Neuroplasticity
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.
Welcoming Activity

Which superpower would you choose?

☆ Invisibility
☆ Superhuman Strength
☆ Flying
☆ Super Speed
☆ Mind Reading
☆ Teleportation
☆ Talk to Animals
☆ I already have a Superpower!
Learning Objectives

- Define neuroplasticity.
- Explain growth mindset.
Series Learning Objectives

- 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.
Guiding Questions

What is neuroplasticity?
(Grades 6-12, Lesson 4.7)

What does it mean to “grow” your brain?
(Grades 3-5, Lesson 2.1)
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.
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/
Neuroplasticity

When you make an effort to reroute your habitual thoughts and actions, your brain absorbs and adapts to this effort.
Neuroplasticity

This is a beautiful way of visualizing how neural currents are routed and rerouted depending on what kind of input your brain is exposed to.
“A child’s brain forms more than 1,000,000 neural connections EVERY SECOND during the first years of life.”

Dr. Nadine Burke Harris, M.D.
Brain Development Factors

![Diagram showing brain development from birth to age 3 years with labeled stages: dendrites, nerve cell (neuron), at birth, 3 months, 15 months, 3 years.](https://classroomclipart.com/)

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The social isolation caused by repeated and sudden quarantines and widespread social inequities may prove the heaviest burdens for young and older adolescents, who are going through a period of growth in social learning now thought to be as intense as the cognitive growth seen in toddlers.
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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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.
- If particular neurons communicate with one another often enough, a strong neural connection is made.

“Neurons that fire together, wire together.”

-Donald Hebb


Neuroplasticity

- 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.

https://medium.com/thrive-global/neuroplasticity-mental-wellness-our-path-forward-4c03a632868
Engaging Activity: Give One, Get Many

Take a moment and write down two takeaways from the section on Neuroplasticity.

How will you apply this information in your role? Share the application in the Q & A box.
Our **mindset** is our set of attitudes, or beliefs that we have about ourselves as learners.

Stanford University professor and 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.
A fixed mindset is the belief that intelligence is static:

one is born with a certain degree of intelligence and range of talents that do not change very much, even with continuous, dedicated practice and effort.
A **growth mindset** is the belief that one can cultivate one’s basic qualities like intelligence, character, and personality through effort.

A growth mindset inspires the necessary ingredients for achievement:

- a love of learning
- perseverance
- courage
- resilience
Engaging Activity: Chair Sunrise Twist

Inhale

Exhale
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.

Image: https://simpliv.wordpress.com/tag/online-learning/
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Growth Mindset: Considerations & Strategies

- “I Can’t – Yet” Strategy
- “Thought Stopping Strategy”
  2. Stop the negative self-talk.
  3. Replace it with positive self-talk.
- Recognize mistakes as an opportunity for learning, self-improvement, and growth

Strategies can be found in the Pure Power Curriculum: Grades 3-5, Unit 4 & Grades K-2, Unit 4

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.
Gratitude Effects

- **Decreases heart rate** – this may be due to activating the Parasympathetic Nervous System.

- Increases our ability to **regulate our emotions**.

- **Enhances motivation**.


Engaging Activity: Guided Rest
Optimistic Closure: One Word To Describe How You Feel

Photo: Juan Monino

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Today’s Reflection

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

2. Review the 5 SEL competencies and objectives. List which competencies/objectives are strengths for you. List the competencies/objectives where you feel you need additional support.

Classroom Planning:
Identify and list 3 SEL signature practices in each category that you can implement in an online or in-person classroom setting. You should have a total of 9 strategies upon completion. (3 Welcoming, 3 Engaging, and 3 Optimistic Closure)

Pro-tip: Differentiate between virtual and in-person settings
Consult www.schoolguide.casel.org for the SEL 3 Signature Practices Playbook