



Pure Community

# Thank you for joining us!

**Session 2, Part 1 & Part 2: The Neuroscience of Stress & Neuroplasticity**  
**Trainer: Gill McClean & Erin Cooney**

## Getting Started:

1. If you have any questions, please type them into the Q&A box.
2. Place a pen/pencil/paper nearby to jot down your thoughts.
3. At the end of this session, there will be a Session Quiz / Feedback Form.

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# Culture of Care Series

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Train-the-Trainer to Integrate a Culture of Care

Session 2, Part 1: The Neuroscience of Stress



# Introductions

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Gill McClean

**[gill@pureedgeinc.org](mailto:gill@pureedgeinc.org)**

*Director of Professional Development & National Trainer*

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# Who We Are

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**Pure Edge, Inc. (PEI)** is a private operating foundation that provides direct service to organizations through professional development & strategy thought partnership.

PEI also provides grants to national organizations that advance the work of whole child development & SEL.

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# Learning Objectives

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- ❖ Explore the link between stress and Allostatic Load.
- ❖ Describe the neuroscience of stress.
- ❖ Recognize the physiological response to stress.
- ❖ Analyze the affects of the stress response on the educational environment.
- ❖ Identify the Vagus nerve and its affect on the nervous system.
- ❖ Explore the connection between the Vagus nerve and emotional regulation.
- ❖ Illustrate the interconnectedness of SEL and self-care.
- ❖ Practice and implement Breathe, Move, and Rest strategies for Self-awareness and Self-management.
- ❖ Identify CASEL competencies.
- ❖ Acquire Skills to train colleagues in SEL, evidence-based curricula.



# Welcoming Activity

Tell us a little about yourself using the poll on the next slide.



# Who are you?

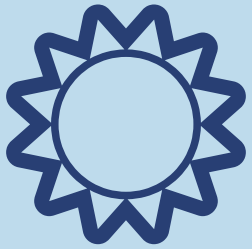
1. Parent with young kids
2. Educator of young kids
3. Educator of other age group
4. Administrator
5. None of the above



# Engaging Activity

Share your response with our group.

## Describe Your Mood



Sunshine



Rainy



Thundery



Cloudy



Rainbow

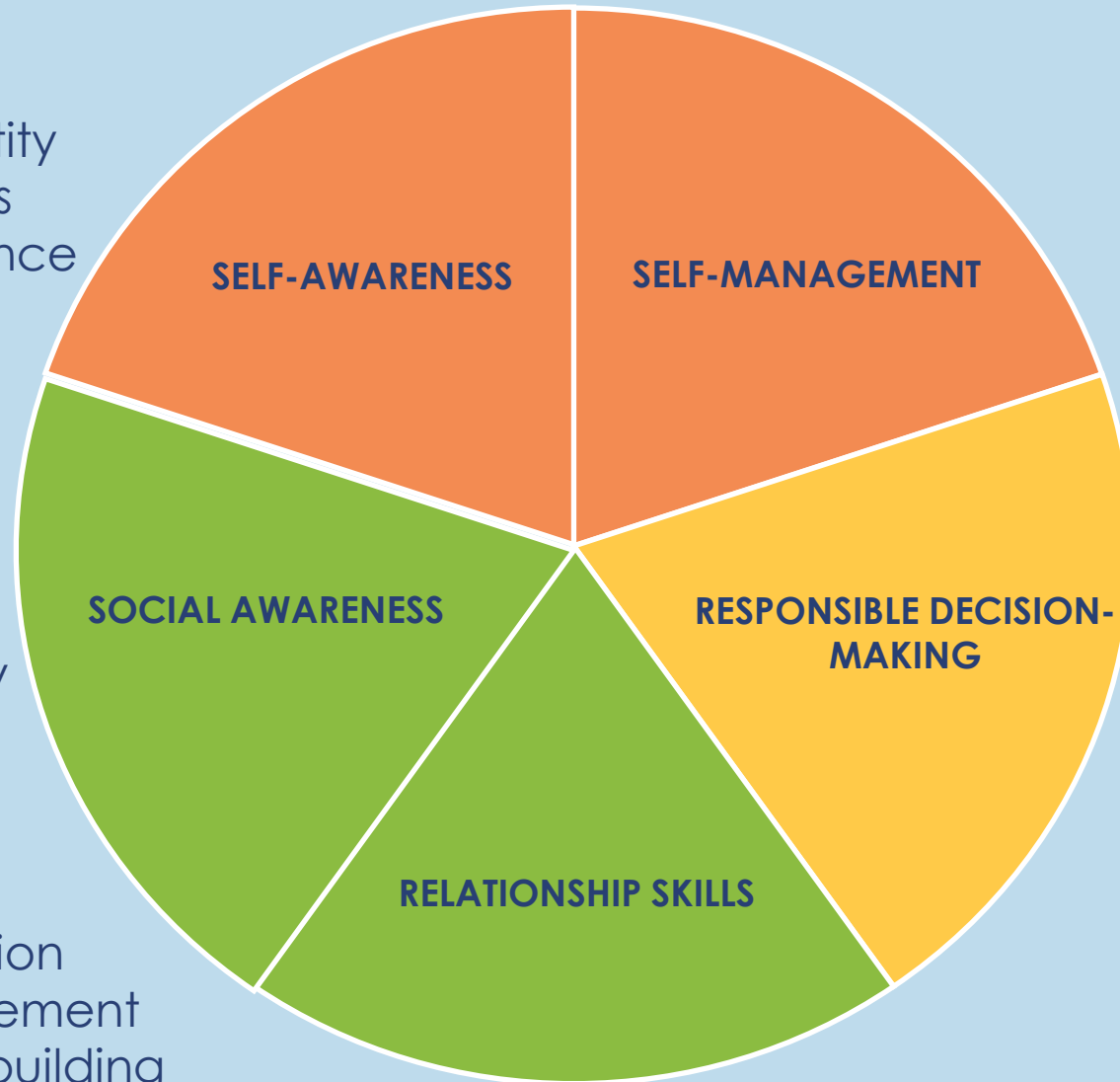


# Social and Emotional Competencies

- Identifying emotions
- Self-perception/Identity
- Recognizing strengths
- Sense of self-confidence
- Self-efficacy

- Perspective-taking
- Empathy
- Appreciating diversity
- Respect for others

- Communication
- Social Engagement
- Relationship-building
- Teamwork



- Impulse control
- Stress management
- Self-discipline
- Self-motivation
- Perseverance
- Goal-setting
- Organizational skills

- Identifying problems
- Analyzing situations
- Solving problems
- Evaluating
- Reflecting
- Ethical responsibility



# We Always Practice

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- Self-care 
- Brain Breaks 
- Modeling SEL Lesson Structure



# Guiding Question

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What does the expression  
“flip your lid” mean?

# Self-care



Breathe

Move

Rest



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# Review

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# Modeling and Implementation of SEL

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**Welcoming /  
Inclusion Activities**

**Engaging Strategies**

**Optimistic Closure**

# Stress Response



“Gas Pedal”  
Sympathetic Nervous System:  
Fight or Flight



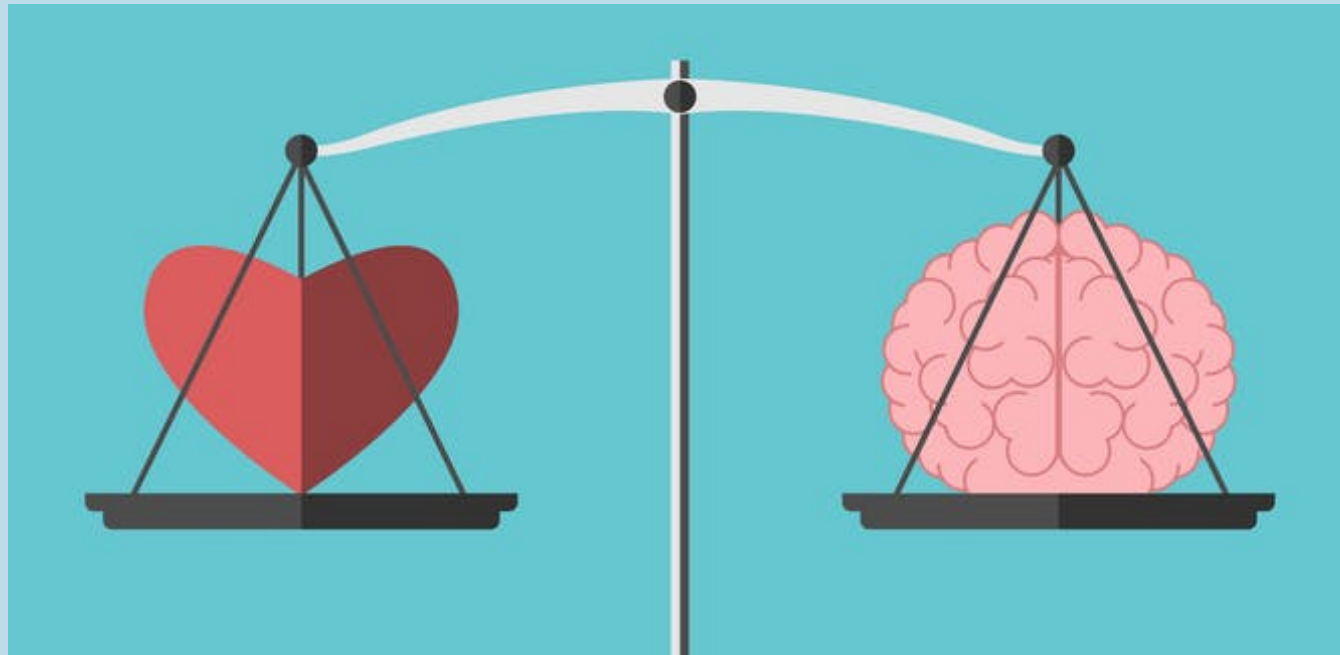
“Brake”  
Parasympathetic Nervous System:  
Rest and Digest





# Emotional Regulation

**Balanced emotional regulation entails:**



Feelings, thoughts, physiological signals (heart rate and breath pattern), and nonverbal communication – such as body language & facial expression.<sup>1</sup>

1: Saudino and Wang, "Emotional Regulation and Stress," *Journal of Adult Development*, 2011. <http://link.springer.com/article/10.1007%2Fs10804-010-9114-7#page-2>

Image: March 2, 2020, **Understanding emotions is nearly as important as IQ for students' academic success;**

Carolyn MacCann, *University of Sydney*; Amirali Minbashian, *UNSW*, and Kit Double, *University of Oxford* <https://theconversation.com/us/topics/emotional-regulation-49396>

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*Respond*

vs.

**React**

# Benefits of Nasal Breathing

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- ❖ Filters dust and impurities from the air
- ❖ Warms the air to body temperature
- ❖ The diaphragm is more easily controlled, which supports the development of internal core strength
- ❖ More control over lengthening the breath (extended exhalations help activate the parasympathetic nervous system)
- ❖ Increased oxygen from nasal breath increases energy and vitality



# Engaging Activity: Alternate Nostril Breathing



1. Let's start with a few deep breaths through the nose.
2. Inhale, close the right nostril by pressing the side of the nose with the right thumb.
3. Exhale out the left nostril.
4. Inhale through the left nostril.
5. Close the left nostril by pressing the side of the nose with your right pinky and fourth finger. At the same time, take your thumb off of your right nostril.
6. Exhale out the right nostril.
7. Inhale through the right nostril.
8. Close the right nostril with your thumb again and exhale through the left (removing the pinky and fourth finger).
9. This is one round. Complete 2 or 3 rounds by repeating steps 2-8. End on a left exhalation.
10. Take a few regular breaths.
11. Notice how you feel.

