


Pure Community

## Thank you for joining us!

**Session 6: Neuroplasticity**  
**Trainer: Gill McClean**


**Getting Started:**

1. If you have any questions, please type them into the Q&A box!
2. At the end of this session, when you leave the meeting, there will be a link that will pop-up asking you to complete the Session Quiz / Feedback Form.
3. You will receive a follow-up email within 24 hours of this session. That email will serve as your confirmation of attendance record for this session.

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Website: [www.pureedgeinc.org](http://www.pureedgeinc.org)

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# Culture of Care Series: Session 6

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## Neuroplasticity



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# 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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## Welcoming Activity

Poll: Which of the following Brain Breaks are you most likely to teach?



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## Engaging Activity: Mindful Minute



- Have learners sit in Seated Mountain.
- Take about one minute to have learners bring their attention to the present moment.
- Start by having learners bring their attention to the breath, noticing its qualities (fast, slow, warm, cool, shallow, deep....).
- For the rest of the Mindful Minute, you can continue attention on the breath, or use one of several techniques: a quick body scan, noticing feelings, or attention to sounds in/outside the room.



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## Learning Objectives

- ❖ Understand Neuroplasticity
- ❖ Summarize Brain Development
- ❖ How do breathe, move, and rest strategies create new positive neurological pathways?



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## We will always practice

1. Self-care 
2. Brain Breaks 
3. Modeling SEL Lesson Structure 

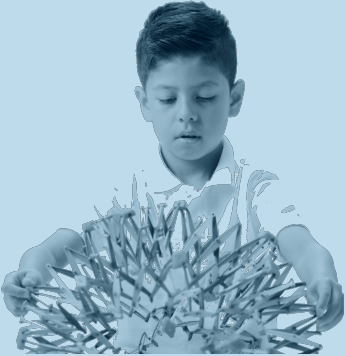


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## Breathe



## Move




## Rest



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## Benefits of Nasal Breathing



- ❖ 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

Northwestern University, "Rhythm of breathing affects memory, fear: Breathing is not just for oxygen; it's also linked to brain function, behavior." ScienceDaily. ScienceDaily, 7 December 2016. <[www.sciencedaily.com/releases/2016/12/161207093034.htm](http://www.sciencedaily.com/releases/2016/12/161207093034.htm)>

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## 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, let's count to two on the inhale and the exhale.
6. Repeat, continuing to extend the breath up to a count of five.



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## WHAT IS NEUROPLASTICITY?

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

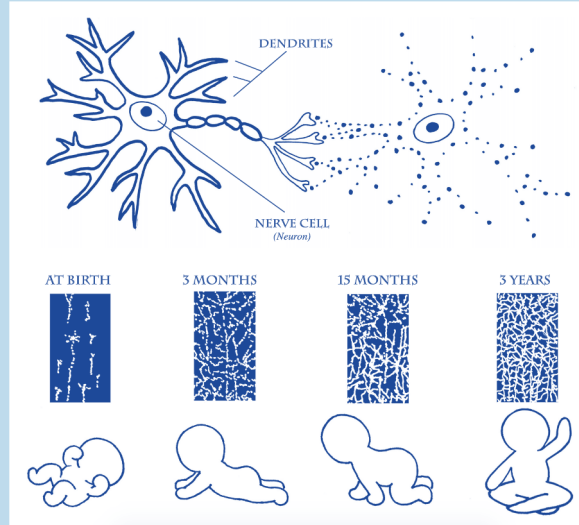


<https://www.projectrex.org/adolescent-brain-cognitive-development-abcd-study/>

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# Brain Development Factors



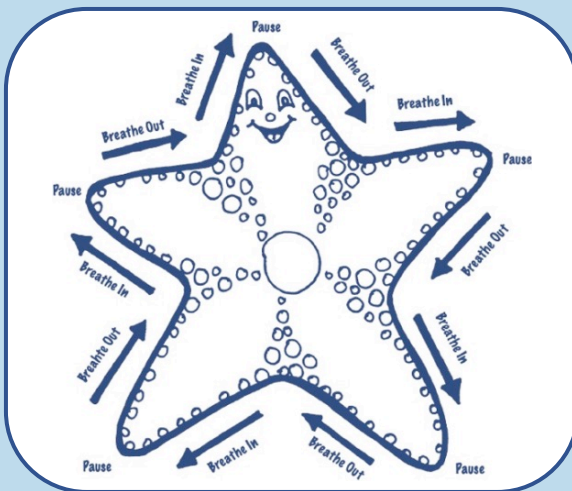
<https://classroomclipart.com/>

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## Engaging Activity: Starfish Breathing or Take Five



1. Lift one hand, fingers spread wide.
2. Put the index finger from the other hand on the outer base of the thumb.
3. We are going to trace the outline of our hand. Keep looking at your pointer finger while you do your breathing.
4. Inhale (finger traces to top of thumb).
5. Exhale (finger traces down the other side of thumb).
6. Repeat until you have traced the outline of the hand.



