# Strengthen Executive Function, Attention, Memory, Response Inhibition & Self-Regulation in Children & Adolescents

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# We are Here to Shift the Trajectory of Children's Learning

## Disclosures

Dr. Kenney is a pediatric psychologist in the State of Arizona practicing on an intensive language and executive function treatment team at Wellington-Alexander Center for the treatment of Dyslexia, ADHD, Dyscalculia, and Dyspraxia.

As the author and co-author of five books, Dr. Kenney receives royalties from three publishers. Dr. Kenney develops executive function curriculum and cognitive-motor physical activity programs that are used worldwide. She is the creator of the CogniSuite™ Collection and co-creator of CogniMoves® with Benjamin Bunney, MD along with a team of neuroscientists, educators, and animators. Dr. Kenney co-developed the first executive function and self-regulation roll-out mat, Cognitivities™ with Fit and Fun Playscapes.

Dr. Kenney's primary income is from clinical practice, teaching, and product sales. The products mentioned in this presentation are not sponsored. Resources are shared for your benefit and the well-being of those with whom you work.

## Scope of Use of Content

## Workshop Overview

- Importance of Executive Function
- The Ready To Learn Brain
- Tools for Screening & Assessment
- Executive Function Skill Interventions
- CogniSuite - Attention, Memory Self-Regulation
- Cognitive Skill Coaching

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# The Morning Program

# The Importance of Executive Function

## Executive Function Predicts Achievement

For many students, Executive Function Skills and Self-Regulation are more powerful predictors of reading and math achievement than IQ or Socio-Economic Status.

Empirical research demonstrates that the development of executive functions during childhood plays a central role in school readiness, academic achievement, social-emotional development, and life-long success.

See Mulder, et al. 2017; Blair and Razza, 2007; Bull et al., 2008; Clark et al., 2010; Geary et al., 2012; Cortés Pascual et al., 2019; McClelland et al., 2021.

## Executive Function is Central to Immediate & Life-Long Success

- Increased school readiness
- Better performance in reading and math
- More stable relationships
- Less risk-taking behavior
- Better job performance
- Better productivity
- Better physical health
- Higher graduation rates
- Higher income

## Cognition is Action

Cognition is the mental action or process of acquiring knowledge and understanding through thought, experience, and the senses.

Cognition is the ability to perceive and respond, process and understand, store and retrieve information, make decisions, and produce appropriate social responses.

## What is Executive Function?

Executive Function is a collection of self-regulatory control processes that are divided into core domains of working memory, inhibition, control of attention, and cognitive flexibility. Healthy executive functioning helps us to be adaptive prosocial human beings.

Executive Function includes metacognitive and functional abilities that increase awareness and conscious control of our thoughts, feelings and actions.

## What are Executive Function Skills?

Executive function skills are essential for planning, executing, and monitoring goal-directed behavior, and are therefore central to problem-solving and learning.

EF is associated with core academic achievement in reading, math, science, and social studies for typically developing children as well as those with special needs.

**Working Memory:** the ability to hold information in mind for recall and application
**Cognitive Flexibility:** the ability to think about something in multiple ways, flexibly shift the focus of one's attention, and generate multiple solutions to a problem
**Inhibitory Control:** the ability to inhibit fast and unthinking responses to stimulation

## Core Executive Function Skills

- Self-Regulation Self-Control Response Inhibition
- Attention
- Memory
- Previewing
- Planning
- Organization
- Task Initiation
- Task Execution
- Task Completion
- Reviewing & Revising
- Time Estimation, Allocation, Monitoring

- Self-Regulation: The ability to modulate one's internal energy, thoughts and emotions in a prosocial direction
- Inhibitory Control: The ability to inhibit or resist acting impulsively or prematurely
- Attention: The ability to focus on and attend to a salient source of cognitive stimulation
- Working Memory: The ability to hold information in mind for recall and application
- Cognitive Flexibility: The ability to change perspective and adjust to new demands, rules, priorities or expectations

# The Ready To Learn Brain

When you say that a child is ready to learn, what does that mean to you?

_____

_____

Foundational Precursor Skills to Learning


## Then & Now

Play outdoors
Play in nature
Swing upside down from trees
Jump into lakes
Balance on rocks
Go on field trips
Watch Television
Creative & Imaginary Play
Dig and build
Tunnel and crawl
Take more physical risks
Play more hand games, rhyming songs and jump rope

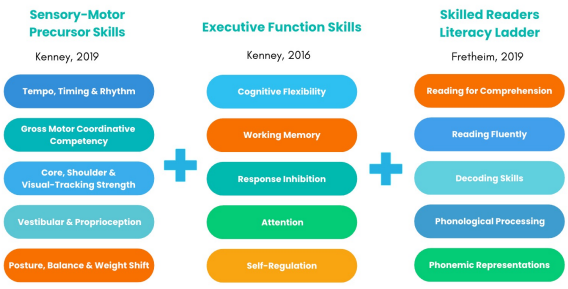
Less free time
More structured and scheduled play
Less unstructured time with family
More isolation with digital devices
Fewer family dinners
Less time outdoors
Less physical movement
More sitting
Less opportunities for vestibular and sensory activities
2-3 fold increase in screen time from the 1990's to 2018

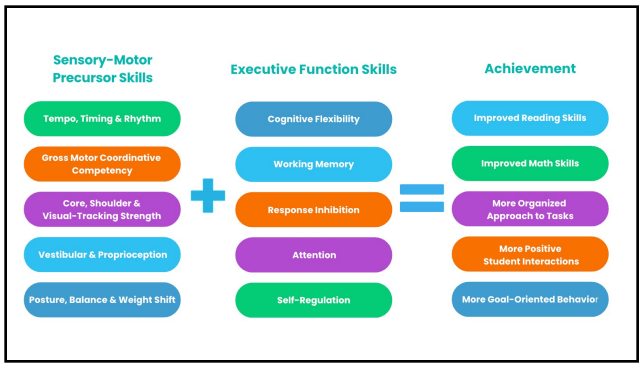
Sources: Pew, 2018; CHILDWISE - Connected Kids, 2015; Common Sense Media 2020; Sousa, 2017

