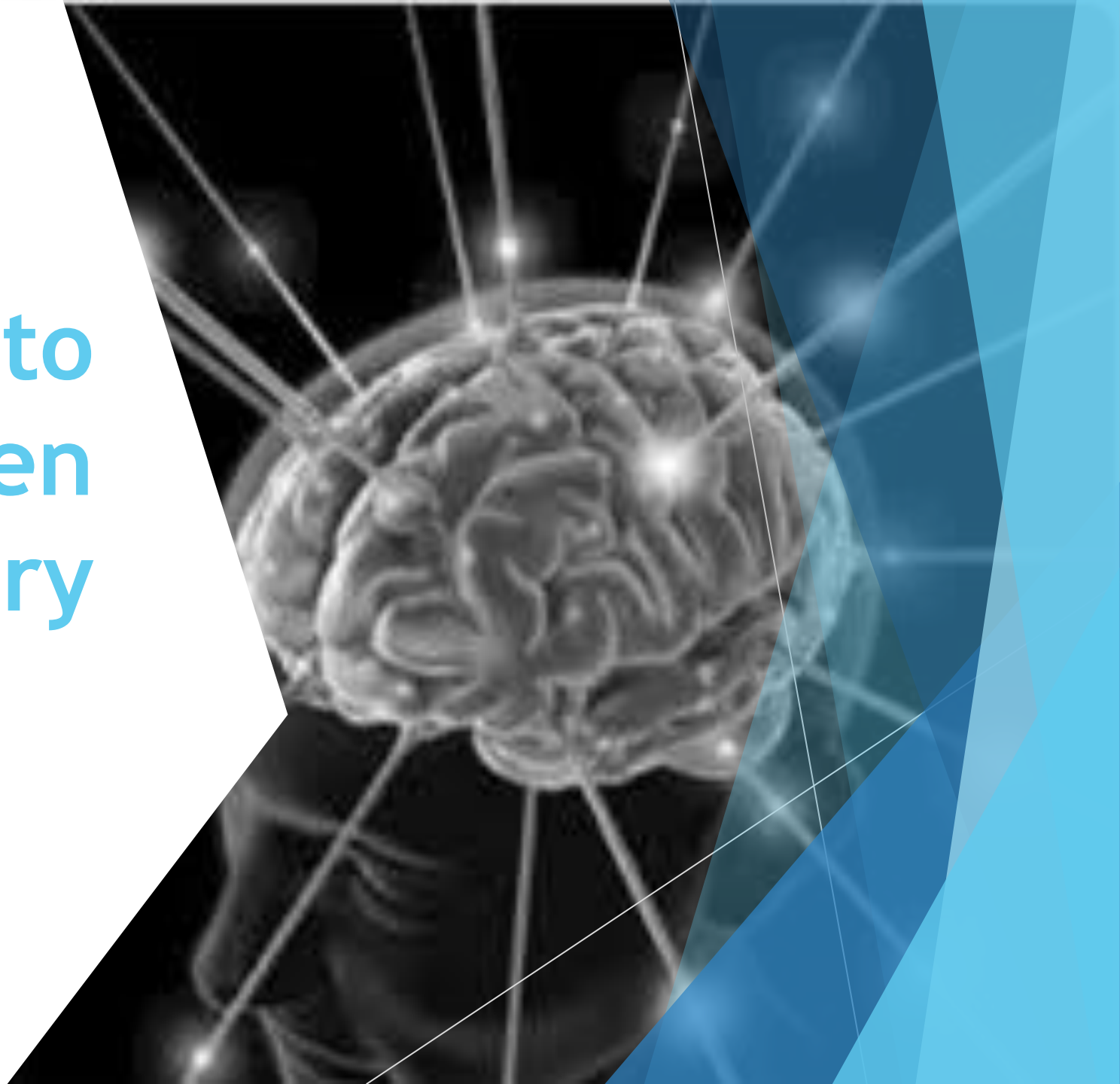


SLEEP



HYDRATION

Take Action to Strengthen Memory



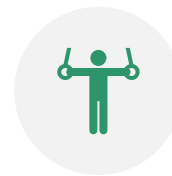
Start Simple - Be Intentional



What you see



What you
hear



Routine

Stretch Your Memory

Work it out like a muscle!



