

Curriculum Goals	<p>By the end of this curriculum, students will have explored the brain lobes and the limbic system and learn of their function and roles in learning. Students will also deepen their understanding of crucial concepts like empathy, community, self-regulation, vulnerability, and self-care. These themes aim to provide students with skills to feel more comfortable both with themselves and within the communities they fill.</p>
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Lesson 1	The Brain and its Lobes
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Time	45-60 minutes
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Materials	<ul style="list-style-type: none"> ● Ideally, an SEL notebook to keep throughout lessons. If not possible, use a sheet of paper students can store someplace safely for future lessons. ● Pen or pencil ● Lesson 1 Quiz - Brain True or False! ● Lesson 1 Worksheet - The Brain and its Lobes (answer key) ● Lesson 1 Slides ● Green Our Planet Studios video link ● SEL + Science Adventures Manual (Green Our Planet Studios) ● Internet access ● Resources to play videos for students
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<p><u>Vocabulary</u></p>	<ul style="list-style-type: none"> ● <i>frontal lobe</i>: the part of the brain that helps control thinking, planning, organizing, problem-solving, short-term memory and movement ● <i>temporal lobe</i>: the part of the brain that processes information from your senses of smell, taste and sound. It also plays a role in memory storage ● <i>parietal lobe</i>: the part of the brain that processes sensory information such as taste, texture and temperature ● <i>occipital lobe</i>: the part of the brain that processes images from your eyes and connects them to the images stored in your memory. ● <i>cerebellum</i>: the part of the brain responsible for movement and balance ● <i>brain stem</i>: the part of the brain that regulates the heart, breathing, sleeping, and eating
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<p><u>Overview</u></p>	<p><u>Lesson Description:</u> Students will learn the foundational understanding of the brain. Students will investigate the different parts of the brain, their role, and what the brain needs to function properly. They will practice box breathing and describe with a partner how breathing exercises benefits the brain.</p>
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<p><u>Agenda</u></p>	<ul style="list-style-type: none"> ● Introduction ● Green Our Planet Studios Video
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	<ul style="list-style-type: none"> • Activity: Worksheets, Quizzes, or Cutouts • Reflection & Sharing • Closure
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<p><u>Learning Objectives</u></p>	<ul style="list-style-type: none"> • Identify the parts of the brain and their functions. • Practice Box Breathing. • Describe how box breathing helps your brain cope with powerful emotions.
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<p><u>Dimensions of Learning</u></p>	<ul style="list-style-type: none"> • Mindsets & Behaviors • SEL Competencies • Science Standards • Health standards <p><u>Mindsets & Behaviors:</u> For the full list of ASCA (American School Counselor Association) Student Standards, please see the “ASCA Student Standards” section of the manual.</p> <p><u>SEL Competencies:</u> For the full list of CASEL (Collaborative for Academic, Social, Emotional Learning) Competencies, please see the “SEL Competencies” section of the manual.</p> <p>Self-awareness Self-management</p> <p><u>Next Generation Science Standards:</u></p>
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	<p>DCI: In multicellular organisms, the body is a system of multiple interacting subsystems. These subsystems are groups of cells that work together to form tissues and organs that are specialized for particular body functions (MS-LS1-3).</p> <p>SEP: Developing and Using Models</p> <p>CCC: Structure and Function</p>
	<p>Health Standards:</p> <p>For the full list of National Health Education Standards, please see the "Health Standards" section of the manual.</p>

<p><u>Procedures</u></p>	<ul style="list-style-type: none"> ● Engage ● Explore ● Explain ● Elaborate ● Evaluate
	<p>ENGAGE: Opening Activity – Access Prior Learning / Stimulate Interest / Generate Questions: (5-10 minutes)</p> <ol style="list-style-type: none"> 1. Say to students: <i>Hello students! Today we're going to learn a little about the most complex organ in Earth's history. The human brain! We're also going to practice a breathing exercise that will be helpful for when you feel overwhelmed or anxious.</i> 2. Say to students: <i>Has anyone in here ever felt overwhelmed and your heart starts racing? (Teacher can tell a story of this happening to them). Does anyone want to share an example when this has</i>

happened? Choose 2-3 volunteers. Thank you for sharing. Today and next week we're going to learn more about the role our brain plays in this response and how breathing exercises may help.

3. Say to students: *Before we begin our lesson, we're going to do a [Lesson 1 Quiz - Brain True or False!](#) to see what you have heard about the brain before. Don't be afraid to get one wrong—we're all learning together! Read a few true or false statements from the brain, true or false sheet.*

EXPLORE: Lesson Description – Materials Needed / Probing or Clarifying Questions: (20-25 min)

1. Say to students: *When we're learning about the brain, we must also explore thoughts and emotions too. Where do thoughts come from? Can we overcome emotions? What do you think?*
2. Say to students: *Great conversation! Let's get in a comfortable space now and keep all those thoughts in mind as we explore this amazing organ even further with a video!*
3. Show Green Our Planet Studios video
4. After the video, ask students: *Is there anything you learned in that video that surprised you? Was there a function that you heard that you didn't realize the brain was responsible for?*

EXPLAIN: Concepts Explained: (10-15 minutes)

1. Say to students: *Let's continue learning about our brains by getting the parts of the brain and their functions written down.*
2. Go over the diagram of the brain and see if students can recall the parts of the brain and their functions from the video. Have the students write them down on [Lesson 1 Worksheet - The Brain and its Lobes](#)

ELABORATE: Applications and Extensions: (5-10 min)

1. Say to students: *We've just learned about the brain's lobes and functions. Can anyone recall what the brain needs to function properly? (answer: oxygen, glucose, water, other nutrients).*
2. Box Breathing:
Script:
 - *Let's learn how to do box breathing together. Follow along with what I am doing. Follow the box on the board or draw a box with your finger as we go along.*
 - *Inhale through your nose for 4 seconds as we up the left side of the box.*
 - *Hold your breath for 4 seconds as we go across the box.*
 - *Exhale out of your mouth for 4 seconds as we go down the right side of the box.*
 - *Hold again for 4 seconds as we go across the box.*
 - Repeat

	<p>EVALUATE: Formative Monitoring (Questioning & Discussion): (5 minutes)</p> <ol style="list-style-type: none">1. Point to different lobes on a blank brain lobe diagram and ask students either the lobe/part name or function.2. Discussion question:<ul style="list-style-type: none">o Think-Pair-Share:<ol style="list-style-type: none">i. Describe how deep breathing benefits the functioning of the brain?
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<p><u>Extension</u></p>	<ul style="list-style-type: none">● Critical thinking question to either be asked at the end of the class or allowed to think about for the last few minutes of class.● Ask students: <i>Now that we know the brain's lobes and some of its parts and functions, what do you think the brain uses to send these messages and commands throughout the brain and body?</i>● Invite students to say which lobe/brain part is being engaged when they are accomplishing a task. Are you remembering something? Visualizing something? Riding a skateboard? What part of your brain is active?● Encourage students to draw brains and label them.● Encourage students to write a song about the brain lobes/parts we learned about and their function.● Encourage students to build a model brain out of clay.
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<u>Pre-teaching Review for Educator (to be viewed before teaching class)</u>	Digital Resource: Article: How your brain works Digital Resource: Article: Lobes of the brain
<u>Inspirational quote</u>	"The brain makes the mind, the mind makes the person." - Abhijit Naskar (Neuroscientist/Author)