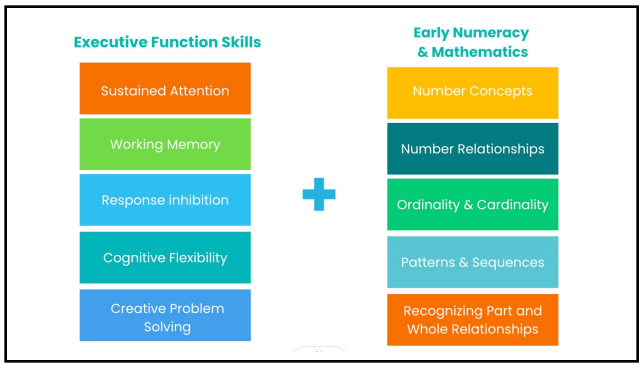
## SKILL DEFICITS

AUDITORY PROCESSING
COGNITIVE DEFICITS
DIFFICULTY IN DECISION MAKING
DIMINISHED VISUALIZATION
DISTRACTIBILITY
DYSREGULATION
EMOTIONAL OVEREXCITABILITY
FINE MOTOR CHALLENGES
HYPERACTIVITY
IMPULSE CONTROL
INABILITY TO PREVIEW
INATTENTION
INTERNAL ENERGY MANAGEMENT
LACK OF FUTURE THINKING
LANGUAGE COMPREHENSION
LANGUAGE PROCESSING
MOTOR PLANNING
ORGANIZATIONAL SKILLS
PLANNING
PROBLEM-SOLVING
SENSORY OVERSTIMULATION
SENSORY UNDERSTIMULATION
SEQUENTIAL PROCESSING
SIMULTANEOUS PROCESSING
TIME ALLOCATION
TIME ESTIMATION
TIME MONITORING
VISUAL MOTOR DEFICITS
VISUAL PERCEPTUAL DIFFICULTIES
VISUAL SEQUENCING TRACKING DIFFICULTIES
WORKING MEMORY DEFICITS

- Executive function skills facilitate skilled reading by coordinating specific reading processes, such as decoding, integrating information, retrieving information, supporting mental imagery, generating and applying strategies, and simultaneously coordinating reading processes.
- Without attention, children cannot decode sound/word structure or encode meaning.
- Without patterning and sequencing, children cannot develop reading fluency or make sense of numeracy.
- Without working memory children cannot hold information long enough in memory to turn it into knowledge.
- Without cognitive flexibility, children cannot adapt to changes in rules, expectations, or priorities.
- Without motor rhythm and timing, students have difficulty reading with prosody.
- Without vestibular strength children cannot visually track, scan or look up at the teacher and down again to efficiently work at their desks.
- Without core and shoulder strength children cannot sit or stand to read and write.
- Without grapho-motor skills children are shown to have lower achievement.





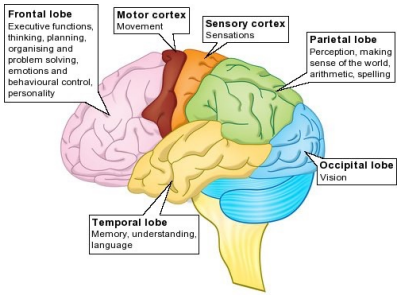

## Fitness, Cognition & Achievement

Fitness & Standardized Testing: Physically fit children demonstrate greater attentional resources, have faster cognitive processing speed, and perform better on standardized academic tests. Source: Educating the student body.

Fitness & Executive Function: A growing body of research in children and adults indicates that higher levels of fitness are associated with better control of attention, memory, and cognition (Colcombe and Kramer, 2003; Hillman et al., 2008; Chang and Etnier, 2009).

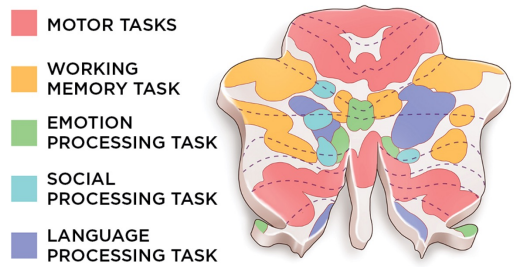
Fitness & Cognitive Efficiency: The cognitive efficiency seen in higher-fit children, is a predictor of arithmetic and reading aptitude independently of IQ and school grade (Hillman et al., 2012).

Fitness & Mental Health: Fitness is also associated with less depression and anxiety, (Kandola et al., 2019).




The Learning Brain

Source: https://www.hydrocephalusscotland.org.uk/content/cognition/




Source: https://www.the-scientist.com/features/the-multitasking-cerebellum-roles-in-cognition-emotion-and-more-70349

## Cerebellum

The cerebellum is the powerhouse of the connections between the cognitive and motor systems.

The cerebellum only accounts for about 10 percent of your brain's total size. Yet is contains up to 80% of the brain cells in your brain.

The cerebellum is involved in the major brain structures that process language, motor and cognitive skills. In fact, the cerebellum is connected to every area of the cortex except the parts of the occipital lobe where low-level visual processing occurs.

The cerebellum is responsible for balance, coordinating motor movements, visual control, language processing, and cognition.

The cerebellum determines verbal fluency (both semantic and formal) expressive and receptive grammar processing, the ability to identify and correct language mistakes, and writing skills, Starowicz-Filip et al. 2017.

Executive Functions have been shown to predict school readiness in young children (Blair & Diamond, 2008; Roebers et al., 2014), and are consistently reported to robustly predict academic achievement (Bull, Espy, & Wiebe, 2008; Schmidt et al., 2017; Viterbori, Usai, Traverso, & de Franchis, 2015), cited in Schmidt et al, 2020.

Children and youth who have higher levels of aerobic fitness are generally healthier and perform better on tests of executive functioning and academic achievement, Graham, 2021.

Coordinative and team interventions with cognitive and motor components are currently seen to have the greatest impact on executive functions, Ferreira-Vorkapic et al. 2021.

The physical activities that best engage executive functions are those with increasing cognitive demands, Schmidt et al. 2020.

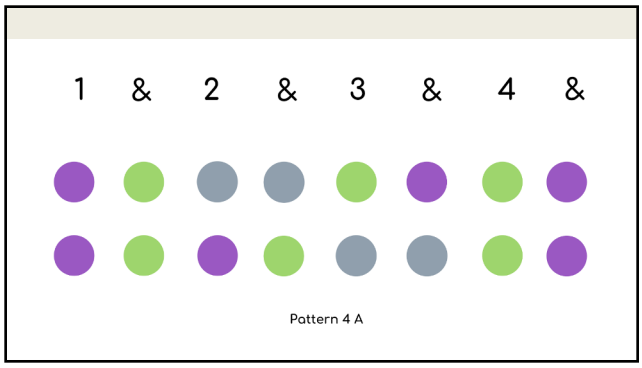
Aspects of physical fitness are also intricately linked to overall health, executive functioning, and academic achievement, Graham, 2021.