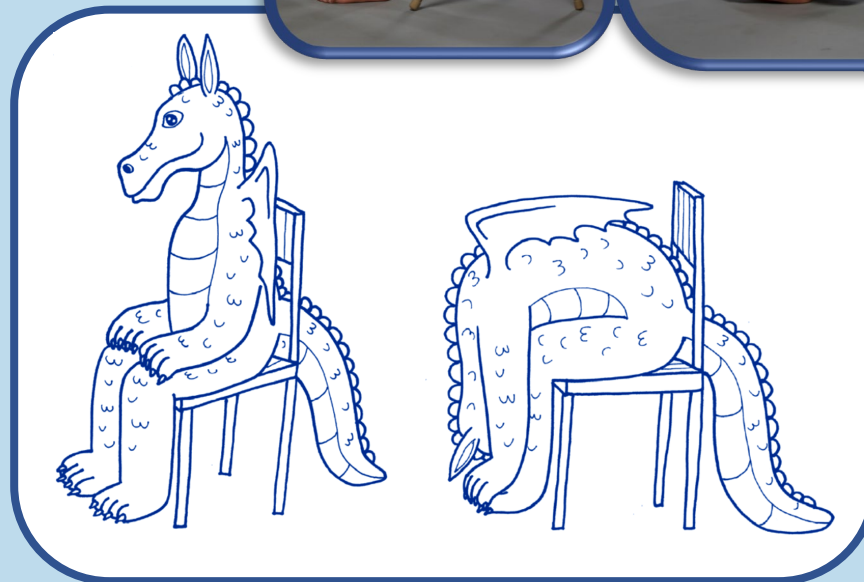
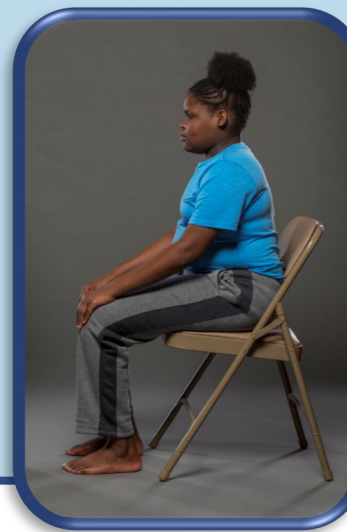
- ❖ *The hand movements will take some practice to feel comfortable.*
- ❖ *If thumb and pinky are too hard for learners to coordinate, you could use right thumb to close right nostril and left thumb to close left nostril.*
- ❖ *Once your learners have mastered the hand movements, helpful verbal cues are: inhale right, close, exhale left. Inhale left, close, exhale right.*
- ❖ *This exercise can take 1 to 3 minutes.*



# Engaging Activity: Seated Forward Bend

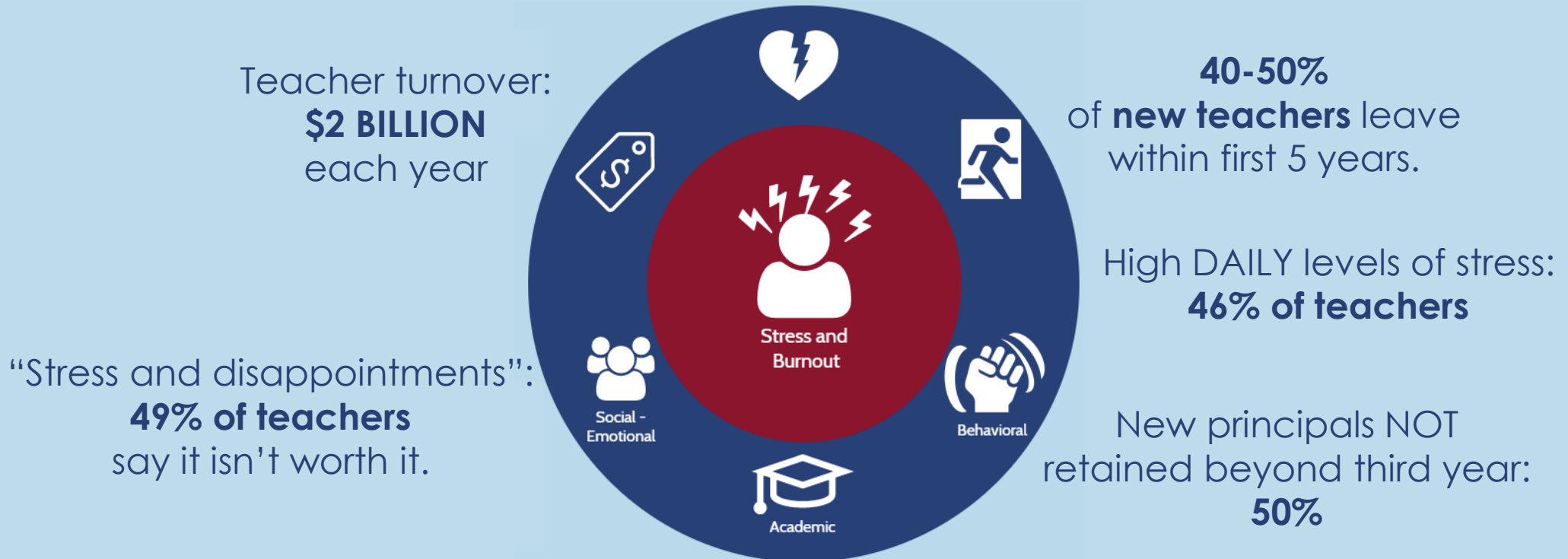
1. Sit in Seated Mountain Pose with feet flat on the floor. Inhale and sit tall, making your back as long as possible.
2. Exhale, reach both feet slightly out in front of you and fold over your legs, sliding your hands down your legs towards your shins. Take 2-3 breaths here.
3. Inhale and come back up to Seated Mountain Pose.
4. Repeat as required.

*\*Use this move as a quick pick-me-up or to restore when energy seems to be low.*



# Why Focus on School Stress?

In highly stressed school environments, teachers and learners pay the costs.



When teachers are highly stressed, students show lower levels of both social adjustment and academic performance.

# TIRED STRESSED BORED

In 2015 the Yale Center of Emotional Intelligence & Born This Way Foundation surveyed 22,000 high school students.

Students were asked, "How do you currently feel in school?"  
The most common responses included:

- **Tired (39%)**
- **Stressed (29%)**
- **Bored (26%)**

Among positive responses were:

- **Happy (22%)**
- **Excited (4.7%)**

**75%**

of all survey responses  
were negative

# Student Mental Health



**60%** of K-12 students are exposed to a traumatic event.



**17 million** children have untreated mental health diagnoses.



**2nd** most common cause of death among ages 10-24 is suicide.



**95%** of teens have smartphones, while 45% are "online constantly."



**9** hours is the average amount of media consumed each day, unrelated to school, by teens (13-18). The average for ages 8-12 is 6.

**52%**

is the rate of increase in major depression among youth ages 12-17, from 2005-2017.

**6.1 million**

children ages 2-17 have received an ADHD diagnosis.

**30-40%**

of undergrads at Ivy League institutions seek mental health services, up 20% per year over the last 6 years.

<https://www.cdc.gov/ncbddd/adhd/data.html>

<https://health.usnews.com/wellness/for-parents/articles/2019-04-22/teen-depression-is-on-the-rise>

[https://ssir.org/articles/entry/five\\_ways\\_to\\_advance\\_conservation\\_entrepreneurship](https://ssir.org/articles/entry/five_ways_to_advance_conservation_entrepreneurship)







# Compassion Fatigue

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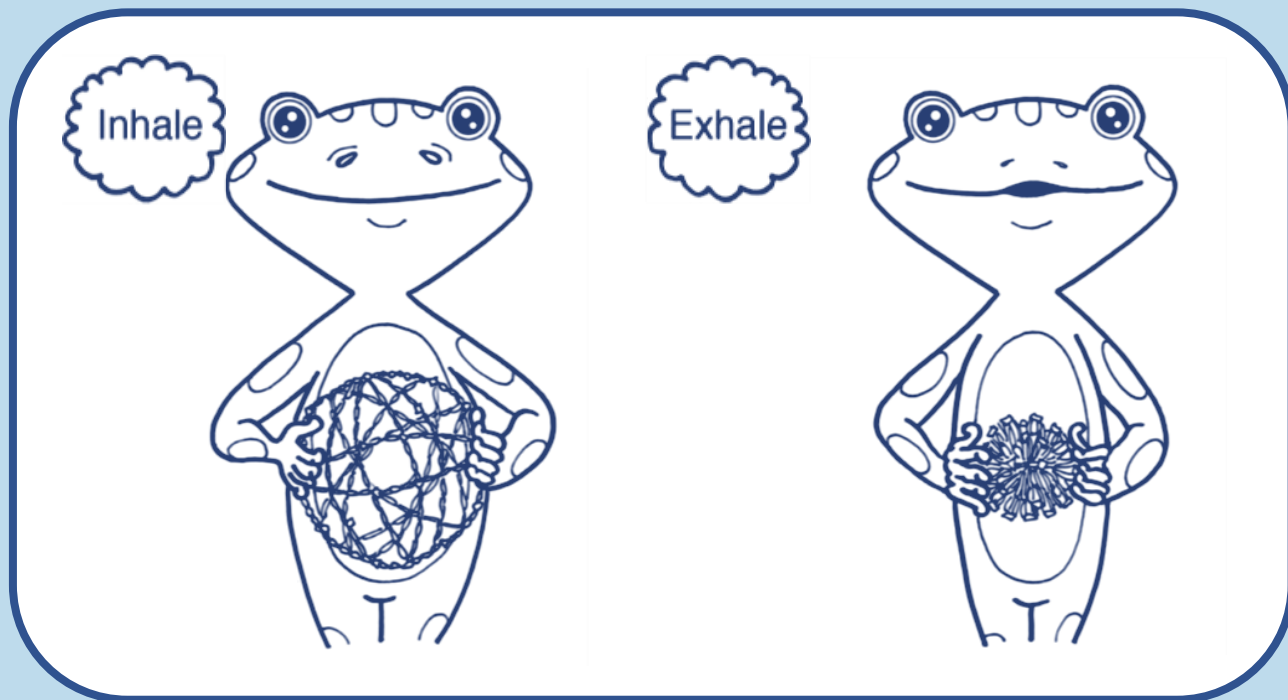
## Secondary Trauma



- ❖ *1 in 5 adults in America experience a mental illness.*
- ❖ *Nearly 1 in 25 (10 million) adults in America live with a serious mental illness.*
- ❖ *Approximately 10.2 million adults have co-occurring mental health and addiction disorders.*



# Engaging Activity: Breathing Ball



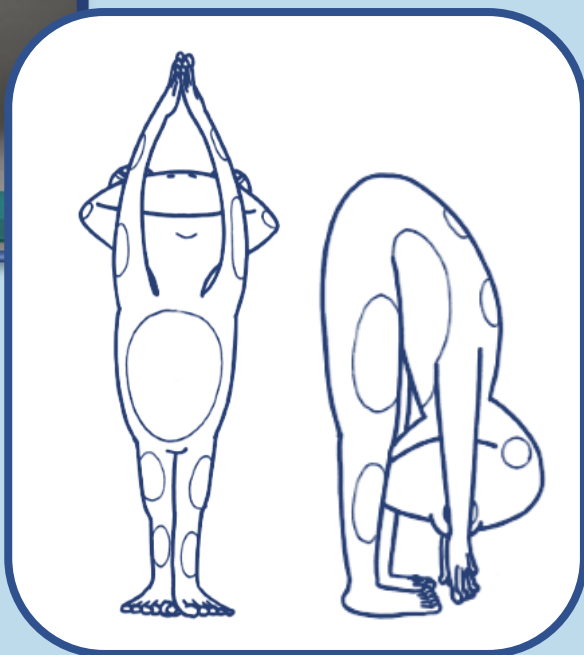
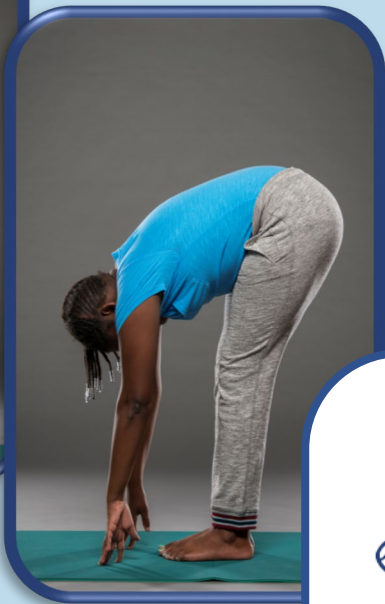
1. Start in seated Mountain.
2. Take a breath in as the ball opens.
3. Breathe out as the ball closes.
4. Can you breathe in time with the breathing ball?



- ❖ This is generally a favorite and keeps the children's attention.
- ❖ We use a Hoberman Sphere™ as a breathing ball.
- ❖ You can have children take turns leading a few rounds with the breathing ball.
- ❖ Be careful to keep fingers safe!

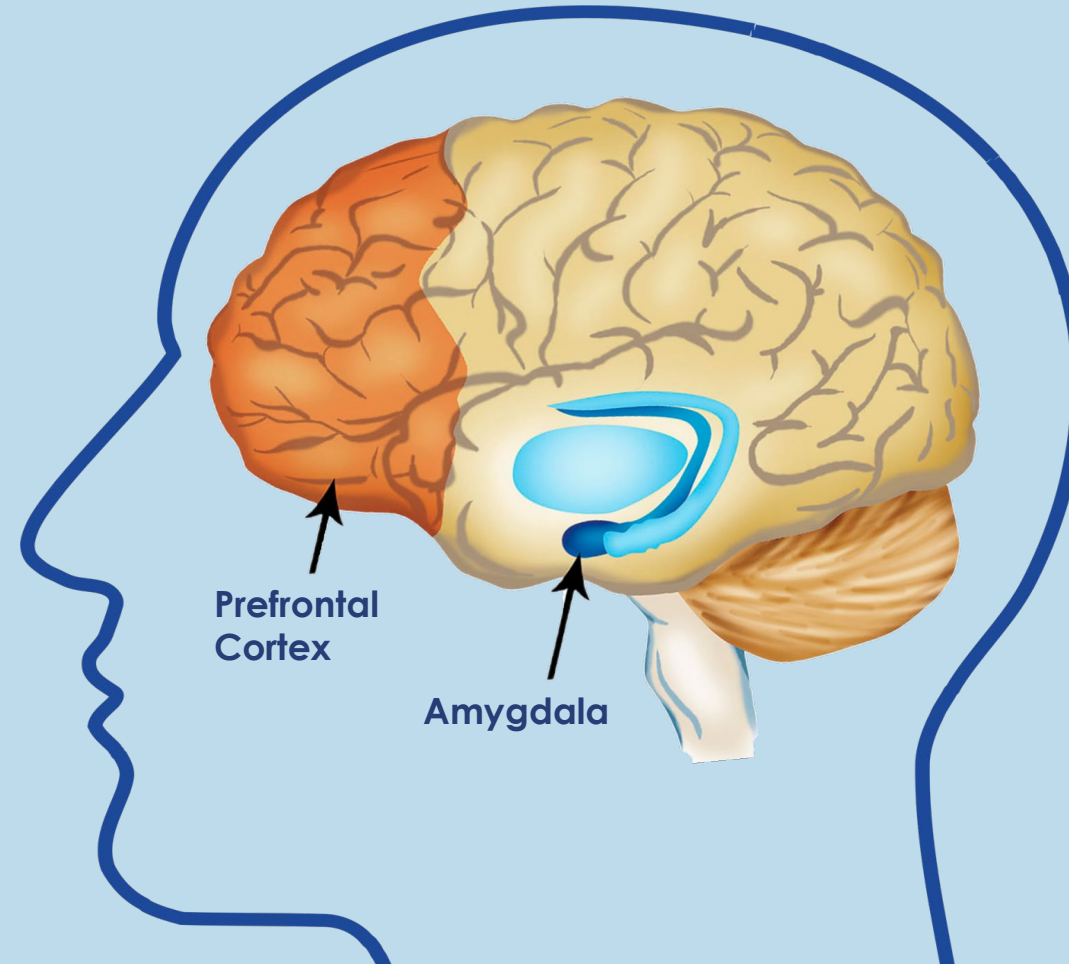


# Engaging Activity: Sunrise/Sunset



1. Start in Mountain Pose. Take a few breaths here.
2. Inhale, reach your arms up overhead (this is Sunrise Pose).
3. As you exhale, fold forward. Put your hands on your shins, or your ankles, or maybe the floor (this is Sunset Pose).
4. Inhale all the way back up to Sunrise.
5. Exhale hands down for Mountain.
6. Repeat a few times. Notice how you feel.