Tools Used to Help Develop Memory



Timer / Stopwatch

Metronome



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Grocery List Challenge

- ▶ Write your list - picture where each item is found in the store and write the list based on where the items are found in a logical progression through the store
- ▶ Visualize - close your eyes and imagine yourself walking through the store and picking up the items and placing them in the cart
- ▶ At the store - do as much as you can without referring to your list
- ▶ When you tackle that - challenge yourself by picking up the items in reverse order

Visualization List Challenge

Person One creates a list of 5 words and says them aloud at 1 second intervals.

(For example: Dog - Cat - Television - Clown - Pool)



Person Two listens to the words and creates a visual story in their mind using action to ignite novelty and enhance recall.

Person Two then calls out the 5 words in order OR writes the 5 words in order on paper.

Pattern Challenge

Lay out 5-7 playing cards or 5-7 dice with different numbers face up

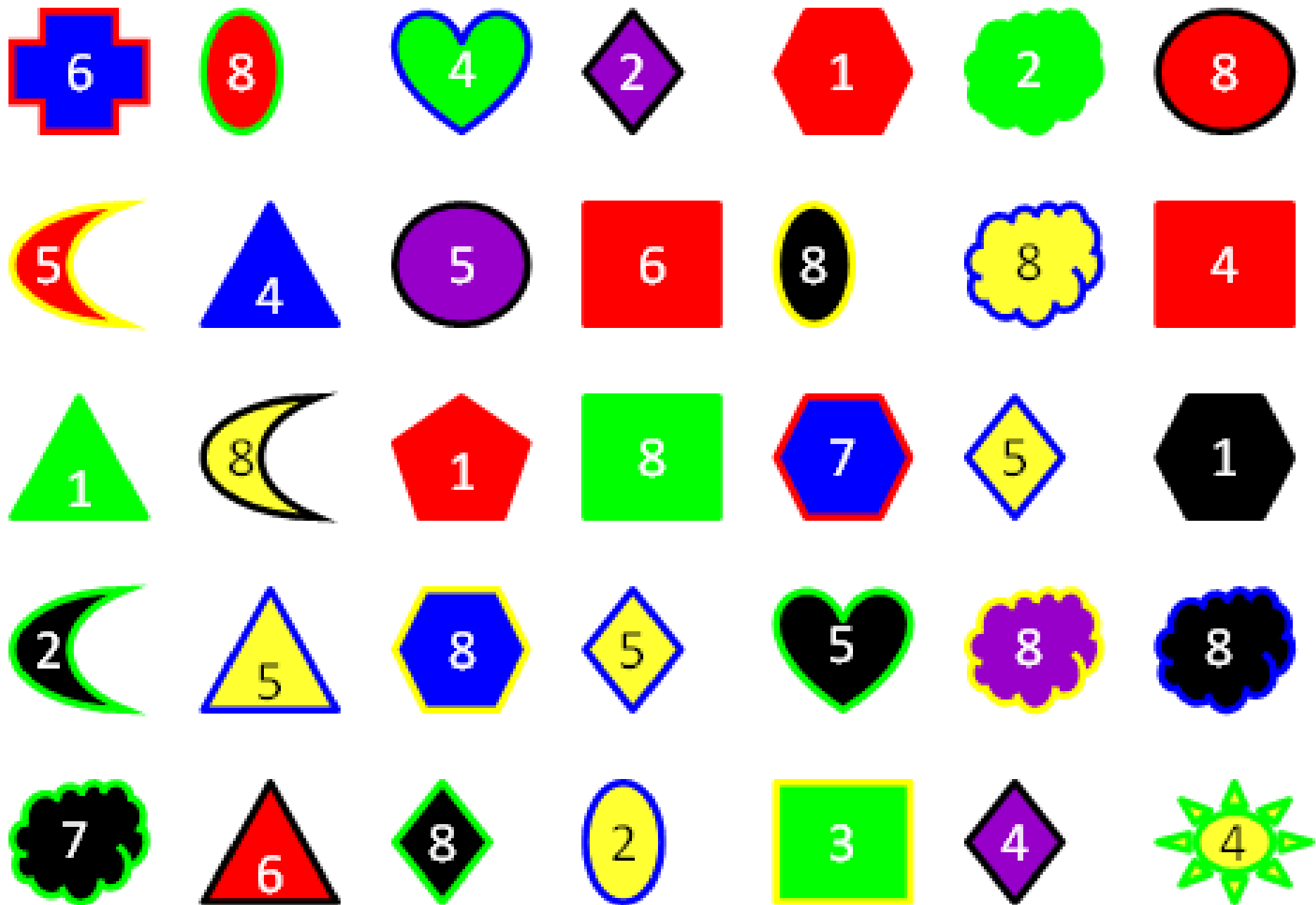
Cover them up and do something else for 15+ minutes

