

## RAMP UP - REACT Lesson Plan

<b>Title of Lesson:</b>	What's the Cause? Learning about Cause and Effect
<b>Grade Level:</b>	K-1
<b>AL COS Standard:</b>	<p>SC15.K.1- Investigate the resulting motion of objects when forces of different strengths and directions act upon them (e.g., object being pushed, object being pulled, two objects colliding)</p> <p>ELA21.1.25 - Describe connections between two individuals, events, ideas, or pieces of information, including cause and effect, sequence, and problem and solution, in a literary text.</p>
<b>NGSS:</b>	K-PS2-2 - Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull.
<b>Learning Targets/Objectives:</b>	<ul style="list-style-type: none"> <li>● I can identify the cause and effect of an event in a literary text.</li> <li>● I can investigate forces and interactions.</li> <li>● I can describe objects and their motions.</li> <li>● I can describe relative strengths and</li> <li>● directions of the push or pull applied to an object.</li> </ul>
<b>Materials Needed:</b>	<ul style="list-style-type: none"> <li>● <b>RAMP UP REACT Kit</b> <ul style="list-style-type: none"> <li>○ All materials needed for the REACT experiment are included in the kit</li> </ul> </li> <li>● <b>Book</b> <ul style="list-style-type: none"> <li>○ If You Give a Mouse a Cookie by Laura Numeroff           <ul style="list-style-type: none"> <li>■ Link to Read Aloud - <a href="https://www.youtube.com/watch?v=cN4-At6dkTQ">https://www.youtube.com/watch?v=cN4-At6dkTQ</a></li> <li>■ Link to purchase on Amazon - <a href="https://www.amazon.com/You-Give-Mouse-Cookie-Book/dp/0060245867">https://www.amazon.com/You-Give-Mouse-Cookie-Book/dp/0060245867</a></li> </ul> </li> </ul> </li> <li>● <b>Video</b></li> </ul>

	<ul style="list-style-type: none"> <li>○ Cause and Effect for Kids - <a href="https://www.youtube.com/watch?v=IW8Mvn_DEt0">https://www.youtube.com/watch?v=IW8Mvn_DEt0</a></li> <li>○ Cause and Effect Lesson - <a href="https://www.youtube.com/watch?v=NDDvESkHmiw">https://www.youtube.com/watch?v=NDDvESkHmiw</a></li> <li>● <b>Handout</b> <ul style="list-style-type: none"> <li>○ If You Give a Mouse a Cookie: Cause and Effect</li> </ul> </li> <li>● <b>Game</b> <ul style="list-style-type: none"> <li>○ Cause and Effect Matching Game Cards</li> </ul> </li> <li>● <b>Other Materials</b> <ul style="list-style-type: none"> <li>○ index cards (for Evaluation phase)</li> </ul> </li> </ul> <p>Links to the videos, books, matching game cards, and handout can also be found on the REACT Kit Resources page <a href="https://uahrapup.org/react/">https://uahrapup.org/react/</a></p>
<b>Preparation:</b>	<ul style="list-style-type: none"> <li>● Secure a location outside in an open area for the REACT experiment.</li> <li>● Enlist the help of several other adults the day of the REACT experiment.</li> <li>● The experiment will need to be conducted on a level surface.</li> <li>● Cut apart cards for the matching game</li> </ul>
<b>Lesson Logistics:</b>	<ul style="list-style-type: none"> <li>● Whole group lesson</li> <li>● 4-day lesson (can be lengthened or shortened according to teacher preference)</li> </ul>
<b>Vocabulary:</b>	<ul style="list-style-type: none"> <li>● cause</li> <li>● effect</li> <li>● investigate</li> <li>● motion</li> <li>● force</li> <li>● strength</li> <li>● direction</li> </ul>
<b>Safety Considerations:</b>	<ul style="list-style-type: none"> <li>● Students will need safety goggles for the REACT experiment.</li> <li>● Students who are observing need to stand at least</li> </ul>

	<p>20 feet from the launch site during the REACT experiment.</p>
<p><b>Engage:</b> <b>Day 1</b></p>	<ol style="list-style-type: none"> <li>1. Watch: Cause and Effect for Kids (link in Materials section)</li> <li>2. Briefly summarize the book <i>If You Give a Mouse a Cookie</i> and do a picture walk highlighting the actions of the boy and mouse.</li> <li>3. Ask questions like, "What would happen first? What might happen after?"</li> <li>4. Tell the students this book shows causes and effects. Emphasize that a cause happens before the effect. The series of events between the mouse and boy began with the cookie the mouse ate.</li> <li>5. Ask students to turn and talk to their elbow partner about what happened after the mouse ate the cookie.</li> <li>6. Draw a T-Chart on the board and list the cause (e.g., the mouse ate the cookie) with the effect (e.g., the mouse wanted milk). Students can follow along with their copies of the T-Chart handout.</li> </ol>
<p><b>Explore:</b> <b>Day 2</b></p>	<ol style="list-style-type: none"> <li>1. Tell the students they are going to play a matching game to learn more about cause and effect (introduce matching game cards). Cut the cards apart. Place the causes on one side of the playing surface, facedown. Place the effect cards on the opposite side facedown.</li> <li>2. Students will take turns turning over one cause card and one effect card. Students will try to make matches. If a match is made, remove those cards from the playing surface. Continue until all matches are made.</li> </ol>

<p><b>Explain:</b> <b>Day 2 continued</b></p>	<ol style="list-style-type: none"> <li>1. Cause and Effect happens in all we see, read, and do. There are examples of this all around us.</li> </ol> <p>Cause - Why something happens.</p> <p>Effect - The result of what happened.</p> <ol style="list-style-type: none"> <li>2. Watch: Cause and Effect Lesson video (link in Materials section)</li> </ol>
<p><b>Extend:</b> <b>Day 3</b></p>	<ol style="list-style-type: none"> <li>1. Tell the students that today they will participate in a STEM activity that puts cause and effect into practice.</li> <li>2. Take the students outside to the designated area for conducting the REACT kit experiment.</li> <li>3. Follow the RAMP UP REACT kit guide to complete the experiment.</li> <li>4. More information about the experiment: <ul style="list-style-type: none"> <li>● Soda is carbonated, meaning it has carbon dioxide forced into it.</li> <li>● The carbon dioxide wants to escape the liquid, but it needs a place to collect in order to escape the liquid soda's surface tension.</li> <li>● Secondly, Mentos look smooth on the outside, but in fact, they have tiny bumps and cracks all along their surface</li> <li>● These bumps and cracks offer a perfect home for the carbon dioxide to collect in a bubble and then float to the surface, making lots of foam very quickly!</li> <li>● Fun fact: Despite what you might think, the soda plume is caused by a physical reaction, not a chemical reaction!</li> </ul> </li> </ol>

**Evaluation:  
Day 4**

1. Give the students index cards that have cause and effect sentences written on them.
2. Have the students read their card aloud.
3. Ask them to circle the cause and effect signal words in their sentence and then draw a T-Chart on the back of the card with the heading cause and effect.
4. Ask them to write a sentence about the cause and another sentence about the effect.
5. Provide the following sentence stems:  
The cause was \_\_\_\_\_. So, the effect is/was \_\_\_\_\_.