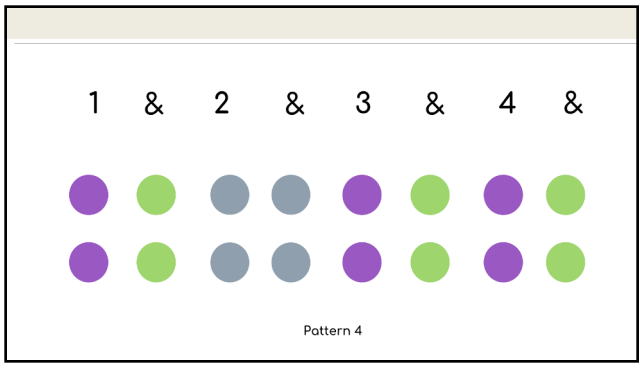
Increased sedentary time during early childhood has been negatively associated with children's cognitive and academic skills, Carson et al., 2015.

# Let's Alert Our Brains with a Movement Snack

1 & 2 & 3 & 4 &

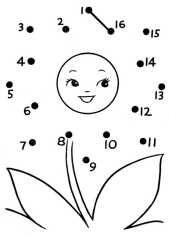
Pattern 1




## Neuronal Highways

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



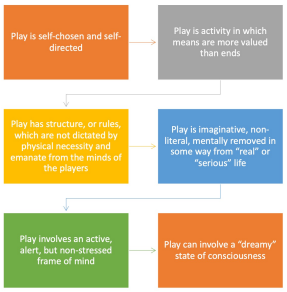
## Executive Function Skills Developmental Progression

**Foundational Skills as Early as Age 18 months**

- Response Inhibition
- Self-Control
- Working Memory
- Emotional Control
- Cognitive Flexibility
- Focused Attention
- Sustained Attention
- Previewing
- Planning
- Task Initiation

**More Advanced Skills Ages 6 and Above**

- Organization
- Prioritization
- Planning
- Goal-Directed Persistence
- Time Management
- Metacognition (self-assessment, self-monitoring, monitor change, problem solving)




## Elements of Play

### Play Builds Cognition

Adapted from Peter Gray, PhD, Boston College

- Play includes activities that are not goal-focused. They can be structured or unstructured, include high or low physical activity (PA), and require large or small motor movements, and children participate for fun and enjoyment.
- In-school play opportunities are free-time periods where children can choose to play, such as recess, lunch breaks, classroom breaks, outdoor breaks, centers, and play stations. Skills harnessed through in-school play help develop the whole child and may benefit academic achievement (AA) and social-emotional well-being.

Burson, S.L., Castelli, D.M. (2022). How elementary in-school play opportunities relate to academic achievement and social-emotional well-being: systematic review. J Sch Health. 92: 945-958. DOI: 10.1111/josh.13217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# Executive Function Screening & Assessment

## EFD Across Diagnoses

Executive function is a broad group of mental skills that enable people to complete tasks and interact with others.

An executive function disorder can impair a person's ability to organize themselves and control their behavior.

However, executive function disorder is not a specific, standalone diagnosis or condition in DSM-V.

Source: Medical News Today

**Executive Function Deficit – ICD 10 R41.844**

In psychology and neuroscience, executive dysfunction, or executive function deficit, is **a disruption to the efficacy of the executive functions**, which is a group of cognitive processes that regulate, control, and manage other cognitive processes.

## Co-Existing Conditions

More than 80% of the population diagnosed with ADHD has a comorbid condition, Lino & Chieffo, 2022.

Patients with ADHD often have difficulties in coordination and motor programming just as children with DCD show greater impulsivity and difficulties in inhibitory control, Lino & Chieffo, 2022.

Nigg et al., 2005 observed that almost 80% of children with ADHD exhibited a deficit in at least one EF, while this only occurred in 50% of children with typical development (TD).

50% to 80% of children with ADHD or Dyslexia have co-existing diagnoses with 25%-40% meeting criteria for both ADHD and Dyslexia, Boada et al., 2012.

Developmental coordination while existing in 5-6% of the population exists at substantially higher rates 50%-80% in children with ASD, ADHD and Dyslexia.

Executive Function impairments are observed in neurodevelopmental disorders, such as Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Specific Language Impairment (SLI), developmental coordination disorder, and dyslexia. When we improve executive function skills in children with learning, attention, and developmental challenges we improve their lifelong success.

See: Center on the Developing Child at Harvard University, 2011; Blair & Razza, 2007; Benson et al, 2013; Diamond & Ling, 2016; Masten, et al. 2012; Obradovic, 2010 (as cited in Zelazo, et al. 2016); Scionti, et al. 2019.

## What is already screened?

- Reading deficits
  - Phonological awareness
    - Phonological Awareness Literacy Screening (PALS)
    - Dynamic Indicators of Basic Early Literacy Skills (DIBELS)
  - Decoding and Word Recognition
    - Word Identification and Word Attack subtests
    - Woodcock-Johnson Tests of Achievement
    - Test of Word Reading Efficiency (TOWRE)
  - Reading Comprehension
    - Gray Oral Reading Test (GORT)
    - Comprehensive Test of Phonological Processing (CTOPP)


## What is already screened?

- Math skill Deficits
  - Number sense
    - Test of Early Mathematics Ability (TEMA)
    - Number and Operations Subtest of Woodcock-Johnson Test of Achievement
  - Calculation skills
    - KeyMath Diagnostic Arithmetic Test
    - Kaufman Tests of Educational Achievement (KTEA)
  - Math-Problem-Solving
    - Mathematical Problem Solving subtest of the Wechsler Individual Achievement Test (WIAT)
    - Test of mathematical abilities for gifted students (TOMGAS)

We are NOT screening for

attention, working memory, self-regulation, cognitive flexibility, and impulsivity!!

## The Importance of Executive Function Screening - I

**Early Identification of Learning Difficulties:** Identifying executive function deficits at an early stage can help educators and parents address learning difficulties promptly. Early intervention can lead to more effective support and targeted interventions, reducing the risk of academic and behavioral challenges later on.

**Tailored Instruction:** Executive function screening can provide valuable insights into a student's strengths and weaknesses. By understanding their specific needs, educators can develop tailored instructional strategies that support the development of EF skills and optimize learning outcomes.

## Academic Benefits of Executive Function Screening

- EF are closely associated with academic success (Best, Miller, & Naglieri, 2011; Bull & Scerif, 2001).
  - Deficits in EF skills linked to difficulties in reading comprehension, math problem-solving, written expression, and overall academic performance
- Both working memory and planning uniquely contributed to reading comprehension. Working memory and inhibition also supported decoding (Nouwens et al., 2021).

## The Importance of Executive Function Screening - II

**Behavioral and Emotional Regulation:** EF deficits can be associated with difficulties in emotional regulation and impulse control. Identifying these challenges early on can facilitate the implementation of strategies to help students manage their emotions and behavior effectively.

**Social Skills and Relationships:** Executive function plays a crucial role in social interactions. Students with strong EF skills can better navigate social situations, engage in effective communication, and exhibit appropriate social behaviors, fostering positive relationships with peers and teachers.

## Social Outcomes of Executive Function Screening

- EF help students regulate their behavior, emotions, and impulses
  - Better self-control and adaptive social functioning
- Deficits in EF have been associated with
  - Behavioral problems
  - ADHD
  - Aggression
  - Difficulties in social interactions
- Addressing EF deficits can improve social skills and promote positive relationships
- (See Martinez et al. 2016; Moffitt et al., 2011; Willcutt et al., 2005)

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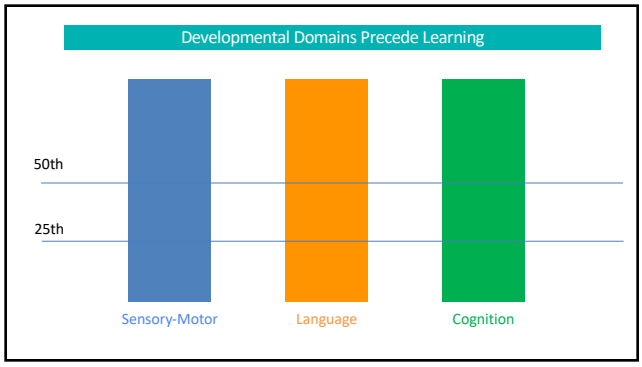
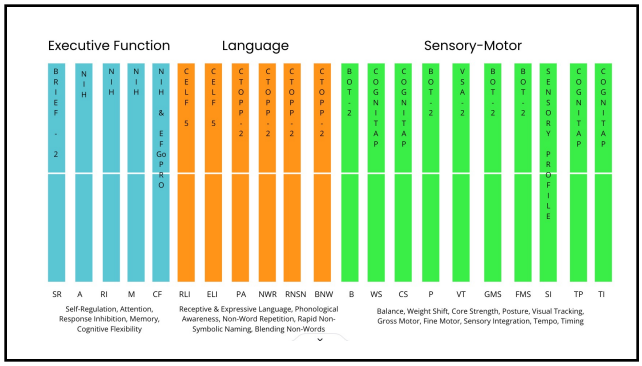


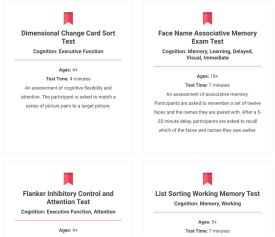



## Current Methods for Screening EF skills

- Performance-based measures
- Neuropsychological batteries
- Research-informed questionnaires

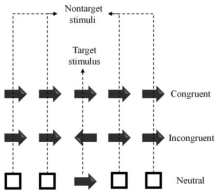
## Screening Tools for Executive Function

- NIH Toolbox
- Creyos
- EFGoPro
- Brief - 2




## Flanker

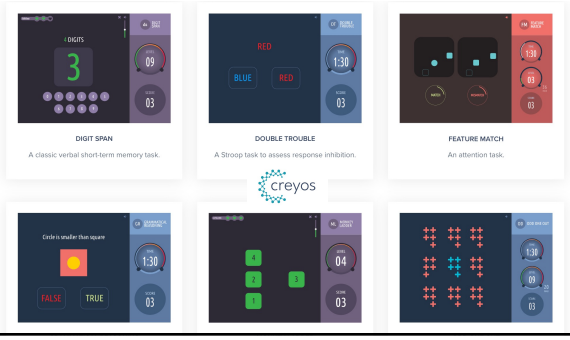
Source: NIH Toolbox

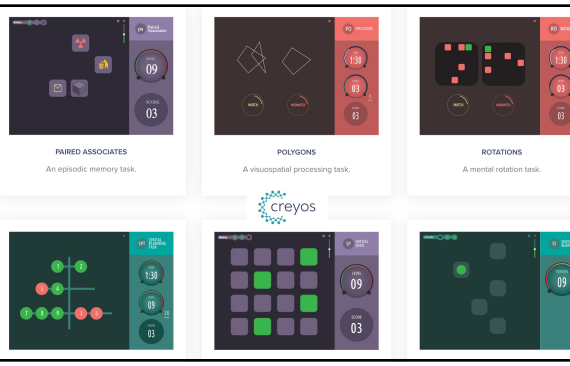


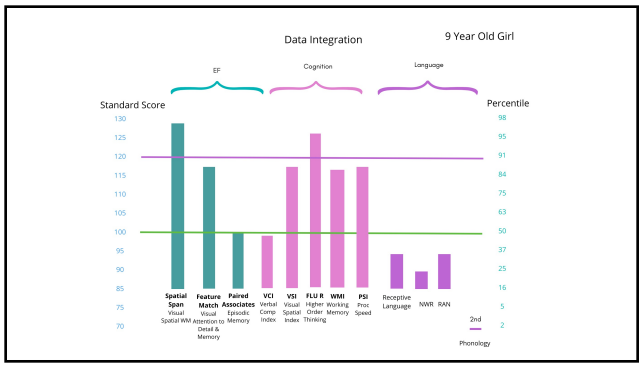

Source: Neurocognitive Mechanisms of Attention, 2021


Look at these boxes. This one is orange and this one is green. This is the color game. In the color game, all the orange ones go in the orange box and all the green ones go in the green box. (tap + button)
Practice 1
Level 4
Demonstration

EF Go Pro


DIGIT SPAN
A classic verbal short-term memory task.
DOUBLE TROUBLE
A Stroop task to assess response inhibition.
FEATURE MATCH
An attention task.
creyos


PAIRED ASSOCIATES
An episodic memory task.
POLYGONS
A visuospatial processing task.
ROTATIONS
A mental rotation task.
creyos


Data Integration
9 Year Old Girl
EF
Cognition
Language
Standard Score
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Visual Spatial WM
Feature Match
Visual Attention to Detail & Memory
Paired Associates
Episodic Memory
VCI
Verbal Comp Index
VSI
Visual Spatial Index
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PSI
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NWR
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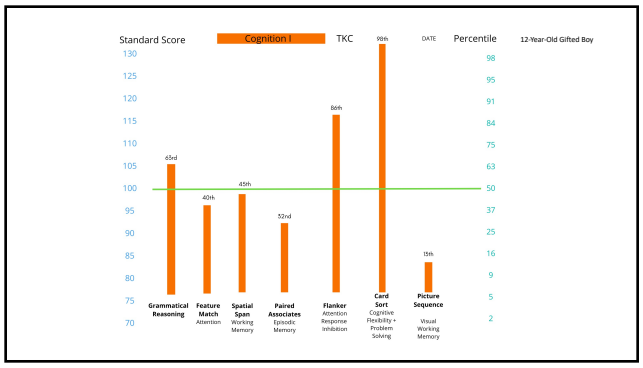
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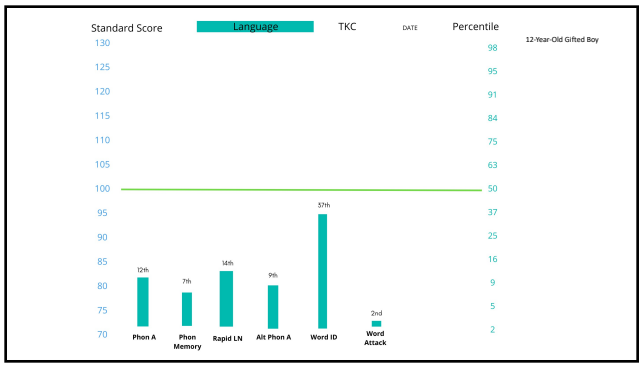
Grammatical Reasoning
Feature Match
Attention
Spatial Span
Working Memory
Paired Associates
Episodic Memory
Flanker
Attention Response Inhibition
Card Sort
Cognitive Flexibility + Problem Solving
Picture Sequence
Visual Working Memory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12th
7th
14th
9th
57th
2nd
Phon A
Phon Memory
Rapid LN
Alt Phon A
Word ID
Word Attack

Here are links to the cognitive task videos

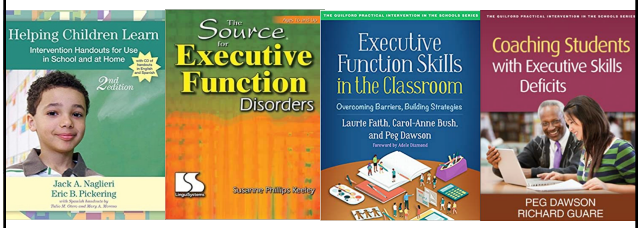
BART https://www.brainturk.com/bart

Flanker https://youtu.be/x2NvYsswIto

NIH Task Descriptions https://www.nihtoolbox.org/domain/cognition/

Stop Signal Task https://youtu.be/LMCHacP3eXI

STROOP https://youtu.be/EGpzftQf8oI




# The Afternoon Program

# Executive Function Skills Interventions

## How to Develop Executive Function Skills

The current neuroscience in education research shows us there are four evidence-supported non-pharmacological ways to enhance executive function skills:

1) Cognitive Skills Coaching
2) Digital Therapeutics
3) Neurofeedback
4) Cognitive-Motor Movement

We integrate executive function coaching skill development tools and cognitive-motor activities to engage Self-Regulation, Executive Function, Learning, and Behavior.

Cognitive Skills Coaching
Increase metacognition, self-regulation, attention, memory, planning, organization, and more.

Cognitive-Physical Activities
Improve motor-cognition

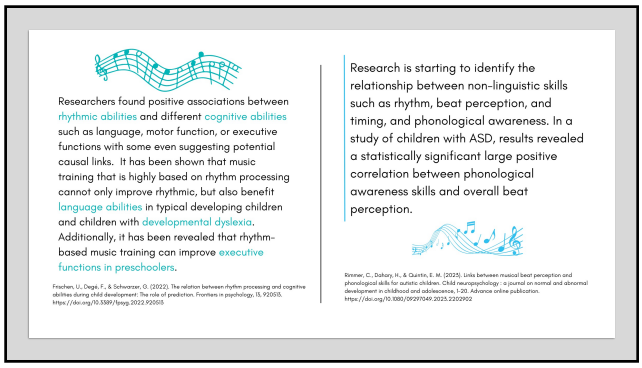
# Cognitive-Motor Interventions to Strengthen Executive Function & Self-Regulation

## We Are Musical!

A systematic review of the research suggests that short bursts of fine and gross motor coordinated bilateral physical activity may improve attention, processing speed, and focus, van der Fels et al. 2015.

In a systematic review of research studies on the impact of physical activity on attention, deSousa et al. 2018 observed that continuous exercises that required greater cognitive involvement like activities with coordination and balance were related to a better performance during attention-demanding tasks than continuous exercises with fewer or no cognitive challenges (Budde et al., 2008; Palmer et al., 2013).

Bonacina et al. 2019 reported the use of clapping in time training as a way to possibly affect a broad spectrum of rhythmic abilities that are linked to language and literacy processes.



Researchers found positive associations between rhythmic abilities and different cognitive abilities such as language, motor function, or executive functions with some even suggesting potential causal links. It has been shown that music training that is highly based on rhythm processing cannot only improve rhythmic, but also benefit language abilities in typical developing children and children with developmental dyslexia. Additionally, it has been revealed that rhythm-based music training can improve executive functions in preschoolers.

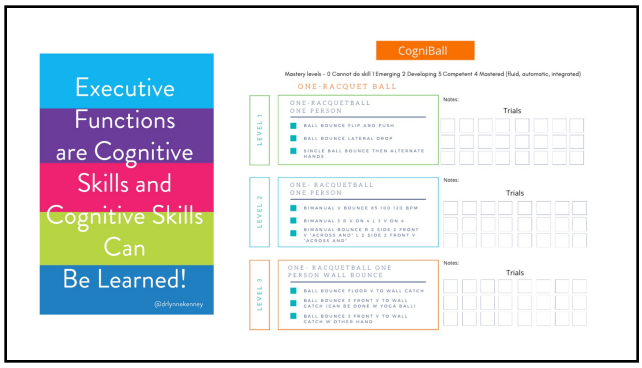
Frischen, U., Degé, F., & Schwarzer, G. (2022). The relation between rhythm processing and cognitive abilities during child development: The role of prediction. Frontiers in psychology, 13, 912015. https://doi.org/10.3389/fpsyg.2022.912015

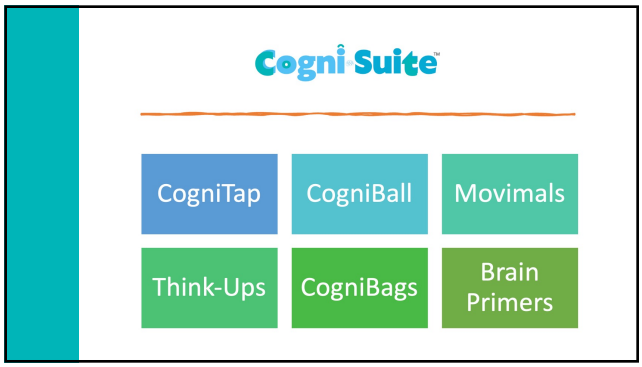
Research is starting to identify the relationship between non-linguistic skills such as rhythm, beat perception, and timing, and phonological awareness. In a study of children with ASD, results revealed a statistically significant large positive correlation between phonological awareness skills and overall beat perception.

Rimmer, C., Dahary, H., & Quintin, E. M. (2025). Links between musical beat perception and phonological skills for autistic children. Child neuropsychology : a journal on normal and abnormal development in childhood and adolescence, 1-20. Advance online publication. https://doi.org/10.1080/09297049.2025.2502902


CogniSuite™

- CogniSuite is a collection of 5-7 minute cognitive-motor activities to stimulate Executive Functions, Self-Regulation Attention, Memory, Cognitive Flexibility, Organization, Previewing, Planning, and Approach to Tasks.
- As well as Balance, Beat Competency, Core Strength, Coordination, Motor Timing, Patterning, Sequencing, Processing Speed, Visual Tracking & Vestibular Strength.
- We do these activities 1:1, in small groups, or as a class, each, for 5-10 minutes at a time to stimulate executive function and motor-cognition.



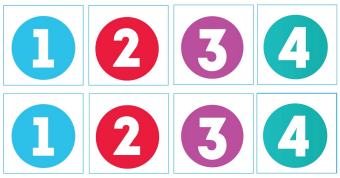

## Core Features of CogniSuite Activities

- We move in 4/4/ Time
- We move on the beat, in time together
- We maintain our rhythm and tempo (slow, quick, fast)
- We progressively increase cognitive and motor demands
- We enhance engagement with student lead patterns and sequences

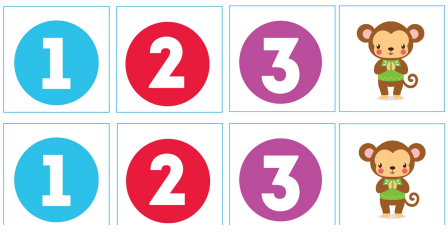

## Foundational Lessons

- Can Everybody Count?
- Can Everybody Clap?
- Can Everybody Pause?
- 1 2 3 Something

Let's Count



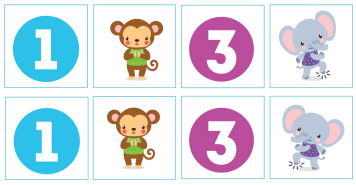

## Let's Clap on Beat 4



Let's Clap Clap on Beat 4


Let's Stomp Right, Left


Let's Clap & Stomp Right, Left




Don't Forget to Pause

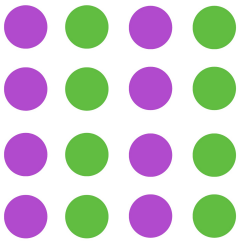
PAUSE

CogniTap

## COGNITAP CODE

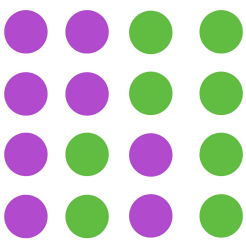

## COGNITAP

Activity 1

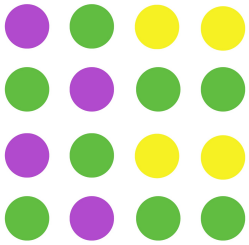


## COGNITAP

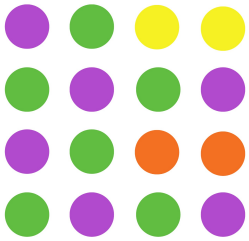
Activity 2



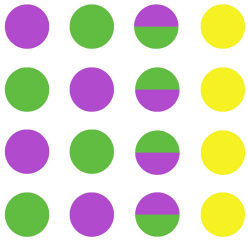
**COGNITAP**
Activity 4



**COGNITAP**
Activity 6



**COGNITAP**
Activity 8



COGNIMOVES

- Suite of 5-minute animated videos
- Universal Tier 1 MTSS
- Developmentally progressive
- Incrementally challenging cognitive & motor demands
- Rhythmic cognitive-physical movements
- Reading intervention support

# SELF-REGULATION

Self-regulation is generally defined as the ability to manage one's thoughts, behaviors, and feelings to achieve goal-directed behaviors.

Self-regulation is conceptualized broadly to include cognitive processes (executive function), behavioral self-regulation and emotional regulation, Korucu et al., 2022; McClelland et al., 2018.

Self-regulated learners are more engaged in the learning process and demonstrate better academic performance. They exhibit increased focus, attention, and persistence in completing tasks, Wang, 2021. Self-regulation skills are positively correlated with improved reading and math achievement, as well as higher grades in various academic subjects, Zimmerman & Schunk, 2011.

- In practice, self-regulation can be seen as one's ability to manage their physiological state to maintain balanced internal energy, appropriate motor tempo, and modulated rate of verbalizations.
- When self-regulated, children use their cognition to keep themselves calm, emotionally even, and able to effectively respond to expectations and task demands in the moment.
- Educators who teach learners self-regulation are more successful at fostering educational success, engagement, and continuous learning, Brenner, 2022.


Self-regulation has been established as a key mechanism associated with a variety of outcomes including school readiness (Blair and Razza, 2007; McClelland et al., 2007a; Morrison et al., 2010), academic achievement during childhood and adolescence (Mc Clelland et al., 2006; Cameron Ponitz et al.,2009; Duckworth et al., 2010; Li-Grining et al., 2010), and long-term health and educational outcomes (Moffitt et al., 2011; McClelland et al., 2013).

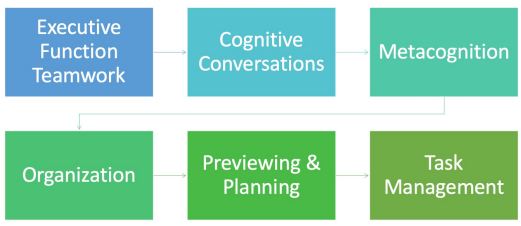
The behavioral aspects of self-regulation may be especially important for academic and school success (McClelland et al., 2007a; Cameron-Ponitz et al., 2009; McClelland and Cameron, 2012).

Self-Regulation and Response Inhibition are about Learning the "Felt-Sense" of Slowing Down


Slow 50-85 BPM Quick 85-120 BPM Fast 120-160 BPM




# Cognitive Skill Coaching Interventions



## Executive Function Teamwork


## Prompts for the "Cognitive Conversation" in NEW THINKING Skill Development

- Let's THINK this out.
- Let's make a plan.
- Let's take our time with this one.
- We can slow down for this part.