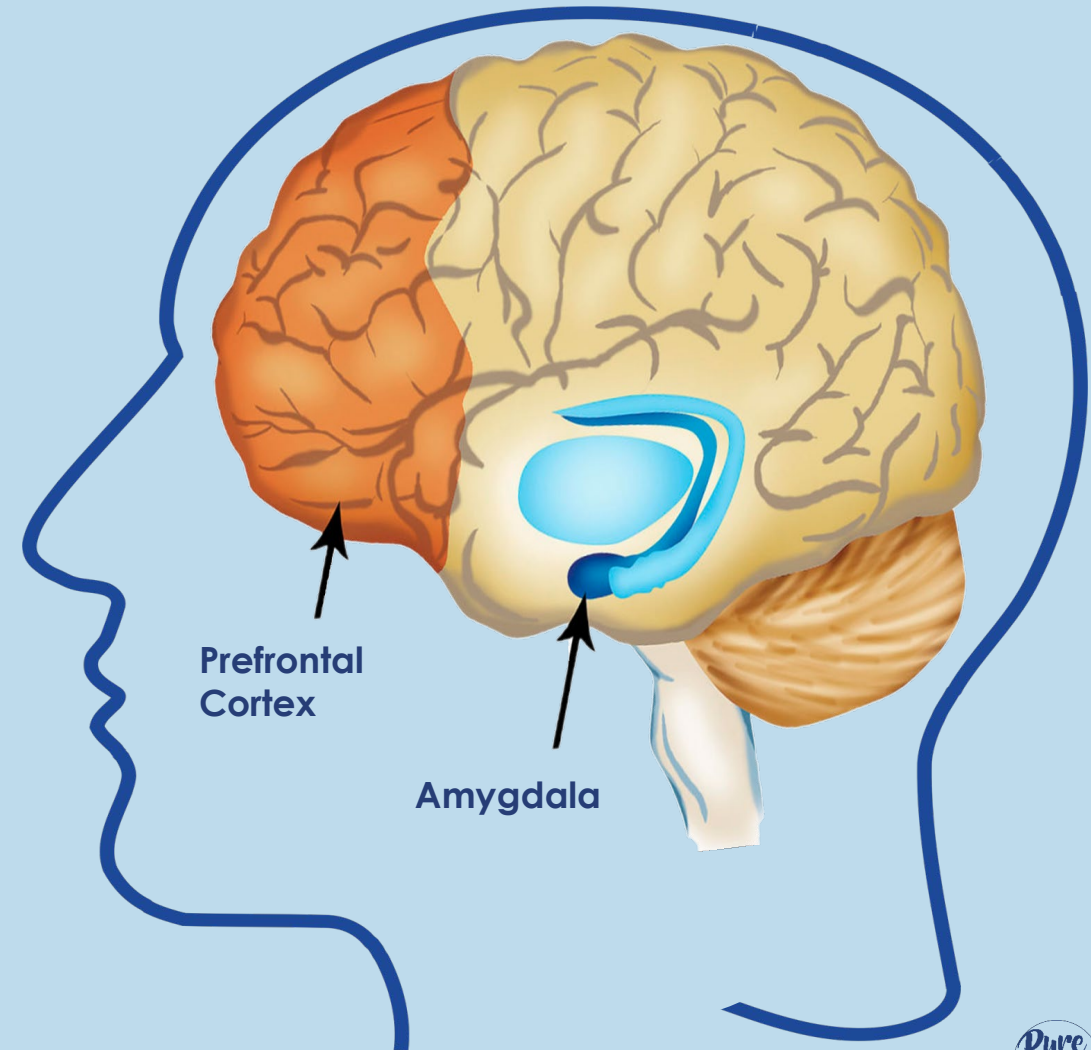
# Self-regulation & the Brain



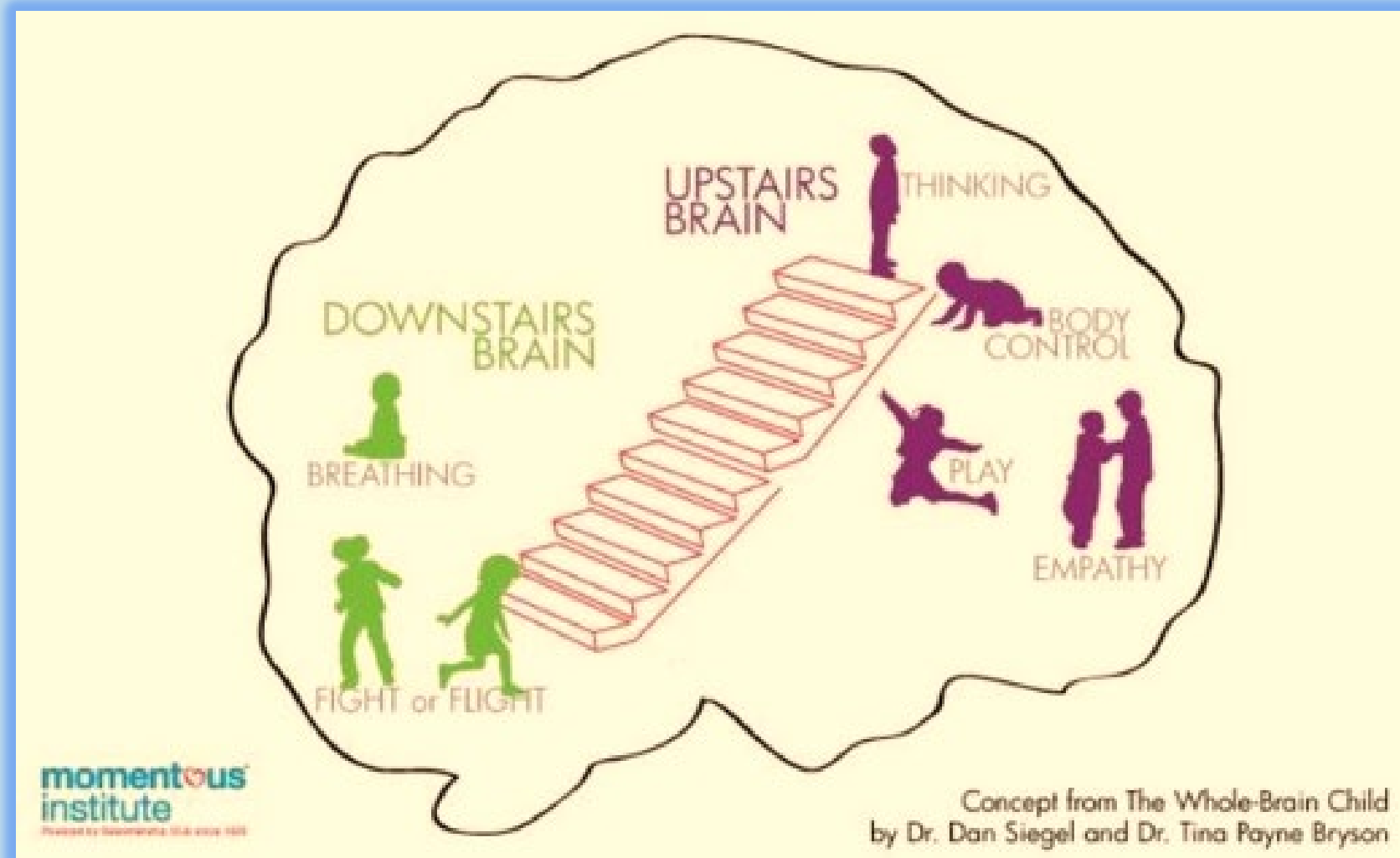
# Neuroscience of Stress

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- ❖ The rational part of the brain, the Prefrontal Cortex, isn't fully developed until age 25 or so.
- ❖ Adults think with the prefrontal cortex, the brain's rational part. This is the part of the brain that responds to situations with good judgment and an awareness of long-term consequences.
- ❖ Children, teens, and young adults rely on the amygdala to process information; the emotional part of the brain.



# Neuroscience of Stress



## Blue Zone



## Red Zone



Blue Zone Image: <https://www.shutterstock.com/video/clip-1007757856-worried-stressed-man>

Red Zone Image: <https://www.shutterstock.com/search/man+yelling>

# Green Zone



Image source: <https://www.goodnewsnetwork.org/get-drunk-happiness/>



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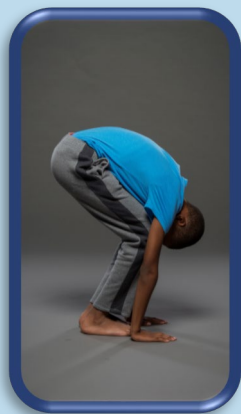
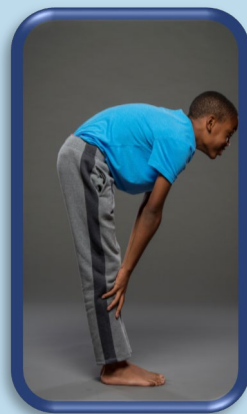
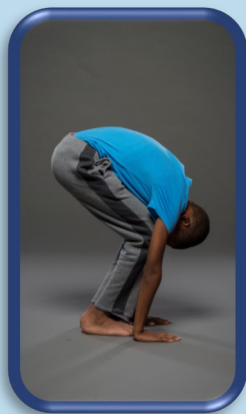
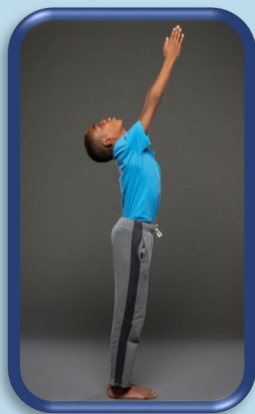
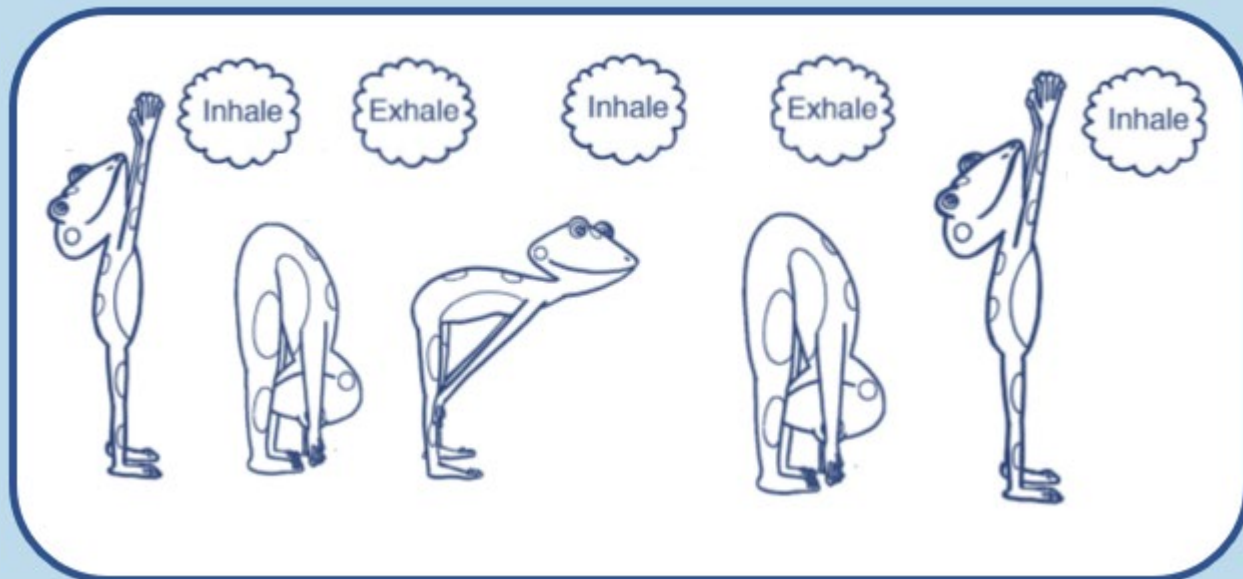
# Engaging Activity: Anchor Breathing



1. Sit down and get comfortable.
2. Rest your hand on your chosen breathing space: tummy, chest or your nose.
3. Do your breathing and keep your attention on your breathing space.
4. When your attention wanders, gently bring it back to your breathing space.
5. Can you be mindful of your breathing for 5 breaths? For 1 minute?