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# 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.



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## Neuroplasticity



Stanford University professor and world-renowned psychologist, Carol Dweck, PhD, 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.



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<https://www.kaed.org/mindshift/53681/how-movement-and-exercise-help-kids-learn>

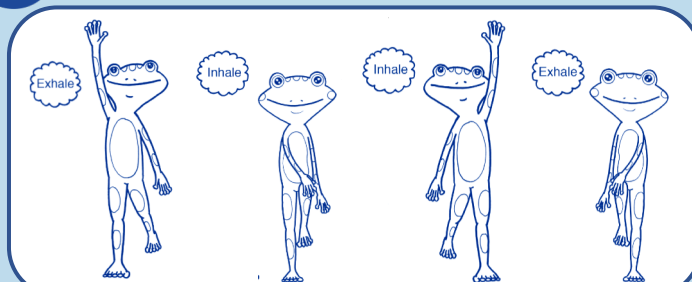


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## Engaging Activity: Brain Balance Sequence



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.



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## NEUROPLASTICITY

Like a snowy hill in winter



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



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## Did You know?

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



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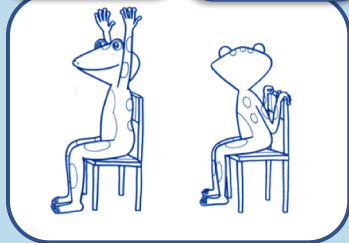


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## Engaging Activity: Chair Sunrise Twist



1. Sit in Seated Mountain.
2. Inhale, stretch arms overhead for Chair Sunrise.
3. Exhale, twist to the right, placing left hand on right knee and right hand on right hip or back of the chair. Keep right shoulder relaxed. Take a few breaths here.
4. Inhale, back to Seated Sunrise.
5. Exhale, twist to the left, placing right hand on left knee and left hand on left hip or back of chair. Keep left shoulder relaxed. Take a few breaths here.
6. Inhale back to Seated Sunrise.
7. Exhale to Seated Mountain.



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## Guiding Question

### What is neuroplasticity?

Grades 6-12, Lesson 4.7

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

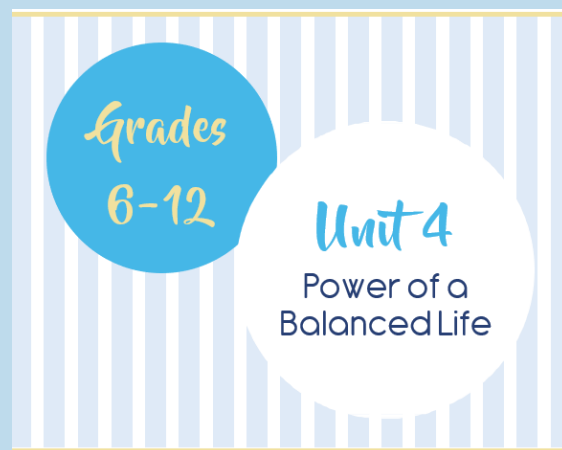
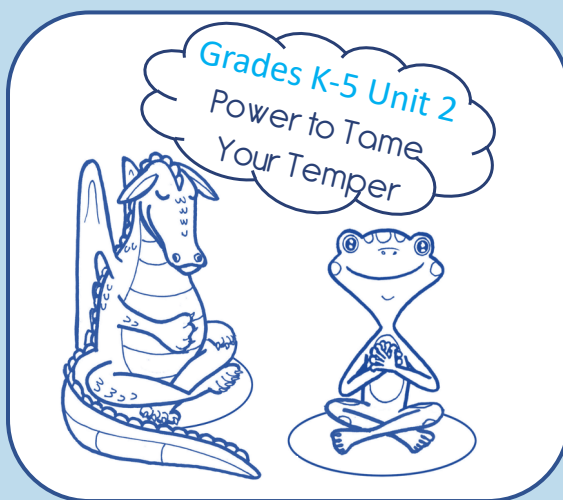
Grades 3-5, Lesson 2.1



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## Pure Power



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## 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).