Write the numbers in order on a sheet of paper

Added challenge - write them in reverse order

Another challenge - add 4 to each number and write those numbers rather than the original numbers





Color Word

| | | | | |
|--------|--------------------|------------------|---------------------|--------|
| Yellow | green | Black | blue | Black |
| Black | Yellow | green | [*] Yellow | green |
| Purple | red | [*] red | Black | red |
| blue | [*] green | green | Yellow | blue |
| Black | Purple | Yellow | blue | Yellow |
| blue | blue | Yellow | [*] red | Yellow |

Number Columns

2
0
4
8
7
6
3
1
5

0
6
1
3
2
4
7
5
8

6
1
3
2
0
4
7
5
8

Directions

- **Add 2** to each number – go across and skip a column for more challenge
- **Add 1** to the black columns and 3 to the red column
- **Start at** the bottom and say the numbers in the first and third columns
- **Hold up** the same number of fingers you are saying to the beat down column 1
- **Hold up** 1 more finger than you are saying down column 2
- **Coordinate responses** to the beat of a metronome for optimal challenge – increase speed

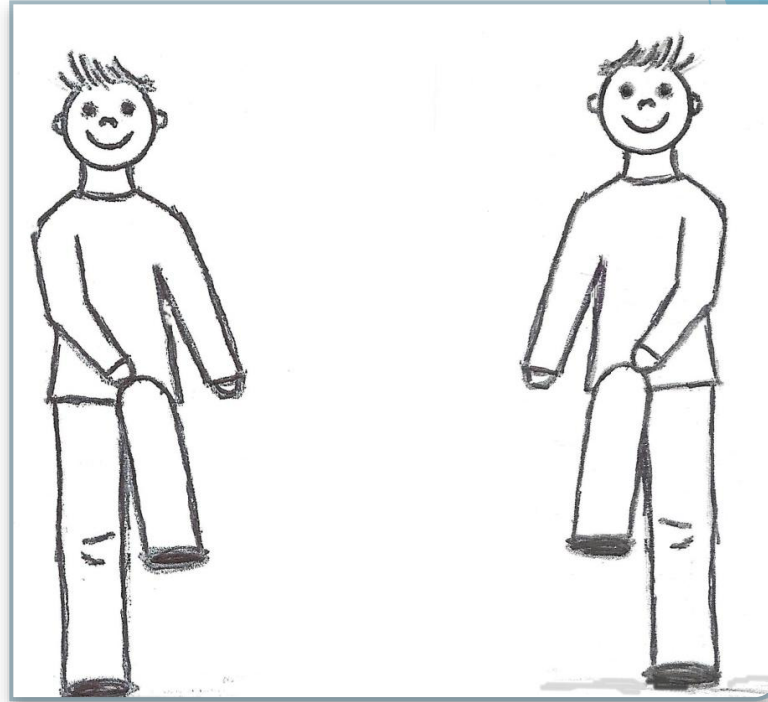
Say the sounds in these words backwards.

