

Attention

Alerting - Moving to a state of cognitive readiness.

Selecting - Moving one's attention and focus to a specific target stimulus.

Attending - Directing meaningful energy and attention to a specific target stimulus.

Sustaining - Maintaining attention on a specific target stimulus, long enough to take action on it.

Monitoring drift - Observing the mind becoming off-task.

Re-alerting - Bringing attention back online.

Re-selecting - Choosing the current relevant target stimulus (after drift).

Dividing - Maintaining attention to two related tasks within a brief period of time.

Alternating - Shifting attention from one target stimulus to another within a brief period of time.

Disengaging - Withdrawing one's attention or focus from a specific stimulus.

Re-directing - Shifting attention from one stimulus to another with purpose or intent.

85

Memory

Working memory - The cognitive system responsible for transiently holding or maintaining necessary information or data ready-at-hand for relatively immediate access, in a short period of time.

Processing - The cognitive act of perceiving and responding to a stimulus, often under time constraints.

Short-term memory - The cognitive system responsible for the holding of information for a limited amount of time, usually less than several minutes.

Long-term memory - The cognitive system responsible for the storage of information for the long term, often permanently.

Storing - The process of consolidating cognitive, motor or emotional knowledge.

Encoding - Taking information into the memory system and registering it as meaningful in preparation for storage or retrieval.

Retrieval - Accessing previously stored information.

Utilization - Taking action on previously stored information.

Synthesizing - Combining parts of information or knowledge for action, utilization or meaningful application.

86

Cognitive Control

Cognitive control is the process of thinking that supports flexible, adaptive responses and complex goal-directed thought.

Persistence - Adhering to a task or course of action without hesitation, in spite of obstacles.

Shift - Putting aside one thought, feeling or action and replacing it with another.

Flexibility - Shifting emotional valence to a thought, feeling or action with positivity; refraining from becoming rigid or stuck.

Refraining from Distractions - Refraining from diverting attention away from a salient stimulus to another, often non-relevant stimulus; losing focus.

Refraining from Perseveration - Resisting, reframing or shifting from persistent thoughts.

87

Emotional Regulation

Emotional Regulation - The ability to respond, in a measured manner, to life circumstances and experiences.

Recognition - To be aware of a change in internal energy states or emotions.

Identification - To know, recognize or understand a specific emotion or feeling.

Labeling - To put a meaningful name or category to an energy or emotional state.

Categorizing - To make sense of an emotional experience by placing it in a group or category with past experiences, circumstances or situations.

Escalation - An increase in an internal energy state related to the emotional response to an experience, circumstance or situation.

De-escalation - A decrease in an internal energy state related to the emotional response to an experience, circumstance or situation.

88

Impulse Control

(Response Inhibition)

Impulse Control - The ability to manage one's urges.

Inhibition - The process of showing restraint; stopping a word, thought or action.

Disinhibition - Showing a lack of cognitive, emotional or motor restraint.

89

Organization

Management of materials - The physical organization, labeling, categorizing and placement of specific materials or tools (clothing, school supplies, sporting equipment etc.)

Management of daily tasks - The strategy and approach to successful management of the daily activities of life (hygiene, eating, sleeping, household chores, schoolwork, sports etc.)

Management of long-term projects - The ability to preview, plan, allocate time and execute the components that make up a larger constellation of tasks, to one end goal.

90

Task Management

Planning - The act of strategizing to take action in a meaningful, purposeful and goal-directed manner.

Previewing - Using simultaneous processing to consider the entirety of all the components of a task or activity, in order to think about, plan and prepare to take action.

Prioritizing - Considering the imminence and important of a task or a series of tasks in order to determine what to take action upon first.

Initiation - Beginning a defined task, activity or action.

Execution - Taking goal-directed action in order to effect or complete a specific task, activity or action.

Reviewing - Reflecting on the components of a task, activity, action or response in order to examine the utility, efficacy and outcome of a task, event or experience.

Revising - Using the knowledge gained from reviewing in order to revise one's future actions.

Completing - Bringing a task, activity or action to a successful ending.

91

Time Management

Time estimation - Predicting, imagining or estimating the time it will take to successfully complete a specific task, activity or action.