# Engaging Activity: Recharge Sequence



1. Begin standing in Mountain with feet slightly apart, hands at your sides.
2. Inhale, take your arms overhead and look up.
3. Exhale and fold over your legs, bending the knees slightly to allow the hands to rest on the shins, the feet or the floor.
4. Inhale, place hands on shins, straighten legs and look up.
5. Exhale and fold over the legs once more.
6. Inhale, come all the way up to standing, arms overhead and look up.
7. Exhale, return to Mountain.

*\*This sequence can be done behind or in front of desks/chairs. It's useful to re-energize learners when they get tired.*



# Neuroscience of Stress

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Integrating upstairs downstairs strategies:

1. **CONNECT, THEN REDIRECT:** Be present with your child's feelings, help them get into the "green zone."
2. **Breathing** will help bring the prefrontal cortex ("upstairs brain") back online.
3. **Move** it or lose it: Get child moving and their mood will change.



# Engaging Activity: Even In – Even Out

1. Start in Seated Mountain with a tall spine, relaxed shoulders, and eyes gently closed.
2. Breathe naturally through the nose.
3. We are going to focus on making our inhales and exhales even.
4. Inhale deeply through the nose and exhale through the mouth for a count of one.
5. On the next breath, lets count to two on the inhale and the exhale.
6. Repeat, continuing to extend the breath up to a count of five.

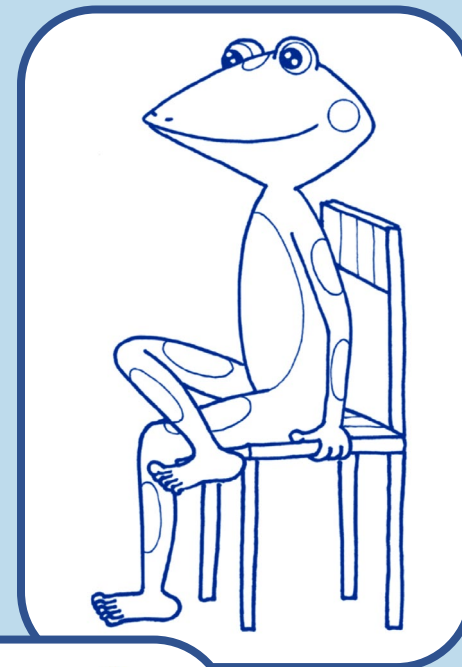




# Engaging Activity: Seated Figure Four

1. Begin in Seated Mountain Pose.
2. Inhale, cross the right ankle over the left thigh, just above the knee. Place the right hand on the right thigh and left hand on the right foot.
3. Exhale, fold torso forward and relax the head down. Take 2-3 breaths here.
4. If it's easier, you can hold the legs of the chair as you fold forward.
5. Inhale, come back to Seated Mountain.
6. Switch legs and repeat on the other side.

*\*Use this sequence to release the back, which can get tired from sitting.*



# Neuroscience: Vagus Nerve

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The vagus nerve, the tenth cranial nerve, is the superhighway of the nervous system that **connects** the body and brain.



Image: <https://naturalwestmichigan.com/toning-the-vagus-nerve/>

# Vagus Nerve

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Latin for “wanderer,” which is appropriate for the longest cranial nerve in the body.

**It is intricately connected to:**

- Mood
- Immune response
- Digestion and
- Heart Rate<sup>1</sup>



<sup>1</sup>Breit, Sigrid, et al. “Vagus Nerve as Modulator of the Brain-Gut Axis in Psychiatric and Inflammatory Disorders”, *Frontiers in Psychiatry*, 13 March 2018

Image: Gersema, Emily, “Gut Instinct may have been the GPS of human ancestors.” USC News: <https://news.usc.edu/144479/vagus-nerve-research-gut-instinct-may-have-been-gps-of-early-humans/>



# Vagus Nerve

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It is also associated with the sensing and expression of emotions.



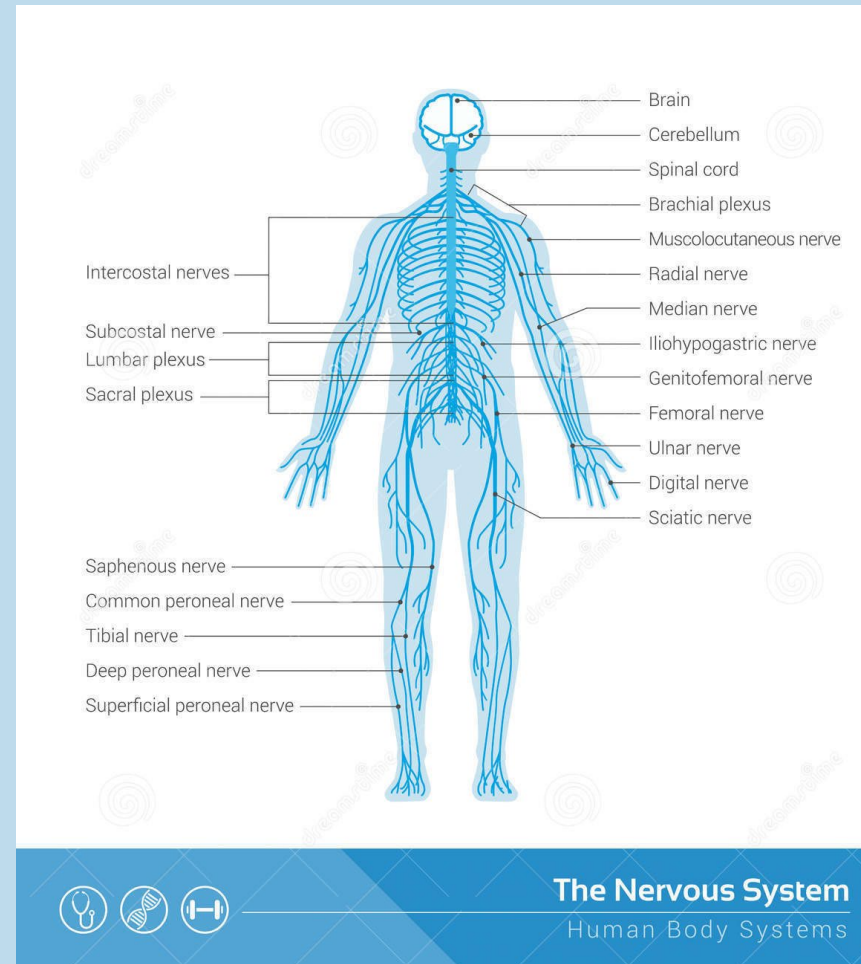
It innervates (supplies) the **vocal cords** and modulates (varying strength/tone/pitch) how we change **our voices to express emotion; our faces**, where we convey emotion; and courses **along our hearts**, where we often feel emotions.<sup>1</sup>

1: David DiSalvo, "Forget survival of the Fittest: It is Kindness That Counts," *Scientific American*, 2009.

# Vagus Nerve: Autonomic Nervous System

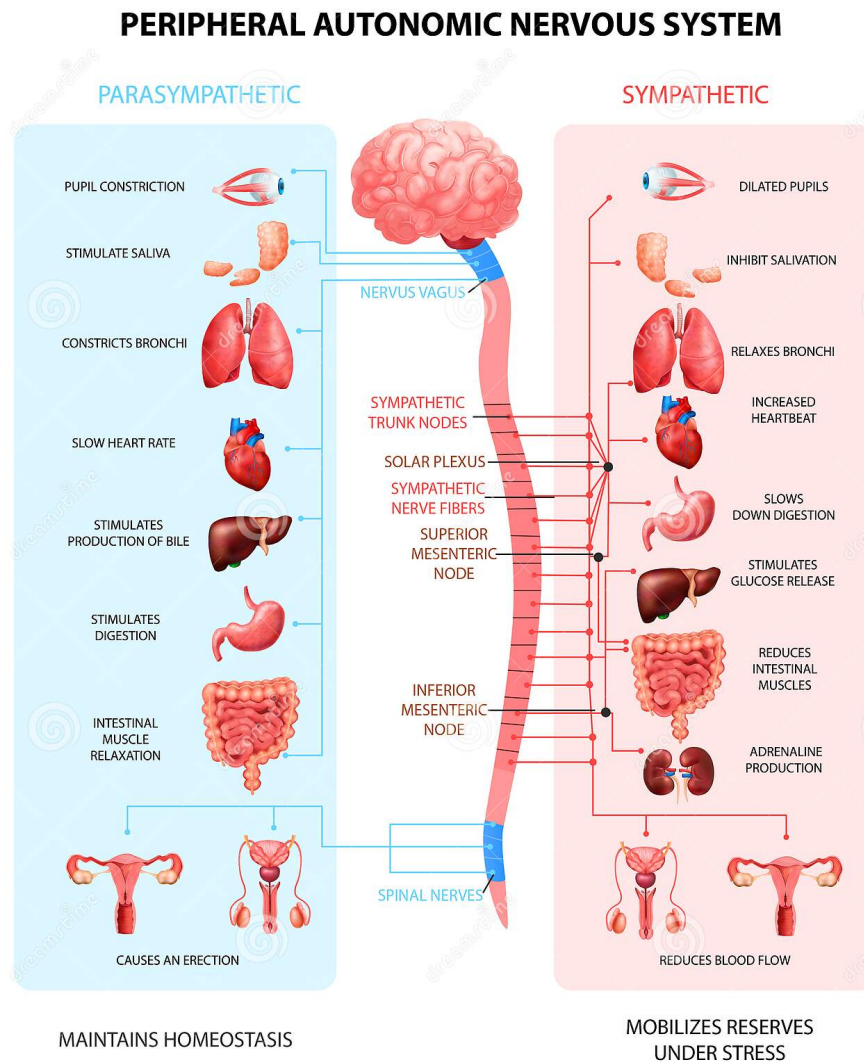
The body's unconscious control system

Regulating, internal organs to optimizing health, growth and restoration also known as **homeostasis**.<sup>1</sup>



1: Porges, Stephen, "The Pocket Guide to the Polyvagal Theory," (New York: W.W. Norton & Company, Inc., 2017), 15  
Image Source: <https://bodytomy.com/human-nervous-system-diagram>

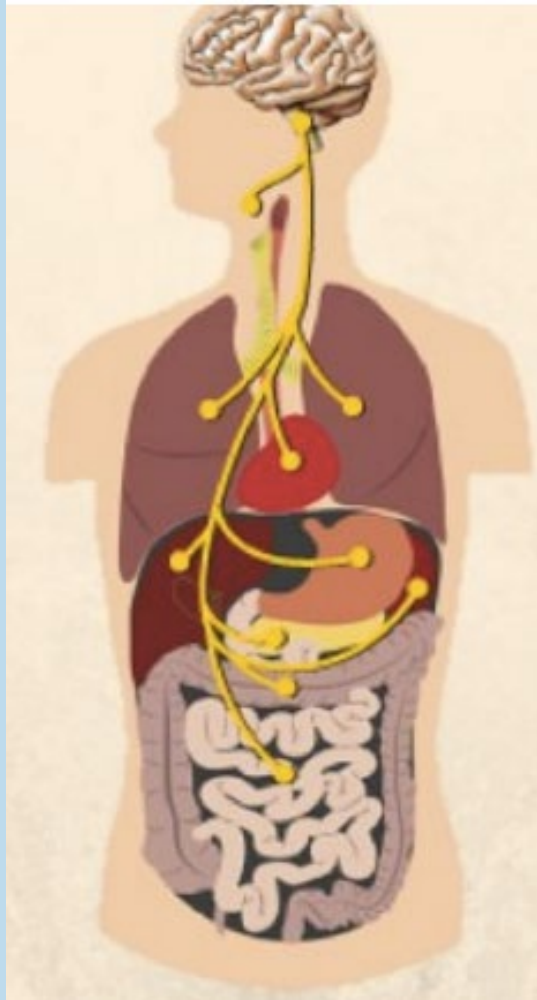
# Vagus Nerve



The Vagus nerve resides in the parasympathetic nervous system.

- **Sympathetic:** mobilizes you for action, aka the “on” switch.
- **Parasympathetic:** the “off” switch.

# Neuroscience: Self-care & Vagal Tone



## THE VAGUS NERVE

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### How to Hack Your Nervous System

We can tone the **vagus nerve** through deep breathing exercises.

When the vagus nerve is relaxed, strong emotions are quelled and stress is reduced.



# Parasympathetic

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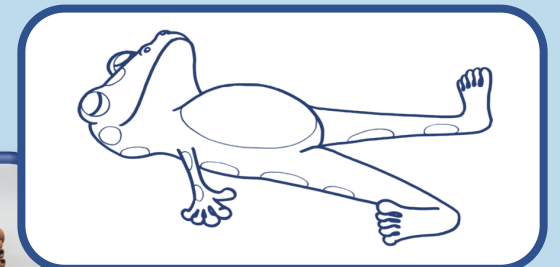
Parasympathetic activation moves the body toward **homeostasis**.

- Our inhalations/exhalations become **smooth & quiet**.
- The nervous system becomes **calm**.



# Engaging Activity: Guided Rest / Body Scan

1. Lie down on the floor on your back. Spread your feet apart. Turn your palms up to face the ceiling and close your eyes.
2. Put your attention on your forehead. Feel your forehead relax.
3. Put your attention on your eyes. Feel your eyes relax.
4. Put your attention on your cheeks and jaw. Feel your cheeks and jaw relax.
5. Put your attention on your neck. Feel your neck relax.
6. Put your attention on your shoulders. Feel your shoulders relax. (Repeat for arms, wrists, hands, fingers.)
7. Put your attention on your chest. Feel your chest relax.
8. Put your attention on your back. Feel where your back touches the floor (or the chair).
9. Put your attention on your belly. Notice how the breath moves the belly softly up and down.
10. Put your attention on your hips. Feel your hips relax. (Repeat for legs, knees, ankles, feet, toes.)
11. Bring your awareness to your breathing and notice where you feel the breath in your body. Maybe you notice it in your nostrils. Maybe you feel it in your chest. Maybe you feel it in your belly.
12. See if you can get really quiet. Maybe you will even feel your heart beating inside your body.
13. Let learners rest in silence for a few moments.
14. Ring chime.
15. Slowly start to wiggle your fingers and toes. Take a deep breath in and stretch your arms overhead. As you exhale, relax.
16. Open your eyes and slowly return to a seated position.
17. Notice how you are feeling.



# Brain Breaks Review



## Breathe

- ❖ Alternate Nostril Breathing
- ❖ Breathing Ball
- ❖ Anchor Breathing
- ❖ Even In – Even Out



## Move

- ❖ Seated Forward Bend
- ❖ Sunrise/Sunset
- ❖ Recharge Sequence
- ❖ Seated Figure Four



## Rest

- ❖ Guided Rest/Body Scan

# Takeaways

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- ❖ Vagus Nerve: Body-Brain Connection and Emotions.
- ❖ Vagus Nerve: Parasympathetic-Sympathetic Nervous System.
- ❖ Breathe, Move, and Rest Brain Break practices
- ❖ The 3 signature practices to integrate SEL into a lesson are:  
Welcoming Activity, Engaging Activity, and Optimistic Closure.





# Culture of Care Series

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Train-the-Trainer to Integrate a Culture of Care

Session 2, Part 2: Neuroplasticity



# Introductions

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Erin Cooney

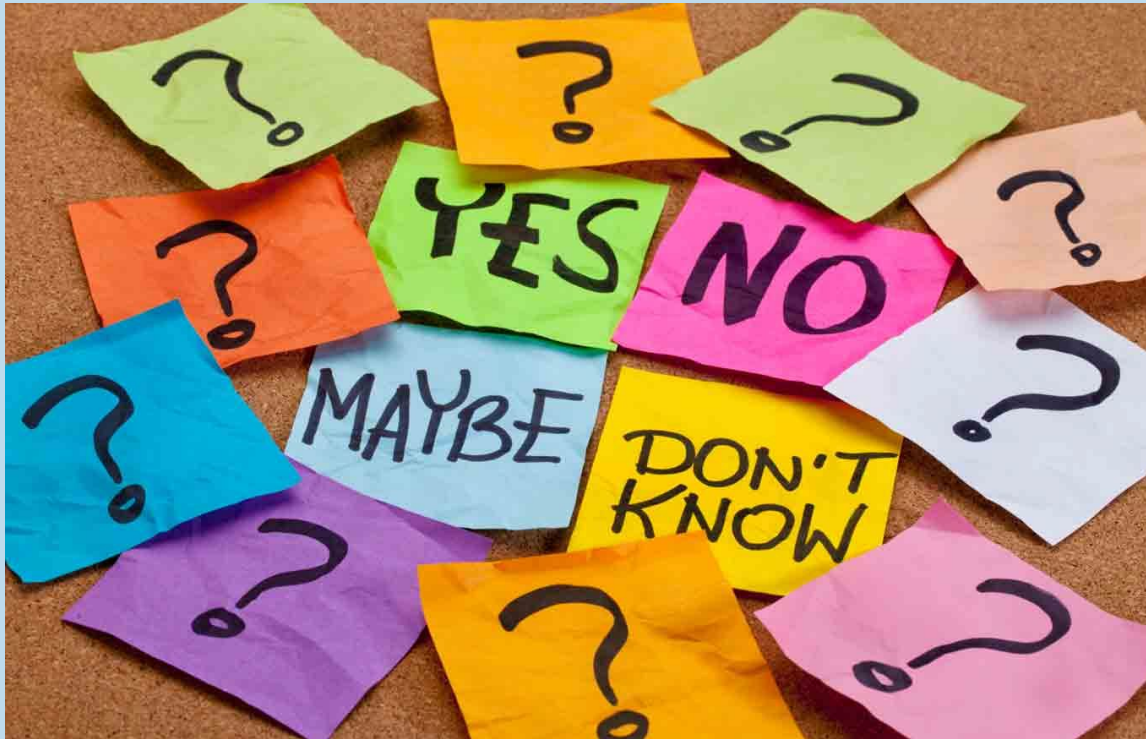
**[erin@pureedgeinc.org](mailto:erin@pureedgeinc.org)**

*Director of Curriculum & National Trainer*

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# Welcoming Activity: This or That



Respond to the questions in the poll.



# Engaging Activity: Mindful Minute



- Start in Seated Mountain.
- Bring your attention to the present moment. We are going to start by taking a Mindful Minute.
- Start bringing your attention to the breath, noticing its qualities (fast, slow, warm, cool, shallow, deep...).
- Continue to focus your attention on the breath, and notice how you are feeling. Just notice.

# Learning Objectives

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- ❖ Define neuroplasticity.
- ❖ Identify the stages of brain development.
- ❖ Practice and implement Breathe, Move, and Rest Strategies for Self-awareness and Self-management.
- ❖ Identify CASEL competencies.
- ❖ Acquire Skills to train colleagues in SEL, evidence-based curricula.



# Engaging Activity: One Minute Reflection



1. Before leaving school take a moment to pause and reflect on today.
2. Sit comfortably, either at your desk or on the floor.
3. Were there things you did today that you are proud of? Let them soak in for 20-30 seconds.
4. Feel good about your accomplishments.
5. Were there things you felt you could have done better or differently? It's ok to make mistakes or missteps.
6. Tomorrow, with a fresh mind and even breathing, you can try again.

\*If on the floor, sleeping crocodile can be done lying on the belly. Instruct learners to cross arms, "make a pillow with your hands" and lie down with head resting on hands.



# Engaging Activity: Chair Eagle



1. Sit in Seated Mountain.
2. Cross your right thigh on top of your left.
3. Inhale and bring your arms up with elbows bent and palms facing forward (cactus arms).
4. Exhale and cross your left elbow on top of your right. Touch the back of your hands together. If it feels comfortable, bring palms together.
5. Inhale and lift elbows up until you feel a comfortable stretch.
6. Look at your thumbs and take 3 relaxed breaths.
7. Release on an exhale.
8. Repeat second side (left thigh on top, right arm on top).

*\*If practicing on the floor, you can substitute Standing Eagle, or sit with crossed legs and simply do the Eagle arm positions.*

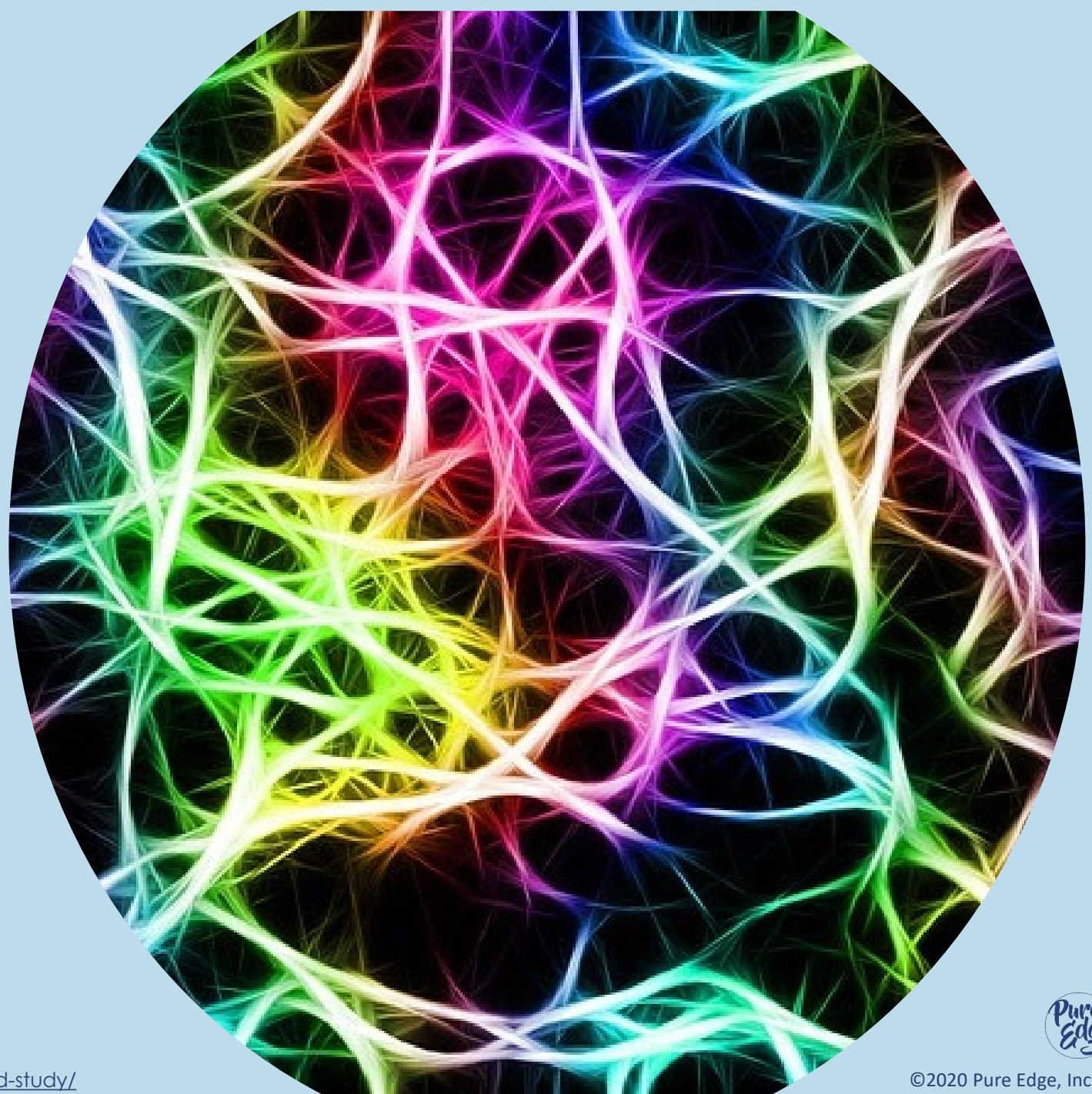




## WHAT IS **NEUROPLASTICITY?**

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the brain's capacity to  
change and rewire  
according to environment  
and experience



# NEUROPLASTICITY

Like a snowy hill in winter



“The brain is like a snowy hill in winter. When we go down the hill on a sled, we can be flexible because we have the option of taking different paths through the soft snow each time. But should we choose the same path the second time or the third time, tracks will start to develop, and these tracks become really speedy and efficient at guiding the sled down the hill. It doesn't take long to get literally stuck in a rut. Taking a different path becomes increasingly difficult, but, thanks to the brain's wondrous capacity for learning and rewiring itself, it's not impossible!”<sup>1</sup>

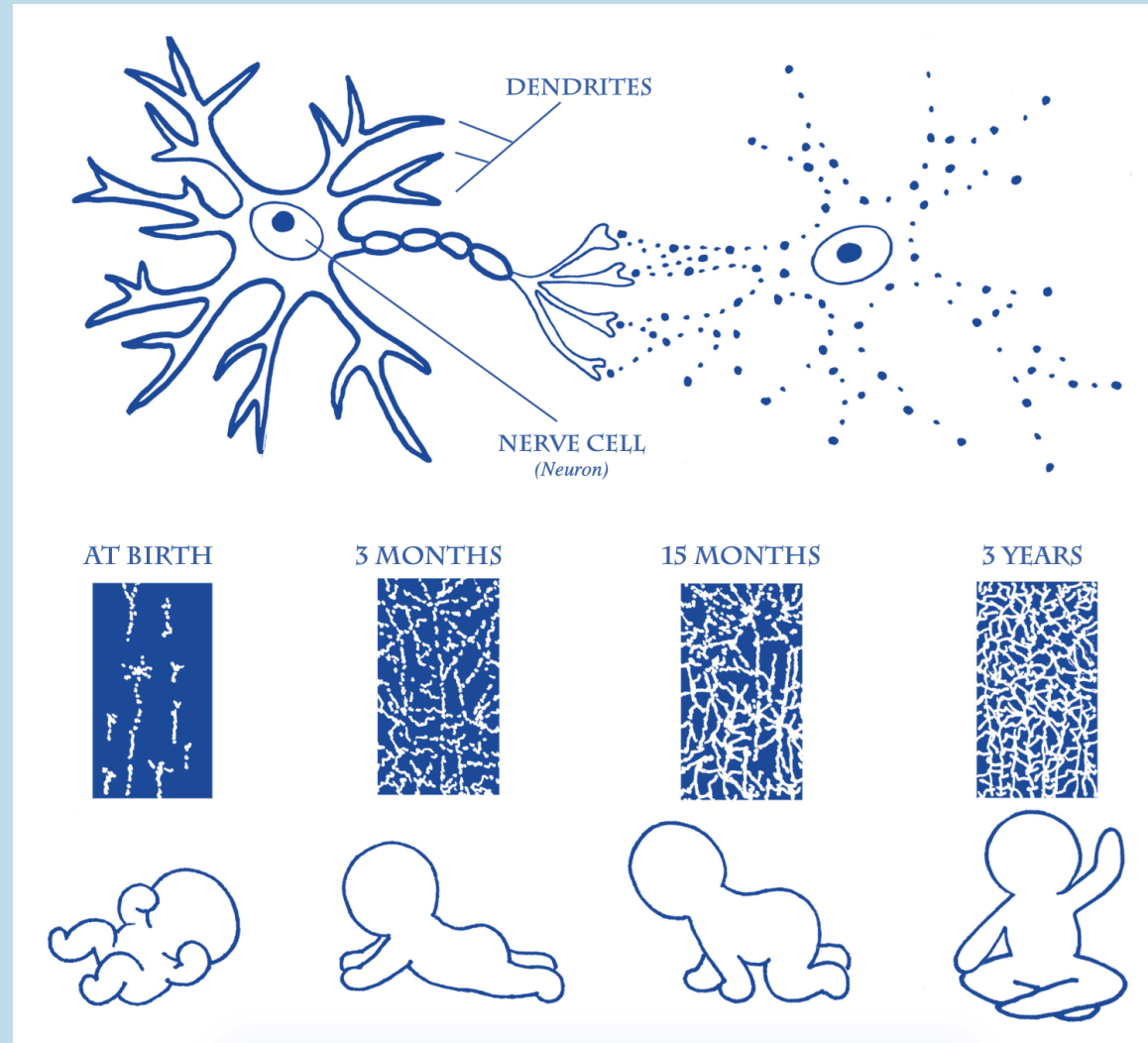
Image: <http://www.valleysedgesnowtubing.com/PHOTOGALLERY.html>

Dodge, N. (2007). *The Brain That Changes Itself: Stories of Personal Triumph From the Frontiers of Brain Science*. New York, NY: Viking Press.



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# Brain Development Factors





# Engaging Activity: Thumb Staring

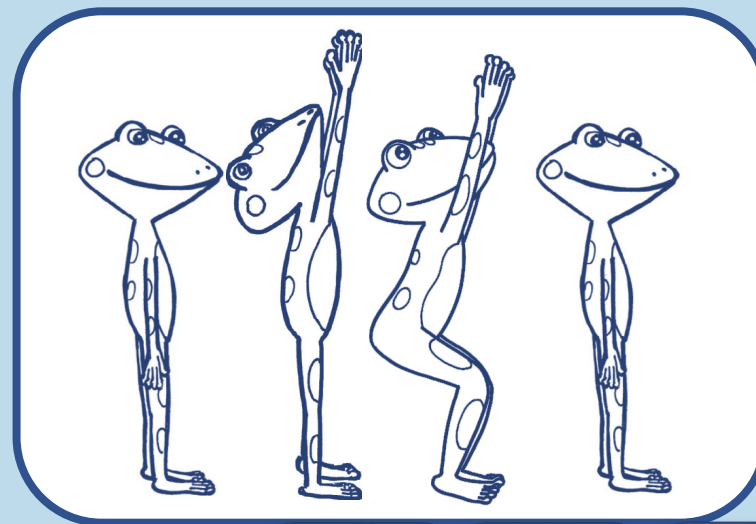


1. Start in Seated Mountain with hands in your lap.
  2. Gaze softly down at your thumbs.
  3. Try to keep your eyes on your thumbs until I ring the chime again.
- ❖ *Ring the bell... and wait 30 seconds.*
  - ❖ *Ring the bell again and ask learners for feedback. Were they able to keep their gaze on their thumbs the whole time? If so, how did they do it? Did they experience any distractions?*
  - ❖ *This exercise complements "Listen to the Chime" except it focuses on the sense of sight more than the sense of hearing. You can offer both exercises, and ask learners what feels different with eyes open versus eyes closed.*



# Engaging Activity: Mountain/Chair Strength Sequence

1. Begin in Mountain Pose.
2. Inhale, raise your arms overhead.
3. Exhale, bend your knees and sit back as though you were going to sit in an imaginary chair.
4. Hold for 3 breaths.
5. Inhale, come back to Mountain Pose.
6. Increase hold to 5 breaths as stamina increases.



*\*This sequence can be used to strengthen the lower back and legs. It's also re-energizing after sitting in a chair for awhile.*



# Why Neuroplasticity is important

---

**Studies have shown that your mind can repair and rewire itself.**

- ❖ Continue learning and keep moving.
- ❖ Reduce stress.
- ❖ Get enough quality sleep.
- ❖ Golden period when learning is easy.



# Neuroplasticity

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“

*Neurons that fire together,  
wire together.*

*~Donald Hebb*

”

*Scientists have found that new habits, ideas, and thoughts can be continually learned and changed throughout our entire lives. Sensory input prompts neurons to communicate, and if particular neurons communicate with one another often enough, a strong neural connection is made.*



# Neuroplasticity

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- ❖ There are as many neurons in the brain as stars in the Milky Way: about 100 Billion.
- ❖ The brain physically stops growing around 18, but it keeps changing forever.
- ❖ By design, our brains are all about growth and change - as is the whole human body.
- ❖ Celebrate mistakes that make the brain grow.





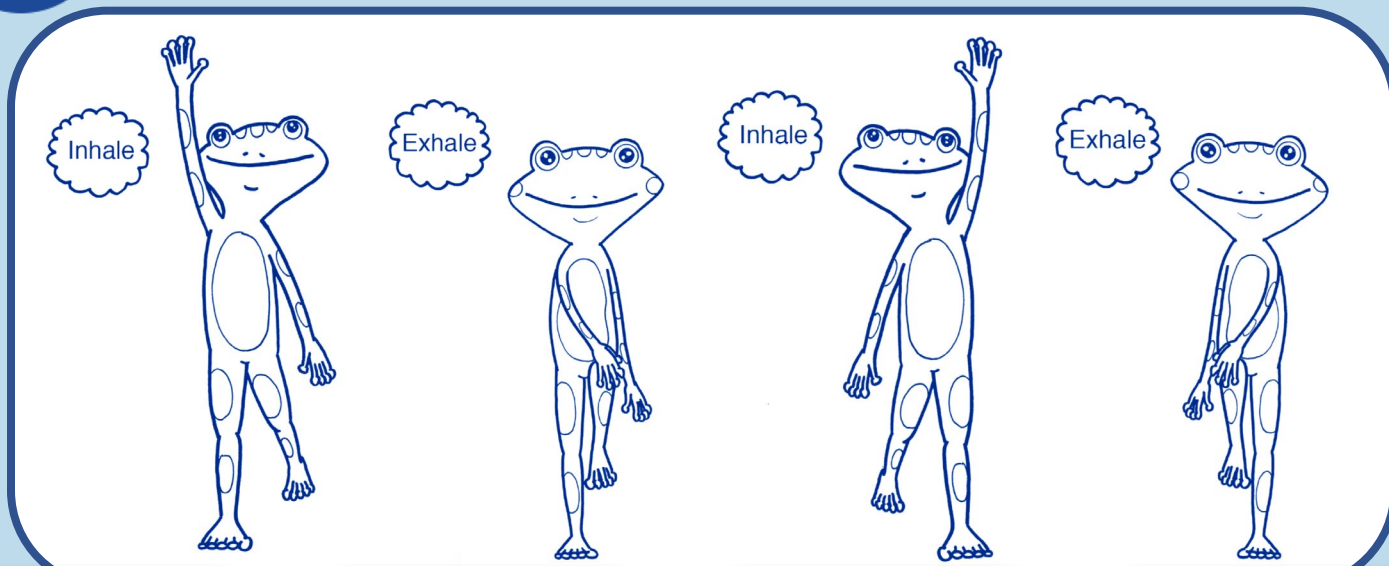
# Engaging Activity: Even In – Even Out

1. Start in Seated Mountain with a tall spine, relaxed shoulders, and eyes gently closed.
2. Breathe naturally through the nose.
3. We are going to focus on making our inhales and exhales even.
4. Inhale deeply through the nose and exhale through the mouth for a count of one.
5. On the next breath, lets count to two on the inhale and the exhale.
6. Repeat, continuing to extend the breath up to a count of five.





# Engaging Activity: Brain Balance Sequence



1. Inhale, take the right arm overhead and the left foot slightly behind, placing only your toes on the floor.
2. Exhale, lift the left leg, knee bent, and touch the right hand to the inside of the left knee.
3. Inhale, return the right arm overhead and the left foot slightly behind placing only your toes on the floor.
4. Exhale and again lift the left leg, knee bent, and touch the right hand to the inside of the left knee.
5. Repeat on the other side.



# Self-care Practice





**Neurochemicals**

**Endorphins**

**Neurotransmitters**

**Improved mood**

**Improved memory**



# Reflection

Please take out your phone, laptop or notebook for a two-minute free write. The goal is to check in with yourself.

What is on your mind?  
or  
How are you feeling?



# Movement Sequence

Mountain

Mountain/Sunrise x 2-3

Half Opening Sequence A x3

Big Toe

Star into Triangle

Tree

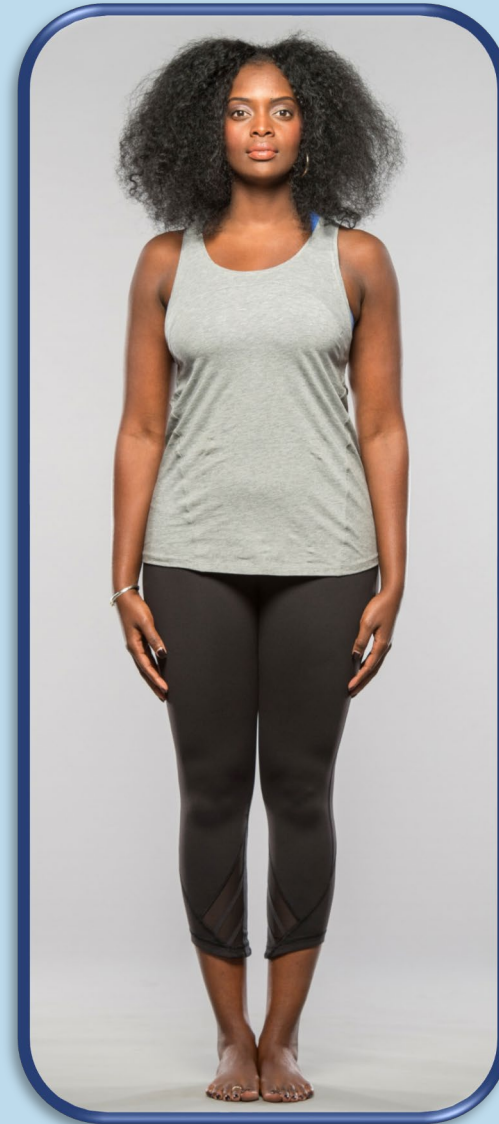
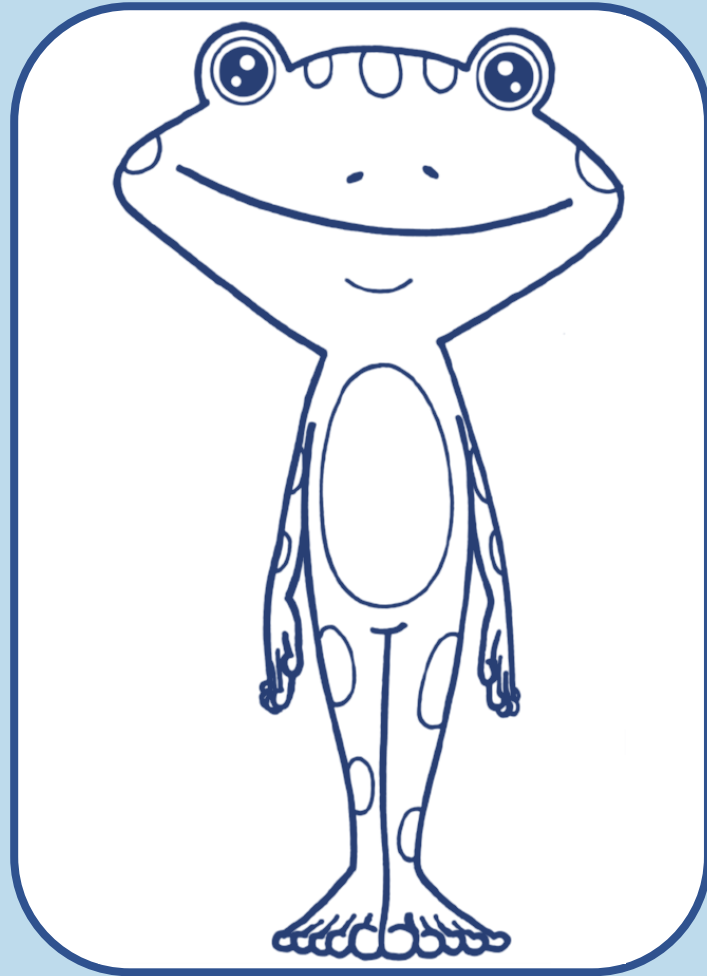
Seated Mountain