Reverse:

- bad
- pat
- top
- nit
- let
- mug
- loot
- pool
- foal

New word is:

- dab
- tap
- pot
- tin
- tell
- gum
- tool
- loop
- loaf

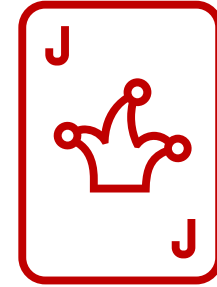


Cross Body activation

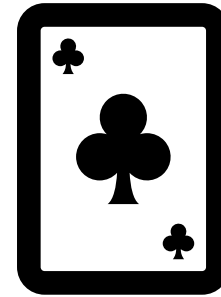
While cross-body marching, spell words backwards. Count backwards from 50 by 3s. Toss or roll a ball back and forth with a friend - 1 person says a number, decide on what to add to it (say add 3 to each number), the other person gives the sum when catching the ball.

Cross Body Cards

Red Card - Touch
Right Shoulder



Black Card -
Touch Left
Shoulder



Vary your speed and change the directions often. Call out the card number and suit while touching the current shoulder (or the table). For more challenge, add 3 to each card - 2 becomes 5 etc.

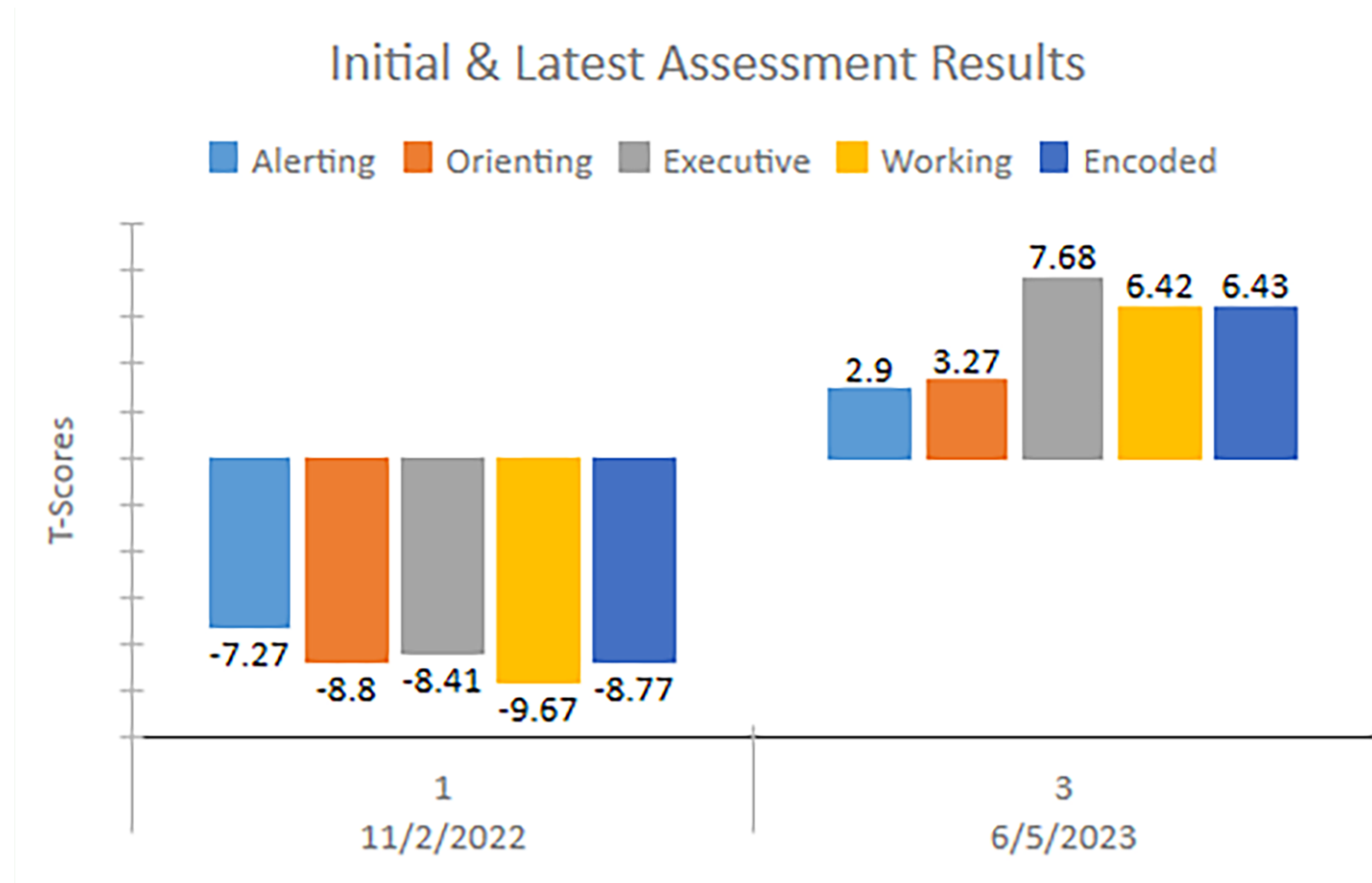


Spot It!

- Speed
- Memory
- Focus

Set out 4 cards - find 6 matches. Say all matches at once for more challenge.

