The Neuroscience of Stress, Part 1
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

Respond to the poll to share your response with our group.

Please Describe Your Mood

Sunshine  Rainy  Thundery  Cloudy  Rainbow
Learning Objectives

- Describe the neuroscience of stress.
- Analyze the effects of the stress response on the educational environment.
- Examine the potential opportunities and concerns for Self-Awareness and Self-Management.
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.
What does the expression “flip your lid” mean?

(Grades 3-5, Lesson 2.12)
Breathe

Move

Rest
“Breathing properly can allow us to live longer and healthier lives.”

–James Nestor

Breathing poorly can exacerbate or cause:
- asthma
- anxiety
- attention deficit hyperactivity disorder
- hypertension
- and more.

Poor breathing habits can even change the **physical structure of our skeletons**, depleting essential minerals and weakening our bones.
Breathe: Guidelines for Teaching

- Sit up tall so lungs can fully expand.
- Use props to make breath concrete.
- Use nasal breathing (unless otherwise instructed).
- Breathing effects change in the nervous system.
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.
Respond

Vs.

React
### Potential Concerns

- In the US, dominant cultural norms equate wealth and Whiteness, and uncritically accept them as indicators of success.
- Negative biases and stereotypes exist about people of color.
- Negative biases and stereotypes exist about those from low-income backgrounds.

### Potential Opportunities

- Self-awareness is foundational for equity.
- The sense of self for all young people includes cultural values and orientations, and collective identities (e.g., ethnic-racial group, socioeconomic status, and gender).
- A healthy sense of ethnic-racial identity (ERI) is important for psychological, academic, and social well-being.
**Potential Concerns**

- **Acculturative stress** occurs when low-income and/or immigrant youth encounter a cultural mismatch between the expectations and norms of their host (e.g., U.S.) and their home (heritage).

- **Racial/ethnic discrimination** (different from acculturative stress) has a number of interpersonal and institutional manifestations and is a common experience for people of color.

- Reactionary and self-defeating responses to cultural and racialized stress and micro-aggressions often result in punishment of students of color.

**Potential Opportunities**

- The cultural and ethnic-racial identity (ERI) aspects of self-awareness could provide youth with more adaptive coping strategies.

- Instead of becoming emotion-focused and disengaged, students could become more focused on identifying situational or societal challenges and pursuing individual and collective solutions.
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.
### Student Mental Health

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>60%</td>
<td>of K-12 students are exposed to a traumatic event.</td>
</tr>
<tr>
<td>17 million</td>
<td>children have untreated mental health diagnoses.</td>
</tr>
<tr>
<td>2nd</td>
<td>most common cause of death among ages 10-24 is suicide.</td>
</tr>
<tr>
<td>95%</td>
<td>of teens have smartphones, while 45% are “online constantly.”</td>
</tr>
<tr>
<td>9</td>
<td>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.</td>
</tr>
<tr>
<td>52%</td>
<td>is the rate of increase in major depression among youth ages 12-17, from 2005-2017.</td>
</tr>
<tr>
<td>6.1 million</td>
<td>children ages 2-17 have received an ADHD diagnosis.</td>
</tr>
<tr>
<td>30-40%</td>
<td>of undergrads at Ivy League institutions seek mental health services, up 20% per year over the last 6 years.</td>
</tr>
</tbody>
</table>

[https://www.cdc.gov/ncbddd/adhd/data.html](https://www.cdc.gov/ncbddd/adhd/data.html)
[https://ssir.org/articles/entry/five_ways_to_advance_conservation_entrepreneurship](https://ssir.org/articles/entry/five_ways_to_advance_conservation_entrepreneurship)
From March through October 2020, as compared to the same period in 2019, mental health-related emergency department visits rose 24% for children ages 5 to 11 and 31% for adolescents 12 to 17.
39% college students had anxiety disorders
51% high school students experienced anxiety
40% early childhood teachers signs of depression
42% principals considered leaving
75% K-12 teachers felt anxious
95% school leaders’ feelings were “negative”
Engaging Activity: Starfish Breathing or Take Five

1. Make a starfish with 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 starfish 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 starfish hand.

*Learners are synchronizing their movement, breath, and gaze. On the inhale, index finger and eyes trace upward along a finger; on the exhale, index finger and eyes trace downward along a finger. Each upward movement is coupled with an inhale, whereas each downward movement is coupled with an exhale.

*After Starfish Breathing, you can have learners rest their hands on their chest, continuing to breathe mindfully, as they silently recall three things for which they are thankful.
Self-Regulation & the Brain

- Prefrontal Cortex
- Amygdala
Neuroscience of Stress

- 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.
- The Prefrontal Cortex isn’t fully developed until age 25 or so.
- Children, teens, and young adults rely on the amygdala - the emotional part of the brain - to process information.
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.
Engaging Activity: Guided Rest
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

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Optimistic Closure: Synectics

“Self-Talk” is like...

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Because...