



K-2 SEL Curriculum

ADDITIONAL LESSON PLANS: SCIENCE

These additional lesson plans (5 total) will enable your students to develop science skills alongside Social-Emotional skills.

This resource is designed to provide additional practical activities aligned with Lessons 1-10. NGSS Standards are listed in the supplemental lessons.

Lesson	Title	Science concept
2	The Dinosaur Brain	Breathing
4	Waking Up the Body	The brain
7	Feeling Better with Mindful Stretching	Data collection
8	Go with Your Gut	Heart function
10	Don't Push My Buttons!	Patterns

Supplemental Science lesson	
Lesson 2	The Dinosaur Brain

Science Standards	NGSS Standard: K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.
	NGSS Standard: 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

<p>Concept: Breathing</p> <p>Add: Butterfly Breathing activity</p>	<p>DISCUSS & EXPLAIN: Begin by discussing the concept of breathing needed for survival. Reinforce the concept of and incorporate it into the Butterfly Breathing activity.</p>
	<ol style="list-style-type: none"> Engage students by asking them to take a deep breath and share how it feels. Facilitate a class discussion about breathing and its importance for survival.
	<ol style="list-style-type: none"> Discuss human breathing, and explain that humans breathe using their lungs. Use visual aids, such as posters or diagrams, to illustrate the respiratory system.
	<ol style="list-style-type: none"> Show picture cards of various animals, and ask students to identify and discuss how they think each animal breathes. Encourage them to think about different types of breathing patterns.
	<ol style="list-style-type: none"> Explain the process of inhaling and exhaling, emphasizing the importance of mammals breathing in oxygen and exhaling carbon dioxide.
<ol style="list-style-type: none"> Introduce students to different breathing patterns used by animals, showcasing visual aids or illustrations representing animals with gills, lungs, or spiracles. 	

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| | <p>6. Engage students in a discussion about how these breathing patterns are suited to the environments and lifestyles of different animals.</p> |
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Supplemental Science lesson	
Lesson 4	Waking Up the Body

Science Standard	NGSS K-2-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.
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<p>Concept: The brain</p> <p>Add: Experiential activity</p>	<p>DISCUSS & EXPLAIN: Begin the lesson by engaging the students in a brief discussion (KWL: Know-Want to know-Learn). You can record their responses on chart paper.</p> <ul style="list-style-type: none"> • What do you know about the brain? • What do you want to know about the brain? • After the lesson what did you learn about the brain?
	<p>1. Discuss how the brain is a complex organ responsible for controlling various functions in the body, including the freeze response.</p>
	<p>2. Show the students a simple diagram of the brain and remind them that the brain has different parts, each responsible for different functions. Identify the following parts of the brain:</p> <ul style="list-style-type: none"> • <i>Cerebrum</i>: the largest part of the brain responsible for thinking, learning, and controlling body movements. • <i>Cerebellum</i>: in the back of the brain, responsible for balance, coordination, muscle control, and our emotions. • <i>Brainstem</i>: the Dinosaur Brain; explain that the brainstem connects to the spinal cord and controls our basic functions like breathing, heart rate, and digestion.
	<p>3. Explain that the students will create a 3D model using clay to learn more about the brain and its complexity.</p>

	<p>Allow students to work in small groups to create a 3D model of the brain. Distribute different colors of clay to each group. Suggest they use different colors to represent the different parts of the brain. Encourage students to be creative and label each part of the brain.</p>
	<p>4. Upon completion, invite students to participate in a sharing session with their classmates and record the last column on the KWL chart. Provide additional resources such as books, videos, or appropriate information as needed to complete the chart.</p>

