

Student Name \_\_\_\_\_ Homeroom Teacher \_\_\_\_\_

NTI Day 27

Special Area -STEM Lab 3-5

You may access this lesson electronically from the following webpages:

Special Area - <http://cgesspecialarea.weebly.com/>

STEM Lab - <http://cgesstem.weebly.com/>

<p>NGSS: 3-5-ETS1-2</p>	<p>Learning Target: I am choosing insulators for a container that slows down the time an ice cube melts.</p>
<p>Challenge</p>	<p>Design a container that keeps an ice cube from melting for as long as possible.</p>
<p>Criteria/Constraints</p>	<ul style="list-style-type: none"> <li>• Container should be about the size of a child's shoe box</li> <li>• The container may be one you have or you can make it out of recycle materials you have at home - cardboard, milk jug, juice carton, shoe box, etc.</li> <li>• The ice cube should be placed in the center of the container</li> <li>• Choose three insulation materials from recycle materials you have at home to place on the inside or outside of the container - cardboard, felt, paper, bubble wrap, cotton balls, fabric, aluminum foil, wax paper, plastic wrap, yarn, rubber bands, disposable cups, straws, other things you have at home</li> </ul>
<p>Choose one way to show your design:</p>	<ul style="list-style-type: none"> <li>• Insulated container may be a drawing of your idea on the other side of this paper or a different piece of paper</li> <li>• Color the drawing</li> <li>• Label the drawing with the materials you would use if you were going to make the insulated container with recycled materials from home</li> </ul> <p style="text-align: center;"><b><u>OR</u></b></p> <ul style="list-style-type: none"> <li>• Insulated container may be a model of your idea made with recycled materials you have at home</li> <li>• Test it - place an ice cube in the center of the insulated container. Place another ice cube on a plate next to the insulated container. Check them after one hour. Did the ice cube in your insulated container melt less than the ice cube on the plate?</li> </ul>
<p>Reflection You may answer the reflection on the back of this paper or on the response form for NTI Day 27 on the Special Area web page.</p>	<ul style="list-style-type: none"> <li>• <b>If you made a drawing</b> tell why you think the materials you choose to insulate the container will reduce the heat transfer and keep the ice cube from melting quickly. Remember to turn in your drawing or upload a photo of it on the response form.</li> <li>• <b>If you made a model</b> tell why you thought the materials you choose would keep the ice cube from melting. Tell what happened when you tested it. How could you improve the design? Remember to upload or email a photo of your model.</li> </ul>