



Lesson Delivery Date: __/__/____
Lesson Delivered By: _____
Initial when complete:
Supplies Bought: _____
Materials Prepped: _____
Feedback Complete: _____

## SCALED LEARNING™ LESSON PLAN - SACC

Review this lesson plan at least 3 days prior to leading.

<b>LESSON NAME:</b> (What is the name of the activity?) Heart Pump Model	<b>TIME REQUIRED:</b> All	<b>AGES:</b> K-2+
<b>SCALED LEARNING FRAMEWORK ELEMENTS:</b> (STEM, Career Connected Learning, Arts, Literacy, Education, Diversity and Global Learning, etc.)		
<ul style="list-style-type: none"> <li>STEM</li> </ul>		
<b>STANDARDS ADDRESSED:</b> (Common Core State Standards; National Core Art Standards)		
<ul style="list-style-type: none"> <li><b>Science:</b> As a result of activities in grades K-4, all students should develop understanding of personal health; Characteristics and changes in populations; Types of resources; Changes in environments; Science and technology in local challenges.</li> </ul>		
<b>LESSON OBJECTIVE:</b> (What youth should get from this activity, what they should achieve?) Youth will be able to:		
<ul style="list-style-type: none"> <li>Create a model of a functioning heart.</li> </ul>		
<b>MATERIALS NEEDED:</b> Per group;	<b>PREPARE AHEAD OF TIME:</b>	
<ul style="list-style-type: none"> <li>Small Jar</li> <li>2 Bendy Straws</li> <li>Balloon</li> <li>Tape/Glue</li> <li>Water</li> <li>Red Food Coloring</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	

<b>PART ONE:</b>	
<b>SAY:</b> Today we're going to create a model of a functioning heart in celebration of National Heart Health month, which takes place in February.	
<b>ASK &amp; CONNECT</b> (prepare opening ideas to connect lesson to youth's prior experience or prior session)	
<ul style="list-style-type: none"> <li>What do you know about the heart? What is its function?</li> </ul>	
<b>PART TWO:</b> (What are the steps for youth to complete this activity?) Highlight steps when youth have a choice.	What key skills will I need to be prepared to model or teach?
	<ul style="list-style-type: none"> <li></li> </ul>

**Set Up:**

1. Have youth fill the jar or glass halfway with water and add some red food coloring to represent blood.
2. Take your balloon and cut the neck of it off. Take that top part, stretch it out a bit, and put it over the top of the jar so it is taut. Save the neck part as well.
3. Take a sharp toothpick and poke a hole in the top of the balloon once towards one side of the jar. Make a second hole about an inch away from the first.
4. Take your straws and push one through each hole with the bendy part sticking out the top. You might have to push hard, but they should pop through.
5. Take the neck of the balloon that you set aside and use it to cover the opening of one straw sticking out of the cup. Your pumping heart model is ready to get that blood flowing!

**To Use:**

6. Place a cup under the open straw to catch the blood as it comes out.
7. Have youth push up and down on the balloon, between the two straws. Pumping quickly and firmly works best. You will be able to see the blood go up the open-ended straw and come out into the cup!!

**The Heart Science**

- The pumping you do on the balloon mimics how the heart pumps in our bodies. The balloon on the straw works like the valves on the heart. It opens when you push down on the pump and closes as you release. This is what lets the blood flow up through the open straw, but like in the body, it prevents backflow of blood. Here is more information on how hearts work: [Cardiovascular Info for Kids!](#)

**ASK DURING** (open-ended questions for during activity)

- What can you do to take care of your heart?

**SITE SPECIFIC** (complete prior to lesson delivery)

<p><b>Leadership</b> (How can youth help lead?)</p>	<p><b>Choices</b> (What content or process choices are there?)</p>	<p>How will I promote exploration?</p> <p>How will I nurture creativity?</p>
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**PART THREE:**

**REFLECT**

- What did you learn about the heart today that you didn't know?

**FAMILY AND PARENT ENGAGEMENT** (Select how activity will be shared)

- Invitation: During activity, invite families to join as they are picking up their child
- Conversation: Draw parent's attention to their youth's contribution at pick up and explain their child's positive contributions to the final product or process
- Communication (written): Photos or written Staff or Youth recap for upcoming newsletter or parent email