Guided Rest





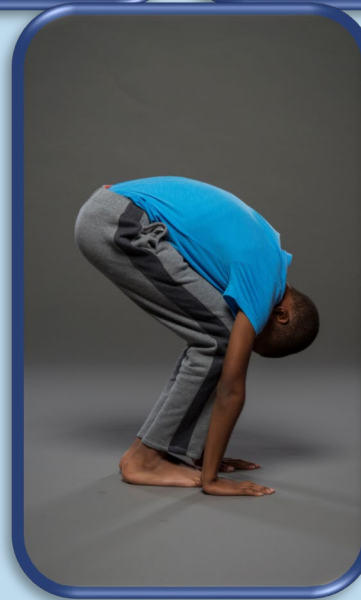
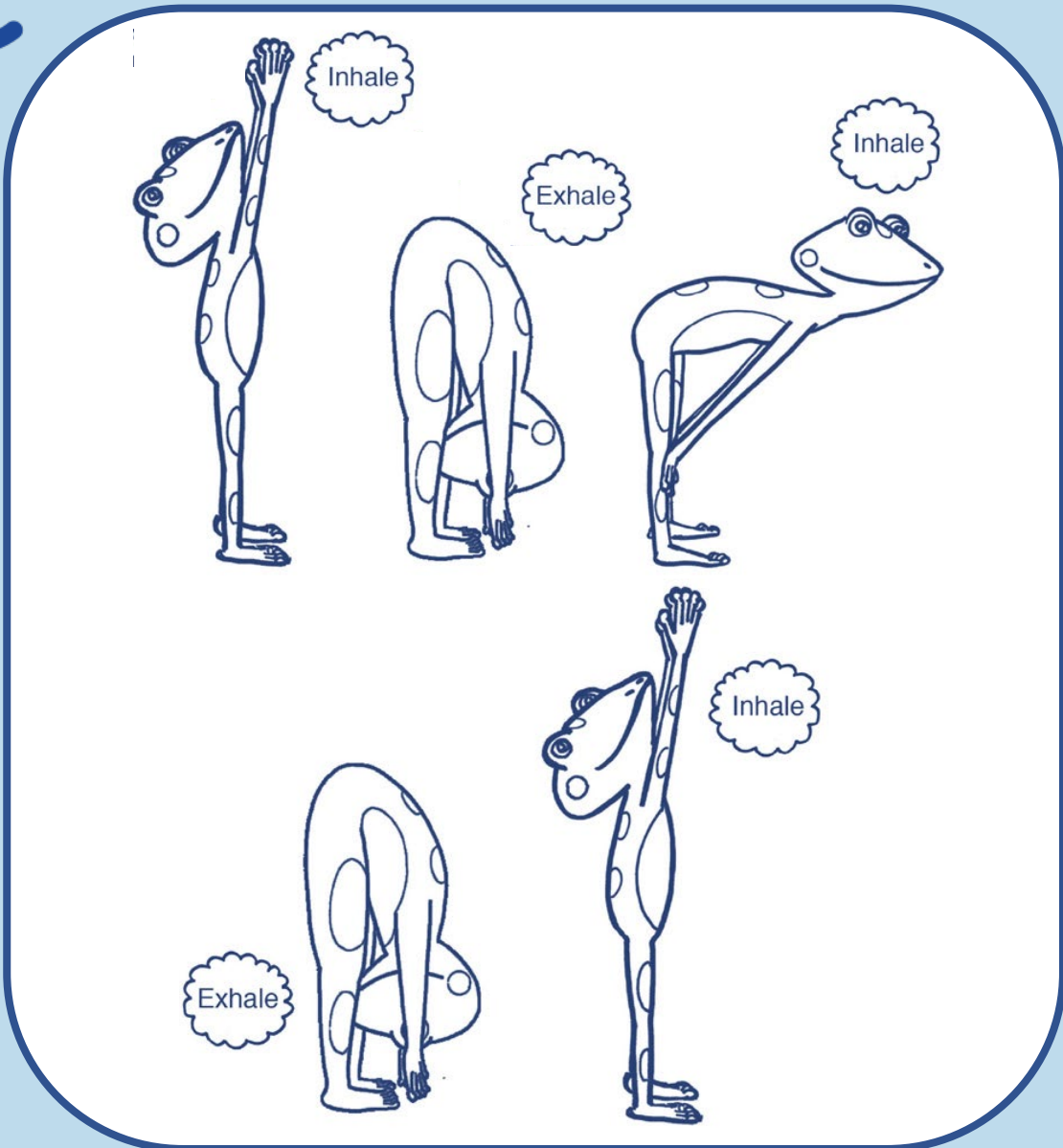
# Mindful Movement: Mountain





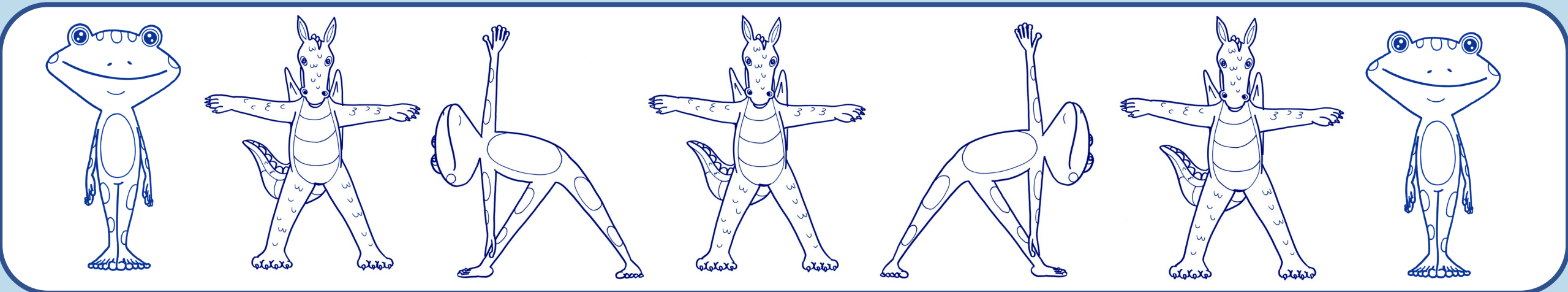


# Mindful Movement: Half Opening Sequence A



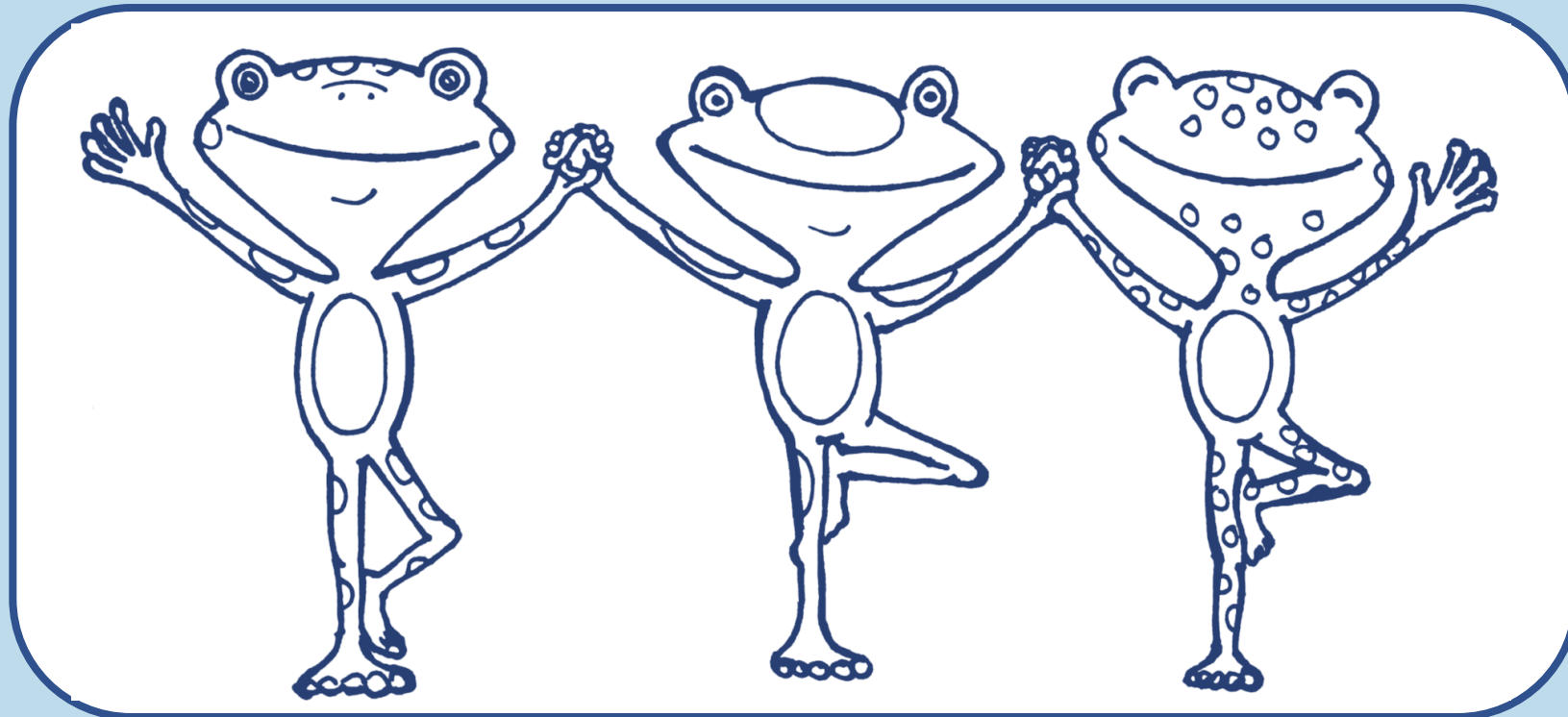


# Mindful Movement: Star into Triangle





# Mindful Movement: Tree or Forest





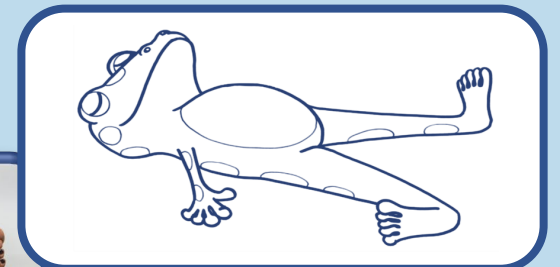
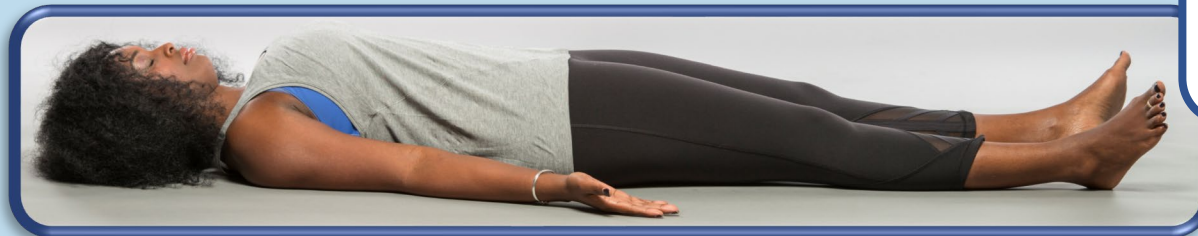
# Mindful Movement: Seated Mountain





# Engaging Activity: Guided Rest / Body Scan

1. Lie down on the floor on your back. Spread your feet apart. Turn your palms up to face the ceiling and close your eyes.
2. Put your attention on your forehead. Feel your forehead relax.
3. Put your attention on your eyes. Feel your eyes relax.
4. Put your attention on your cheeks and jaw. Feel your cheeks and jaw relax.
5. Put your attention on your neck. Feel your neck relax.
6. Put your attention on your shoulders. Feel your shoulders relax. (Repeat for arms, wrists, hands, fingers.)
7. Put your attention on your chest. Feel your chest relax.
8. Put your attention on your back. Feel where your back touches the floor (or the chair).
9. Put your attention on your belly. Notice how the breath moves the belly softly up and down.
10. Put your attention on your hips. Feel your hips relax. (Repeat for legs, knees, ankles, feet, toes.)
11. Bring your awareness to your breathing and notice where you feel the breath in your body. Maybe you notice it in your nostrils. Maybe you feel it in your chest. Maybe you feel it in your belly.
12. See if you can get really quiet. Maybe you will even feel your heart beating inside your body.
13. Let learners rest in silence for a few moments.
14. Ring chime.
15. Slowly start to wiggle your fingers and toes. Take a deep breath in and stretch your arms overhead. As you exhale, relax.
16. Open your eyes and slowly return to a seated position.
17. Notice how you are feeling.





# Reflection

Please take out your phone, laptop or notebook for a two-minute free write. The goal is to check in with yourself.

What is on your mind?  
or  
How are you feeling?



# What we hope to do

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*Respond*

Vs.