- What are we trying TO DO?
- What are we trying NOT TO DO?
- What will we do in what order?

- What do we usually do?
- What's our habit here?
- How do we want this time to be different?
- What will we say to ourselves?
- What will we THINK?

- How will we know we accomplished our goal?
- How will we know when our task is done?
- When will we know we have done a 'great job'?
- How will we compliment ourselves?

## Overview: How To Build a Skill

| | |
|---|---|
| Step 1. | Clearly identify the skill you want to build |
| Step 2. | What are the adjacent or subskills? |
| Step 3. | What parts of this skill has the student already mastered? |
| Step 4. | What parts of this skill are in development in this student? |
| Step 5. | What parts of this skill are not known at all to this student? |
| Step 6. | Model (study; learn) the skill |
| Step 7. | Teach the skill |
| Step 8. | Co-Practice the skill |
| Step 9. | Begin independent practice of the skill |

## Write It Out – Student's Process 1-4

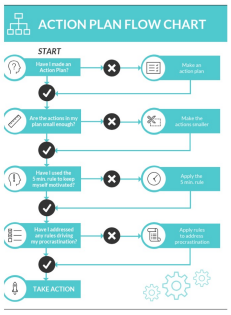
| | |
|---|---|
| Step 1. | Define Planning… Planning is the act of strategizing to take action in a meaningful, purposeful and goal-directed manner. |
| Step 2. | What do I need to plan? **I need to plan to complete my math homework assignment.** |
| Step 3. | What parts of this skill does the student already have mastered? **I already know how to effectively use my planner.** |
| Step 4. | What parts of this skill are in development in this student? **I am learning how to efficiently get the content from Blackboard into my planner.** |

## Write It Out - Student's Process 5-9

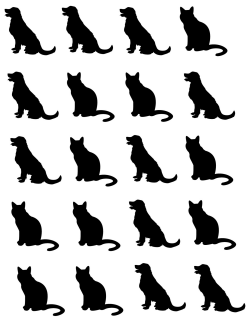
| Step 5. | Step 6. | Step 7. | Step 8. | Step 9. |
|---|---|---|---|---|
| What parts of this skill are not known at all to this student? **I know how to write my homework assignment study schedule. I do not know how to do the assignment.** | Model the skill - **Watch my teacher's videos on this lesson** | Teach the skill - **Teach my Mom how to do the math equation in the assignment** | Co-Practice the skill - **Practice doing a few equations with my friend** | Begin independent practice of the skill - **Complete the assignment** |

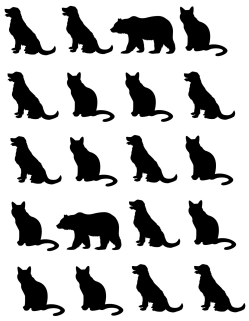
## Action Steps To Building Preparation and Planning Skills

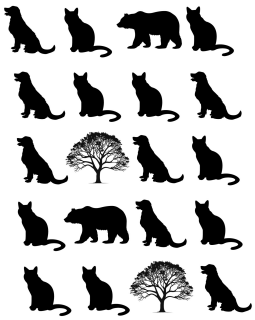
- What needs to be done?
- What materials do I need to get the task done?
- What are the large tasks?
- What are the subtasks?
- What do I do in which order?
- How do I check off tasks?
- How do I know what to do next?
- How do I know when the task is done?

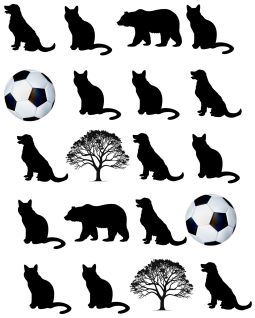


# ATTENTION





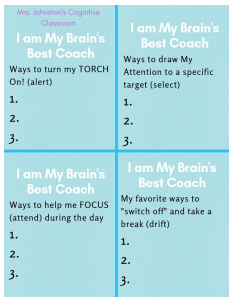





"WHEN WE TEACH CHILDREN THE PARTS OF THEIR ATTENTION ENGINE THEY BECOME EMPOWERED THINKERS. NO LONGER IS THEIR INATTENTION A MYSTERY. NOW THEY KNOW WHAT ATTENTION IS, AND NEXT THEY WILL KNOW HOW TO IMPROVE IT."
- DR. LYNNE KENNEY
My Attention Engine™
MY ATTENTION CYCLE


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

- What is attention?
- What makes it easy to pay attention?
- What makes it difficult to pay attention?
- What are the parts of the attention cycle?
- How do you turn on your attention engine?
- What helps your attention engine run smoothly?
- What does it mean to be alert?
- When does your attention need a break?
- What makes your brain drift?
- When you drift where do you go?
- What distracts you?
- What helps you remain focused?
- What do you tell yourself when you brain needs a break?
- How long do you think a brain breather should last?
- How do you re-alert your attention?
- What do you say to yourself to re-alert your attention?
- Are there ways we, as a class, can help one another remain alert?




DAILY ATTENTION LOG – EXAMPLE

NAME Jessica K.

DATE April 23, 2023

WHAT I WAS DOING

HOW I HELPED MYSELF STAY FOCUSED ON WHAT WAS IMPORTANT

ATTENTION RATING HOURLY

OFTEN DISTRACTED SOMEWHAT FOCUSED FOCUSED

HOURLY MOOD MONITOR

THINGS I LEARNED / MY IMPROVEMENT PLANS

NOTES


DAILY ATTENTION LOG

NAME

DATE

WHAT I WAS DOING

HOW I HELPED MYSELF STAY FOCUSED ON WHAT WAS IMPORTANT

ATTENTION RATING HOURLY

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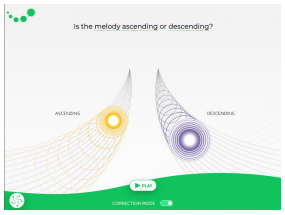
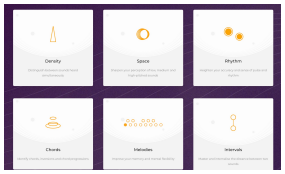



BrainLeap™ TECHNOLOGIES

https://www.meludia.com/en/ https://brainleaptech.com/

## Meludia

I Can Rev-Up

CREATE PATTERNS & SEQUENCES

Brain Primers (Kuczala & Kenney, 2020)
Cognibags
Cognitap
Cognitap Spots
Dance Rhythmically to Music with a strong beat
Jump on a mini-trampoline
Jump rope
Rhythmic Ball Bouncing (4/4 time very 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

I Can Calm Down

CHOOSE AN ACTIVITY

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

MY CALM DOWN BOX

I Can Calm Down Movement Activities

MOVE RHYTHMICALLY SLOWLY

Bouncy Bands
Bounce a ball off a wall
Cognibags
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

# WORKING MEMORY

## WORKING Memory is...

A cognitive system with the ability to hold information temporarily for brief periods of time (10-15 seconds).