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## Did you know?

Give yourself time to develop these new patterns/habits. There's a wide range (18-200+ days) in how long it takes to develop a new habit; average time being 66 days.



<https://onlinelibrary.wiley.com/doi/abs/10.1002/eisp.674>

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## Brain Breaks Implementation Tips

1. Establish A **Consistent** Routine
2. Start of Day/End of Day/Transitions
3. Start **Small**, Then Build
4. **Repeat, Repeat, Repeat**
5. Be Comfortable With the Exercises



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## 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.



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# Optimistic Closure:

My next step



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## Brain Breaks Review



### Breathe

- ❖ Mindful Minute
- ❖ Even In – Even Out
- ❖ Starfish Breathing/Take Five



### Move

- ❖ Brain Balance Sequence
- ❖ Chair Sunrise Twist
- ❖ Chair Eagle



### Rest

- ❖ Guided Rest/Body Scan



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## 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.



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## Homework

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### **Self?**

Pick one new strategy to improve brain growth.

### **Online Class?**

Introduce neuroplasticity to students.

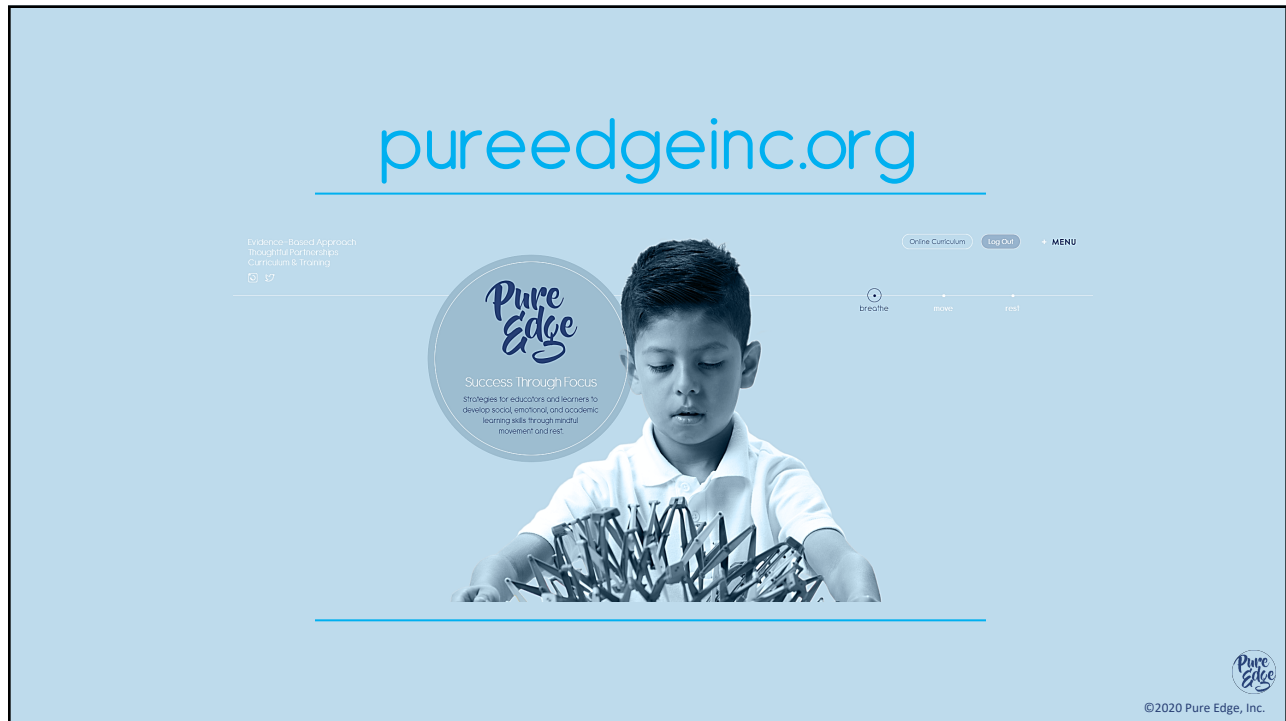
### **Together in Class?**

Discuss the difference between a growth mindset and a fixed mindset.



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Thank you for joining us!

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**Trainer:** Gill McClean, Director of Professional Development

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