Results - 80 yr old



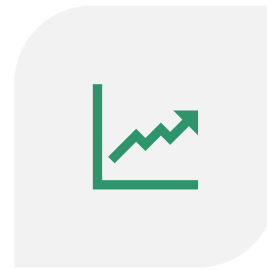
Summary



NEUROPLASTICITY MEANS
YOUR BRAIN CAN CHANGE
AND REMAIN VIBRANT



UNDERSTANDING
WEAKNESSES CAN HELP
YOU MAKE CHANGES



3 FACTORS IMPACT
FUNCTION



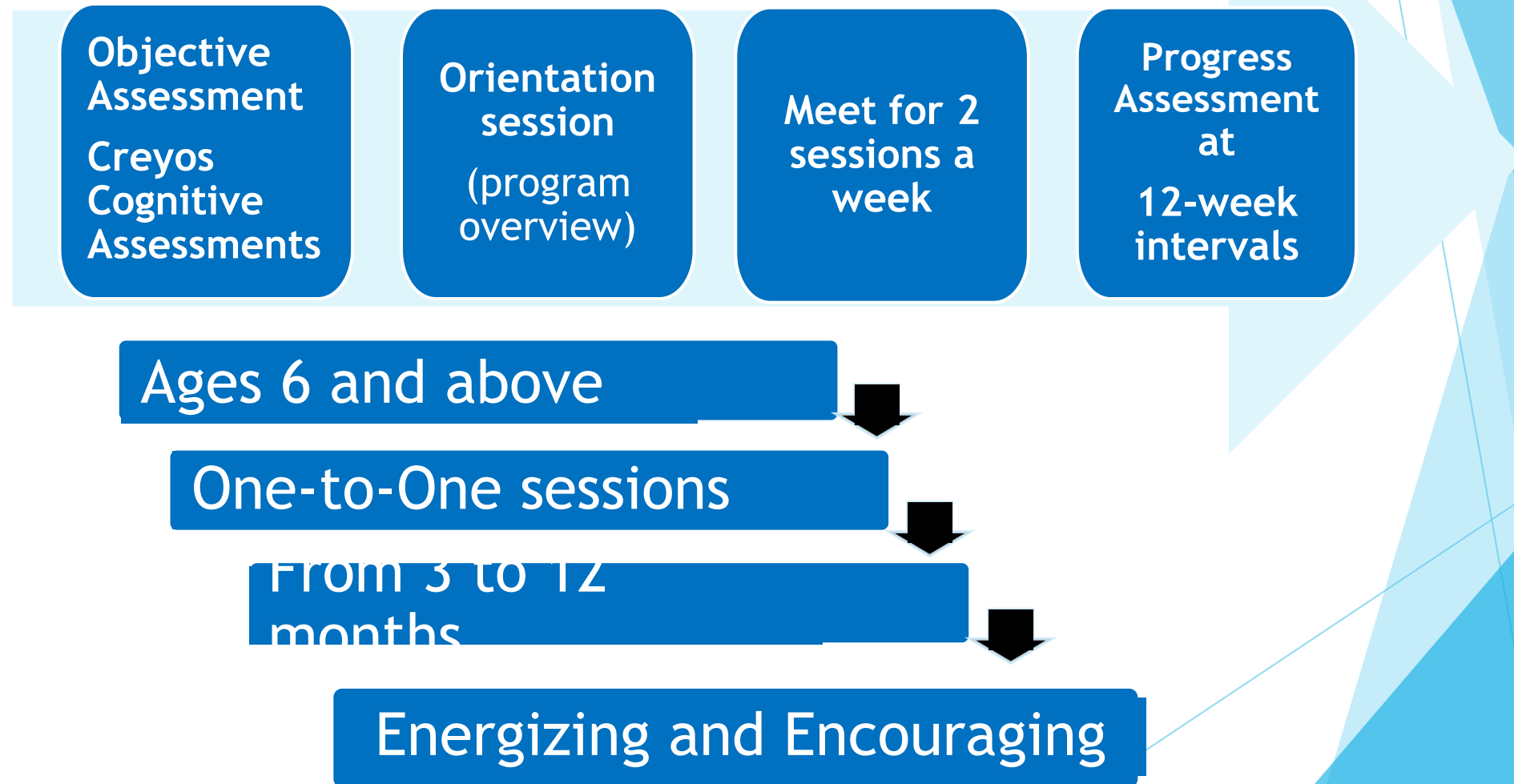
TAKING ACTION - START
SIMPLE, BE INTENTIONAL



?

Questions?

The Process



Cognitive Function Development



Innovative, non-invasive, non-pharmaceutical, one-on-one therapeutic modality



Developed and refined over the past 15 years - underpinned by clinically applied neuroscience



1st peer reviewed research published 12/24 - Frontiers in Human Neuroscience. Study done by the Centre for Neurology Studies

structured,
e-based

CFDT Component

Therapist-guided cognitive tasks

Emotional regulation practice

Executive control & flexibility

Adaptable training “prescription”

Neuroscience Benefit

Support neurogenesis via mental stimulation and novelty → BDNF release & hippocampal resilience

wired.com+15brainhealthuniversity.com+15raisetwice.org+15

Reduces stress/cortisol, mitigating neurogenesis suppression

Enhances PFC and hippocampal circuits responsible for new neuron survival & integration

Offers personalized challenge similar to tailored physical exercise

CFDT is a **natural extension of exercise + cognitive habits**, but delivered through guided, measurable, and evolving therapy. It harnesses the **neuroplastic mechanisms** scientists are uncovering—promoting synaptic growth, increasing BDNF, boosting executive network resilience, and buffering against age-related decline.

Neuroscience Insight

CFDT Enhances

Neuroplasticity (exercise & training)

CFDT uses **therapist-led, adaptive cognitive tasks** to strengthen memory, attention, executive control

Stress/inflammation reduction

CFDT builds **stress tolerance and regulation**, reducing limbic hyperactivity

Executive network growth (hippocampus, PFC)

CFDT targets **working memory and cognitive flexibility**, essential for neurogenesis in hippocampus / PFC

Personalized intervention

CFDT is tailored to each individual's cognitive needs, more effective than generic brain apps

Lasting benefits

Like HIIT or strength protocols, CFDT leads to sustained cognitive improvements over time

Say the sounds in these words backwards.

Reverse:

- Con
- Thorn
- Torque
- Funny
- Shelf
- Dame
- Moan
- Starch
- step

New word is:

- Knock
- North
- Court
- Enough
- Flesh
- Maid
- Gnome
- Charts
- Pets