- ✓ Working memory can be dependent on FOCUS and PERSISTENCE.
- ✓ Working memory has limited capacity often holding less than 10 pieces of information at a time.

## Memory

- Auditory Working Memory
- Visual Working Memory
- Short-Term Memory
- Long-Term Memory

## Ways to Engage Working Memory

- Develop visualization skills, the "vortex of working memory"
- Play N-Back Games - In the N-Back task, participants are presented a sequence of stimuli one-by-one. For each stimulus, they need to decide if the current stimulus is the same as the one presented *N* trials ago
- Be Multi-Sensory, see it, say it, draw it, move it, teach it - REPEAT
- Play UNO FLIP
- Do a motor activity sequence forward then backward, alternating sides - Step R Clap Pat Pat; Pat Pat, Clap Step L; Step L Clap Pat Pat; Pat Pat Clap Step R
- Put things into your memory and pull them out again

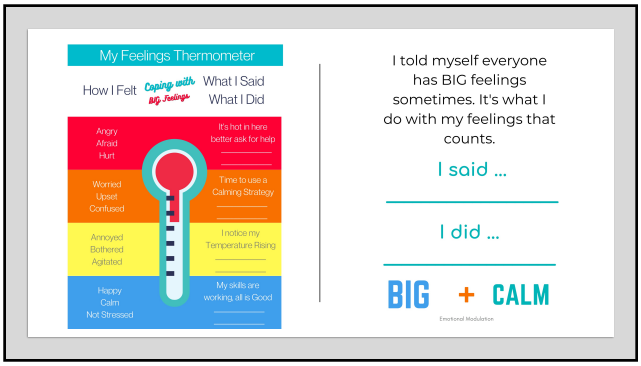
Bean Bags Balls Popple

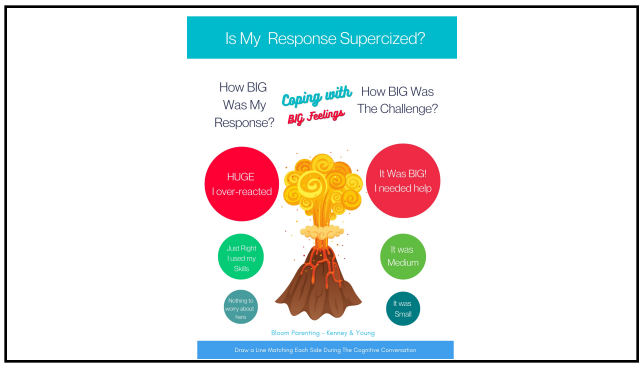
Across

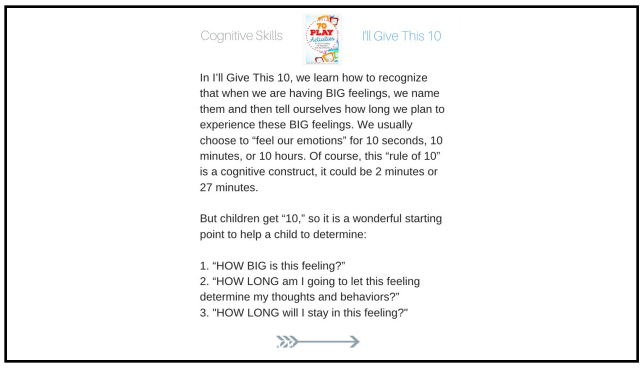
Over

Diagonal

# EMOTIONAL - REGULATION




Is My Response Supercized?
How BIG Was My Response?
Coping with BIG Feelings
How BIG Was The Challenge?
HUGE I over-reacted
It Was BIG! I needed help
Just Right I used my Skills
It was Medium
Nothing to worry about here!
It was Small
Bloom Parenting - Kenney & Young
Draw a Line Matching Each Side During The Cognitive Conversation


Cognitive Skills
I'll Give This 10
In I'll Give This 10, we learn how to recognize that when we are having BIG feelings, we name them and then tell ourselves how long we plan to experience these BIG feelings. We usually choose to "feel our emotions" for 10 seconds, 10 minutes, or 10 hours. Of course, this "rule of 10" is a cognitive construct, it could be 2 minutes or 27 minutes.
But children get "10," so it is a wonderful starting point to help a child to determine:
1. "HOW BIG is this feeling?"
2. "HOW LONG am I going to let this feeling determine my thoughts and behaviors?"
3. "HOW LONG will I stay in this feeling?"


I Can Calm Down
CHOOSE AN ACTIVITY
Bouncing Balls
Bean Bags
Books
Bottle of Blowing Bubbles
Bubble Wrap
Coloring Pages
Drawing
Etch-A-Sketch
Eye Mask
Finger Paints
Four Square Breathing
Hour Glass
Kaleidoscope
Legos
Magnadoodle
Mandalas for Coloring
Noise Cancelling Headphones
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Play Doh
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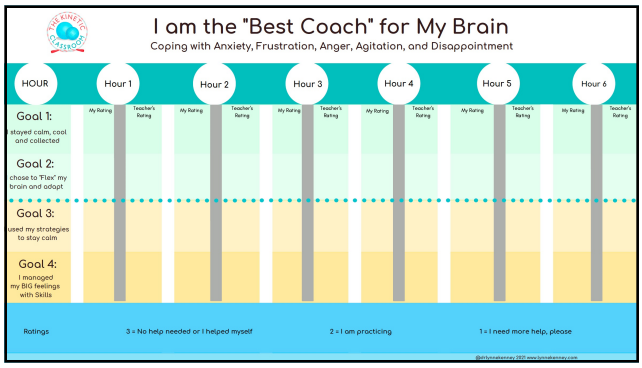
MY CALM MOTION TOOLS


I am the "Best Coach" for My Brain
Coping with Anxiety, Frustration, Anger, Agitation, and Disappointment
HOUR
Hour 1
Hour 2
Hour 3
Hour 4
Hour 5
Hour 6
My Rating
Teacher's Rating
Goal 1:
I stayed calm, cool and collected
Goal 2:
chose to 'Flex' my brain and adapt
Goal 3:
used my strategies to stay calm
Goal 4:
I managed my BIG feelings with Skills
Ratings
3 = No help needed or I helped myself
2 = I am practicing
1 = I need more help, please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