Supplemental Science lesson	
Lesson 7	Feeling Better with Mindful Stretching

Science Standards	K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs.
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<p>Concept: Data collection</p> <p>Add: Mindful Stretching</p>	<p>DISCUSS & EXPLAIN: Begin by informing your students that they are going to experiment with using Mindful Stretching as a way to relax. Introduce the idea of collecting data or information as a way to track changes.</p>
	<p>1. Before the Mindful Stretching session, distribute a sheet of paper with a visual scale (e.g., smiley faces or numbers) to indicate their current feelings or relaxation levels. For example, you can use a scale from 1 to 5, where 1 represents "not relaxed at all" and 5 represents "very relaxed."</p>
	<p>2. Instruct your students to mark their current relaxation levels on the scale provided and then collect the sheets without sharing the students' responses with others.</p>
	<p>3. Conduct a guided Mindful Stretching session for your students, perhaps with nature music in the background, focusing on gentle stretching and breathing exercises and relaxation poses. Ensure clear and simple instructions, providing demonstrations and verbally guiding the participants through the poses and exercises.</p>
	<p>4. After completing the Mindful Stretching session, ask your students to sit quietly and take a few deep breaths to maintain the relaxation state.</p>

	<p>5. Distribute a second sheet of paper with the same scale used before the session. Instruct your students to mark their current relaxation levels after the Mindful Stretching session.</p>
	<p>6. Collect the sheets without sharing the participants' responses with others. Gather the sheets and compile the data.</p>
	<p>7. Calculate the average relaxation level before and after the Mindful Stretching session for the entire group. Discuss the results with your students, emphasizing any noticeable changes in their relaxation levels. Encourage participants to share their experiences, thoughts, or any observations they made during the experiment.</p>
	<p>8. Based on the results and discussions, conclude whether Mindful Stretching had a positive impact on their relaxation levels. Discuss the potential benefits of Mindful Stretching as a relaxation technique.</p>

Supplemental Science lesson	
Lesson 8	Go with Your Gut

Science Standards	K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive. This standard relates to the heart because the heart is an organ that helps animals (including humans) to survive by pumping blood throughout the body. Blood carries oxygen and nutrients that cells need to live and grow. The heart rate of animals (including humans) depends on how much energy they need, which is related to how much food they eat and how active they are.
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Concept: Heart function Add: Experiential activity	DISCUSS & EXPLAIN: Begin by informing your students that they are going to learn about the structure and function of the heart, how it changes with different physical activities, and how to keep it healthy.
	1. Do a KWL brainstorming exercise while displaying a simple diagram of a human heart. Fill in the first two columns of the chart by asking students to share what they know and what they want to know about the heart.
	2. Tell students that the heart is: <ul style="list-style-type: none"> ● A muscle that is located to the left middle of the chest. ● About the size of their fists. ● Like a pump or two pumps in one that pumps blood around your body. The blood provides your body with oxygen and the nutrients it needs. It also carries away waste.

	<ul style="list-style-type: none">• How does healthy eating keep your heart healthy?
	4. Complete the KWL chart by filling in the L (what I learned) during a large group discussion.
	5. Distribute glue sticks, scissors, and magazines to students and invite them to create a collage showing ways to keep the heart healthy.

Supplemental Science lesson	
Lesson 10	Don't Push My Buttons

Science Standard (icon)	NGSS 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.
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<p>Concept: Patterns</p> <p>Add: Experiential activity</p>	<p>DISCUSS & EXPLAIN: Begin by telling your students that they will be observing and describing patterns and features of starfish.</p>
	<p>1. Show pictures or illustrations of starfish to the students. Ask them to observe and describe the starfish. Discuss the features, shape, and color patterns on their bodies.</p>
	<p>2. Explain that starfish have a unique feature called symmetry, which means that one half of their body looks like a mirror image of the other half. Discuss other examples of symmetry in nature, such as butterfly wings or flower petals, and ask students to identify other symmetrical objects they know.</p>
	<p>3. Distribute paper and markers/colored pencils to each student. Instruct the students to draw a starfish by folding their paper and creating one-half of the body on one side of the central axis (vertical line) of their paper or whiteboard.</p>
	<p>4. Ask them to complete the other half of the starfish by mirroring the same design across the central axis. Encourage creativity in designing the patterns and colors of their starfish.</p>
	<p>5. Once students have finished, encourage them to share their completed starfish drawings with the class. They can also trace the arms of their starfish to practice the Starfish Breathing technique.</p>