Time monitoring - Experiencing an accurate assessment of the passage of time while executing a specific task, activity or action.

Time allocation - Distributing a finite amount of time to a specific task, activity or action.

Project planning - Planning for the successful completion of components of several tasks that will contribute to the completion of a larger task, experience or event.

92

Motor Management

Motor Management - The ability to control the motor elements of movement, pace, speed, direction, timing, etc.

Planning - The ability to plan and carry out a specific motor action.

Pacing - The speed at which one exhibits a motor action.

Rhythm - A repeated pattern of sounds and silence in speech, sound or movement.

Timing - The ability to activate one's motor movements to coincide with an internal or external beat.

Initiating - Beginning or starting a motor movement.


Maintaining - Continuing to exhibit a motor movement over time.

Stopping - To cease a motor movement.

93

8 Musical Thinking Executive Function Brain Lessons

1. I am Musical
2. I am the Best Coach for My Own Brain I
3. I Move to Learn
4. Neuronal Highways
5. How My Brain is Built
6. My Attention Engine
7. My Memory Window
8. Putting Science + Education Together



94

I am a Cognitive Scientist

Lesson #1


I am Musical

95

I am Musical

We walk to the Beat
 We move to the Beat
 We learn to the Beat
 We regulate to the Beat

"We are all musical."



96

Moving in Time

4/4 3/4

Moving in Measures

1

97

Moving Quickly and Slowly



98

I am a Cognitive Scientist

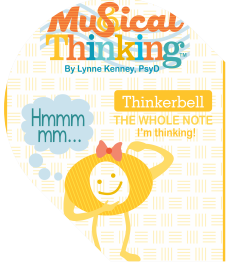
Lesson #2

I am the Best Coach for My Own Brain

99

I am the BEST COACH for My Own Brain I

"When we make the application of executive functions to learning transparent and easily understood, children gain better control over what was previously mysterious to them, that is, *the process of thinking and learning.*"



100

"Executive Functions are Cognitive Skills and Cognitive Skills Can Be Learned."

101

My Attention Engine
My Memory Window
My Self-Coaching Tools

102

Musical Thinking Communication Signals

<p>Pause</p> <p>"Please wait a moment, I'm Thinking."</p> <p>"May I please get up for some movement now?" (mini-break)</p> <p>"May I please take a moment to Bess Rest?" (I am overwhelmed, tired or needing to take a breather and calm myself for a moment.)</p>	<p>Fists gently placed in front of the body next to one another palms down, waist high.</p> <p>Index finger gently pointing to head temple high.</p> <p>Index finger spinning upward.</p> <p>Upper body hug, arms crossed to shoulders.</p>
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103

I am a Cognitive Scientist

Lesson #3

I Move to Learn

104

"I Move to Learn"

- My body moves to help me concentrate
- I need to identify, monitor and respond to my energy state
- Sometimes I need to **energize to alert**
- Sometimes I need to **calm not energize**
- What's My PLAN
- What are my go-to activities?

105

Time/ Activity	All Systems GO!	Engine is Running	I will take ACTIONS to move to Blue or Green	Time to stop, lose a track or conserve my energy

106



107



108

I Can Calm Down

CHOOSE AN ACTIVITY

Bouncing Balls	Painting
Bean Bags	Personalized Photo Album
Books	Picture Books
Bottle of Blowing Bubbles	Pinwheels
Bubble Wrap	Play Doh
Coloring Pages	Puzzles
Drawing	Relaxing Music
Etch-A-Sketch	Resistance Bands
Eye Mask	Rubik's Cube
Finger Paints	Scratch and Sniff Stickers
Four Square Breathing	Silk Scarves
Hour Glass	Spinning Top
Kaleidoscope	Squishy Balls
Legos	Swing
Magnatoodle	Unifix Cubes
Mandala for Coloring	Weighted Lap Cushion
Noise Cancelling Headphones	Wobble Chair
Origami	

MY CALM DOWN BOX

109

I Can Rev-Up

CREATE PATTERNS & SEQUENCES

Brain Primers (Kuczala & Kenney, 2020)

