

# To turn ice into water

<b>1</b>	<p><b>Overall aims:</b></p> <ul style="list-style-type: none"> <li>To observe the reversibility of changes of status</li> <li>To register data</li> </ul>
<b>2</b>	<p><b>Vocabulary - keywords</b></p> <p>Ice, water, changes of status, cold, hot, time</p>
<b>3</b>	<p><b>Sustainable abilities developed</b></p> <ul style="list-style-type: none"> <li>Systemic thinking (to recognize and understand relationships)</li> <li>Anticipatory competency (to understand and make predictions or hypothesis)</li> <li>Problem solving (The ability to find solutions)</li> </ul>
<b>4</b>	<p><b>Pillars of sustainability included</b></p> <ul style="list-style-type: none"> <li>Ecologic</li> </ul>
<b>5</b>	<p><b>STEAM domains</b></p> <p>S (chemical changes of status)</p>
<b>6</b>	<p><b>Teaching methodologies/activity outline</b></p> <p>STEPS</p> <p>Beginning</p> <ol style="list-style-type: none"> <li>Do you remember how water became ice? It was because...? What was colder: freeze or classroom? So cold and hot makes the water change its status!</li> <li>Can you tell me what we call the status of water? It was liquid! Can you tell what we call the status of ice? It was solid? Have you checked if we can turn ice into water? How could we do it?</li> <li>Let's go to the laboratory.</li> </ol> <p>Development</p> <ol style="list-style-type: none"> <li>We have a problem: here we have a big piece of ice. Can you see something inside the glass? Yes. There are some little keys! In addition, we have some locked padlocks on the table, and I must open them because I need them for my bike. I suppose that these keys open these padlocks, but how can I get the keys if they are into the piece of ice?? Let me listen to your answers!</li> </ol>



5. Children work in four-five member groups. Over their tables they have a towel, and a tray with a big piece of ice (made with putting water and keys in a plastic bag) that contains 4 little keys inside. The ice is in a container to see how it becomes water.
6. They must fill a template like this:

Steps	Drawing
1 <sup>st</sup> step	Ice (picture)
2 <sup>nd</sup> step	Ice / water
3 <sup>rd</sup>	water

7. We got a container with water and the 4 keys. How will we check which padlock they belong to? Let's explain their answers (problem solving)

Closing

8. Reflection: Can you explain what has happened with ice and water? Why? What do you hope for?
9. Tell me how you have guessed whose keys belong to each padlock.

## 7 Expected learning outcomes

**The child will be able to:**

- To recognize how ice becomes water and why (temperature)
- To recognize the reversibility of changes of status
- To register data

## 8 Assessment

- 1<sup>st</sup> aim. To recognize how ice becomes water and why
- Does she/he correctly fill the template?
- 2<sup>nd</sup> aim. To recognize the reversibility of changes of status
- Does she/he use the concepts of cold and warm?
  - Does she/he explain the change in his/her own language?
- 3<sup>rd</sup> aim. To register data
- Does she/he fill the template systematically? (chronologically)?

## 9 Equipment and materials to be used in learning unit (tools, ingredients etc)

Beginning

- 1- Dialogue. Digital Blackboard





	<p>Development</p> <p>2- Pieces of ice, with 4 keys inside. 4 padlocks, container, towel.</p> <p>3- Template to draw steps, pencils.</p> <p>Closing</p> <p>4- dialogue</p>
<b>10</b>	<p><b>Kind of setting - lab, kitchen, outdoor etc.</b></p> <p>Beginning</p> <p>1- