



After School S.A.F.E. Framework for Lesson Planning

Theme: SEL in Science

Instructor: Parent

Grade/Group: 3rd - 5th grade

Day of the week:

Objective: Students will create their own personal calm down jar and conduct a science experiment in the process

Circle Component(s):	Physical Activity – 30 Min. Daily	Wellness/Nutrition Education – 2x/month	Math and Literacy – 30-40 min. daily
	Arts Education – 1x/week	21 st Century Skills and STEAM – 2x/week	Global Learning – 1x/week
	Leadership and Character Development – 1x/week	College and Career Readiness – 2x/month	Service Learning – 1 project/quarter

Sequenced	<p>Explain step-by-step the activity and how it builds on other activities</p>	<p>Date: 5/4/20</p> <div style="text-align: center;"> <p>DENSITY Density describes how much an object weighs relating to its size.</p> <p>FOR EXAMPLE: Here we have two objects. Both are similar in size, but the marble is more dense than the ping-pong ball.</p> <p>If we were to drop the following objects in a pool, which items would float and which items would sink? Circle the objects that would float and draw a square for the objects that would sink.</p> <p>REMEMBER If an object is less dense than water it will float, but if it is more dense it will sink.</p> <p>LOCK, FEATHER, PEBBLE, SHOE LACE, PENCIL, LEAVES</p> </div> <p>Activity: Calm Down Jars</p> <p>How does it do that? This is what many people think when they first see this calm-down jar. With just one shake, the two colors mix, creating a new color. Then little by little, the colors separate, and the liquids return to their original state. Not only is this a really awesome way for students to relax, but it's also a great learning opportunity. Why don't oil and water mix? What are primary and secondary colors? Both questions can be answered through this hands-on experiment.</p>
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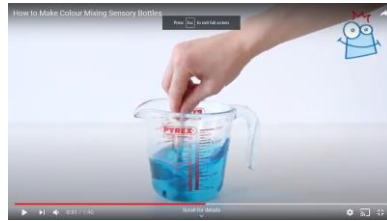
Materials:

Jars (you can use plastic ones)
Baby oil
Water
Measuring cup
Water-based food coloring
Oil-based food coloring
Toothpick

1. Have students go through the first worksheet about floating and sinking items. Explain that both solid and liquids have different densities or weight. When we pour different liquids on top of each other they will separate in order of the density, smallest to biggest. You can also watch this video (<https://study.com/academy/lesson/density-lesson-for-kids-definition-facts.html>) for extra explanation.
2. Introduce the project now. Let them know that this project is really going to be as a calming mechanism for when we get angry, anxious, nervous, etc. But let's make a prediction about what's going to happen when we put water and oil together in the same bottle. Once you've recorded your prediction you can begin.
3. Create your water mixture.
4. Fill your jar half full with water. Then take your water-based food coloring and add a few drops. You really don't need much. Put the lid on the jar and shake thoroughly.



5. Create your oil-based mixture. Now make your oil-based mixture. Note the amount of water you used in the first step. You'll want to pour the same amount of baby oil into your measuring container. Then, using a toothpick, stir in a little bit of oil-based food coloring. Mix well, until the oil has a nice even color.



6. Pour your oil mixture in with the water. Add your oil mixture to the jar of water. You'll see the colors combining as you pour, but they'll eventually separate.



7. Shake and observe. This is the fun part! Give your jars a shake, and you'll see the two colors mix together, creating a new color. After a few minutes, they'll separate again. We encourage you to use this lesson to teach students about mixing colors or to talk to them about why water and oil don't mix. These jars also make great sensory items for your home or classroom. Students can use them on their own as a calm-down jar. You can also use them as a timer of sorts for group and other activities. Make them work for you



8. As a debriefing have a discussion with your students about things that sometimes make

		them angry. How do they feel when they get angry? What are some ways that they calm themselves down (if they can't think of anything help them by giving suggestions)
Active	Hands on-engagement, demonstrate and practice skills	Students will be hands on in creating their very own calm down jar and conducting their own science experiment while learning about density.
Focus	Specific time and attention on skill development	This activity can take anywhere from half an hour to an hour depending on time spent for reflection and discussion after.
Explicit	Observation and reflection = validation of skills Review Objective	Use this time to discuss what your student(s) liked or didn't like about the experiment. Go over vocabulary words and why water and oil don't mix.
Alignment	Alignment of Common Core State Standards (Two standards)	
Language Development	List Vocabulary and Sight Words Reviewed (3 words)	<p>Science - the study of the nature and behaviour of natural things and the knowledge that we obtain about them</p> <p>Experiment - a scientific procedure undertaken to make a discovery, test a hypothesis, or demonstrate a known fact</p> <p>Chemistry - the branch of science that deals with the identification of the substances of which matter is composed; the investigation of their properties and the ways in which they interact, combine, and change; and the use of these processes to form new substances</p> <p>Density-Density is a measurement that compares the amount of matter an object has to its volume. An object with a lot of matter in a certain amount of volume has high density. An object with a little matter in the same amount of volume has a low density</p>