**React**

---

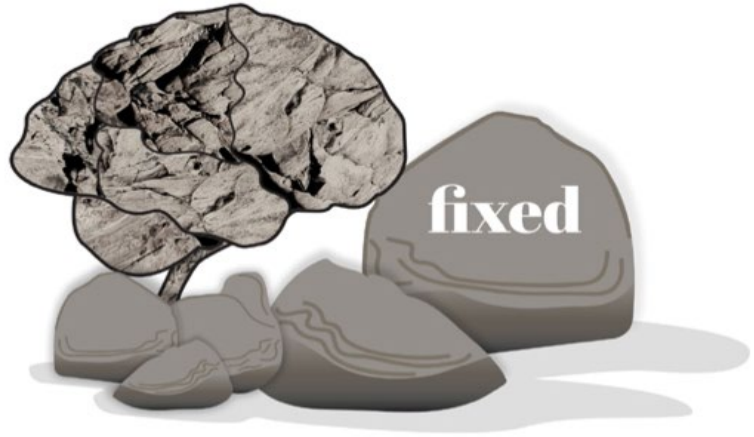
# Neuroplasticity



Stanford University professor and world-renowned psychologist, Carol Dweck, Ph.D, conducted a landmark study which found that when students are taught that intelligence is *not* fixed but is changeable, it made a dramatic impact on both their grades and morale.



# MINDSETS



***versus***



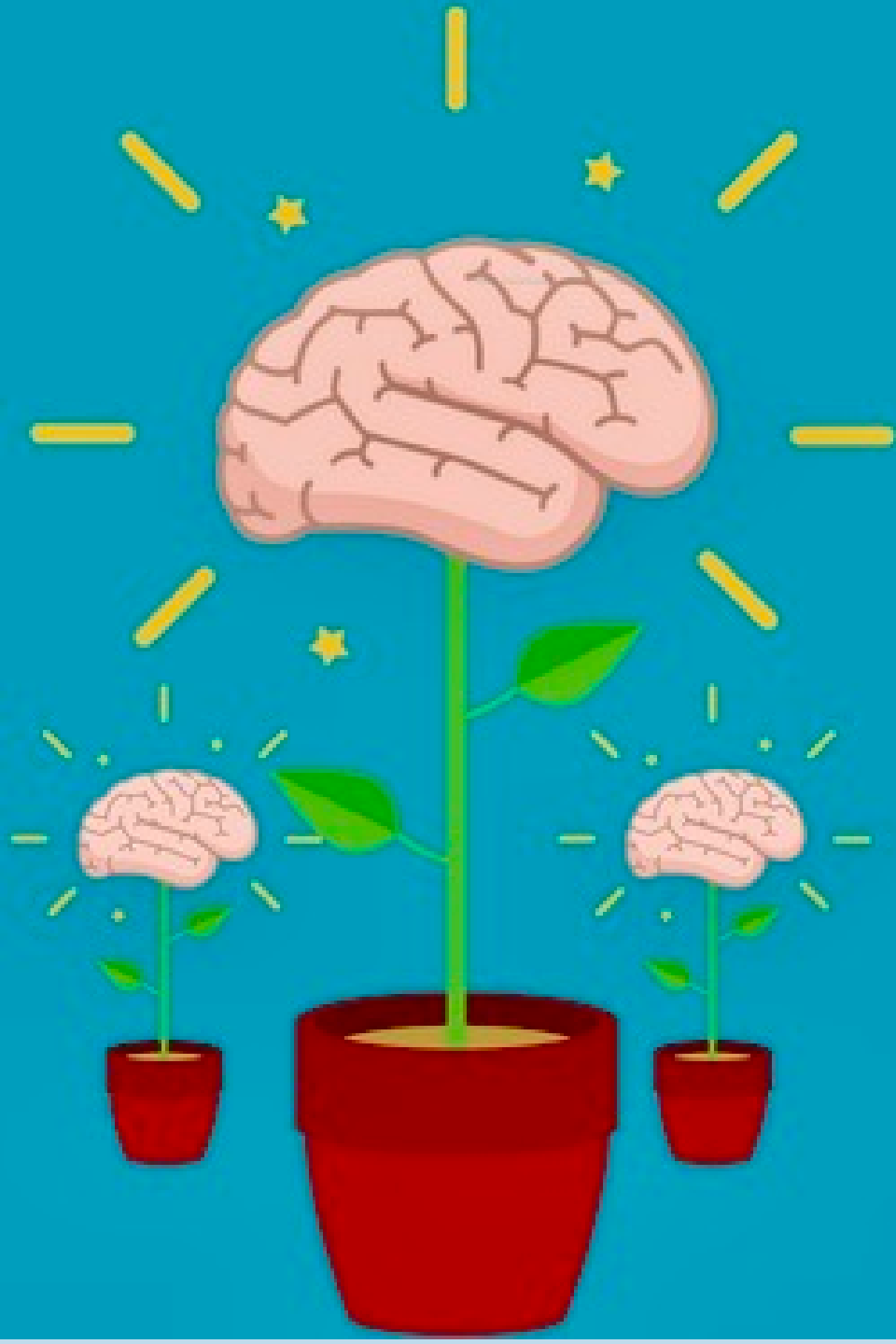
*A growth mindset inspires the necessary ingredients for achievement: a love of learning, perseverance, courage, and resilience. Neuroscientists have proven that the growth mindset works because our brains are constantly changing and growing, enabling us to learn new things.*

# The Power To Grow and Stretch teaches the principle of resilience and cultivating a “growth mindset.”

Attitude affects behavior and the ability to succeed in different environments.

Focus on how to recognize negative self-talk, or a fixed mindset, and develop the positive self-talk of a growth mindset.

Developing a growth mindset empowers us to face daily frustrations with more mindful responses and maintain effort despite setbacks.





# Engaging Activity: STOP

- ❖ STOP is an exercise designed to help learners practice self-regulation when they are experiencing strong emotions.
- ❖ Learners learn to go through the four steps: S-T-O-P
- ❖ It is a good idea to practice this exercise when learners are not experiencing strong emotions, so that they will be able to implement it when they are.
- ❖ The main focus is to hone learners' observation skills to help them make more mindful choices.
- ❖ When we observe, we are just noticing what we feel in our bodies, we are not saying if something is good or bad.
- ❖ For further exploration, ask learners how the quality of their breath changes when they are laughing, sobbing, anxious, frightened, angry, relaxed, surprised, or startled.
- ❖ Underscore two important features of mindfulness practice:
  1. Consistent practice—keep trying!
  2. Learn from unmindful moments, without being too harsh on yourself.



# Guiding Question

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**What is neuroplasticity?**

Grades 6-12, Lesson 4.7

**What does it mean to “grow” your brain?**

Grades 3-5, Lesson 2.1

# Pure Power

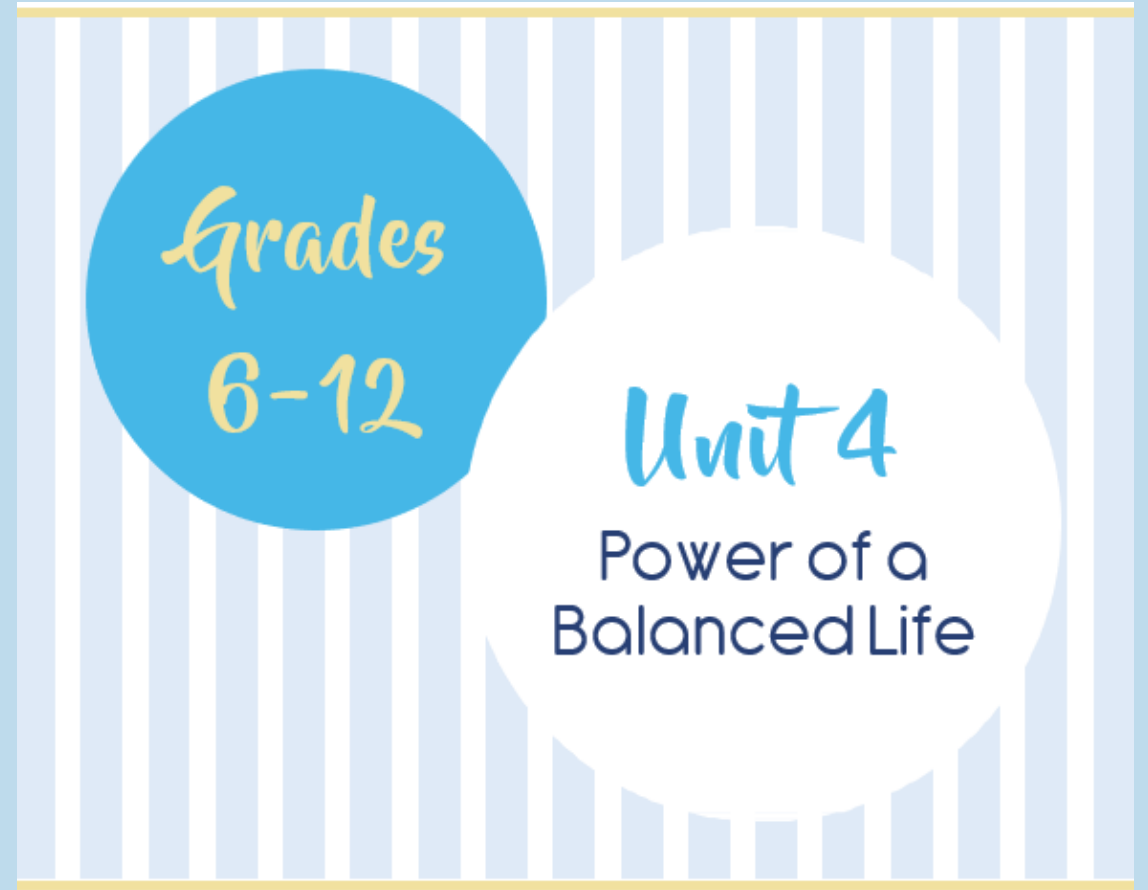
Grades K-5 Unit 2  
Power to Tame  
Your Temper



A line drawing illustration within a rounded rectangle. On the left, a dragon is sitting in a meditative yoga pose (Padmasana) with its hands in a prayer position (Anjali Mudra). On the right, a frog is also sitting in a meditative yoga pose with its hands in a prayer position. Above the dragon, a thought bubble contains the text 'Grades K-5 Unit 2 Power to Tame Your Temper'.

Grades  
6-12

Unit 4  
Power of a  
Balanced Life



A rectangular area with a background of vertical light blue and white stripes. It features two overlapping circles: a blue circle on the left containing the text 'Grades 6-12' and a white circle on the right containing the text 'Unit 4 Power of a Balanced Life'.



# Engaging Activity: Attitude of Gratitude



1. Sit comfortably, and if you like you can close your eyes.
2. Think of something/someone in your life for which you are thankful, or grateful. It can be anything or anyone!
3. Take a few moments to just appreciate this thing or person.
4. Now think of another thing or person for which you are grateful.
5. Take a few moments to appreciate this thing or person.
6. Notice how you feel.

\*As you introduce this exercise, you might want to model an example for learners before bringing them through the exercise.

\*This is a nice exercise to take a few responses from learners after the exercise is finished.

# Brain Breaks Review



## Breathe

- ❖ Mindful Minute
- ❖ Even In – Even Out



## Move

- ❖ Chair Eagle
- ❖ Mountain/Chair Strength Sequence
- ❖ Brain Balance Sequence
- ❖ Movement Sequence



## Rest

- ❖ One Minute Reflection
- ❖ Thumb Staring
- ❖ STOP
- ❖ Guided Rest/Body Scan
- ❖ Attitude of Gratitude

# Takeaways

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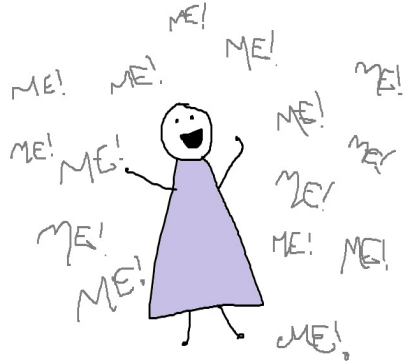
- ❖ Use Breathe, Move, and Rest strategies to create positive neurological pathways.
- ❖ Repetition makes new neurological pathways stronger.
- ❖ Skills become habits.
- ❖ The brain continues to make new connections.



# Optimistic Closure: Synectics

“Self-Talk” is like...

1



3



5



2



4



Because...

# Today's Reflection

---

## **Self:**

Choose 2 Breathe, Move, and/or Rest Brain Breaks to practice independently. Note how you feel before (pre) and after (post) your practice.

## **Online Class:**

Plan one class lesson and explicitly label each of the 3 signature practices within the full lesson.

## **Together in Class:**

Map the "why" of Brain Breaks to your current scope and sequence.



# Today's Reflection

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## **Self:**

- 1) Each time you are able to give focused attention to your breath, purposely lengthen/extend the exhale.
- 2) Identify one new strategy of interest to you for improving brain growth.

## **Online Class:**

Using the SEL curriculum as guidance, plan and facilitate a discussion about neuroplasticity with students.

## **Together in Class:**

Using the SEL curriculum as guidance, plan and facilitate a discussion on growth mindset vs. fixed mindset.





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Evidence-Based Approach  
Thoughtful Partnerships  
Curriculum & Training



Online Curriculum

Log Out

+ MENU



**Pure  
Edge**

Success Through Focus

Strategies for educators and learners to develop social, emotional, and academic learning skills through mindful movement and rest.



●  
breathe

●  
move

●  
rest





Pure Community

**Please Note: You will receive a follow-up email within 24 hours of this session. This serves as your confirmation of attendance.**

*Thank you for joining us!*

**Session 2, Part 1 & Part 2: The Neuroscience of Stress & Neuroplasticity**  
**Trainers: Gill McClean & Erin Cooney**

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