Cognitaps

Cognitap Spots

Dance Rhythmically to Music with a strong beat


Jump on a mini-rampoline

Jump rope

Rhythmic Ball Bouncing (4/4 time vary tempo and patterns)

Mixed Physical Activities (combine 2-3 in a sequence doing each action for 8 counts, repeat 2-3 times)

- Burpees
- High-Heels
- High-Knees
- Inchworms
- Jumping jacks
- Push-Ups
- Run in place
- Russian twists
- Squat-jacks
- Squats
- Star Jumps
- Tricep Dips
- Think-Ups



MY REV-UP TOOLS

110

I Can Calm Down Movement Activities

MOVE RHYTHMICALLY SLOWLY

- Bouncy Bands
- Bounce a ball off a wall
- Cognitaps
- Cognitap
- Body Percussion
- Drum on a yoga ball
- Drumming Patterns
- Hum
- Rhythmic Ball Bouncing
- Repetitive movement in 3/4 time (waltz, lunge, sway, rock)
- Simple Ballet Patterns
- Swaddle
- Sway
- Swing
- Think-Ups

MY CALM-MOTION TOOLS

111

I am a Cognitive Scientist

Lesson #4

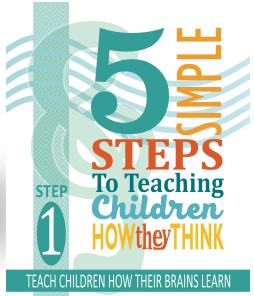
Neuronal Highways

112

**The Paths
Most Travelled**

We begin with pathways. We travel them over and over again until they grow into roadways and then highways.

We build **Neural Connections**



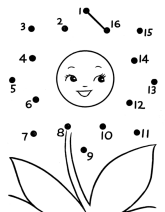
Make It Stick - Peter C. Brown et. al

113

Neuronal Highways

Neuronal Highways

- Pathways to Highways.
- Repetition and Practice.
- Highways improve learning and behavior. "Let's make this easier."



114

I am a
Cognitive Scientist

Lesson #5

How
My Brain is Built

115

5 SIMPLE STEPS
To Teaching
Children
HOW they THINK

STEP 2
TEACH THEM THE MAIN PARTS OF THEIR BRAINS

**Your Hand
Your Brain**

3 Primary Parts
The THINKER The
CAVEMAN and
BOOTS

116

How My Brain is Built

THE THINKER
ORGANIZATION - PLANNING - THINKING

THE CAVEMAN
MOTIVATION - EMOTION - LEARNING - MEMORY
SENSING SAFETY AND DANGER

BOOTS
LARGE MOTOR COORDINATION (MOVEMENT)
THINKING

117

I am a Cognitive Scientist

Lesson #6

My Attention Engine

118

My Attention Engine

119

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- **Attending** - Directing meaningful energy and attention to a specific target stimulus.
- **Sustaining** - Maintaining attention on a specific target stimulus, long enough to take action on it.
- **Monitoring Drift** - Observing the mind becoming off-task.
- **Re-alerting** - Bringing attention back online.
- **Re-Selecting** - Shifting attention from one stimulus to another with purpose or intent.

120

I am a Cognitive Scientist

Lesson #7

My Memory Window

121

My Memory Window

My Memory Window



We all have a window in our brains to our memory.

In order to open the window to our memory, we need to turn on our attention engines.

When we rev up our engines, then focus on our target, we listen to or see what we need to learn.


Our attention engines open the window to our memory so that information may pass through it. As we learn the new information we turn it into knowledge.

122

Our Memory File Cabinet

Memory

The Marker
The White Board
And Your File
Cabinet



123

I am a
Cognitive Scientist

Lesson #8

Putting Science +
Education Together

124

Putting Science +
Education Together

- I understand that I need practice and repetition to build the connections in my brain
- I understand that my THINKER rests on my Caveman and Boots
- I know that Attention is more than ONE thing
- I know I need to OPEN my memory window to let information in to become knowledge
- I understand that sometimes I need to move to THINK
- I will ask for help when I need it, I have a language now to do that

125

Building Your Own Patterns, Sequences &
Rhythmic Phrases

126
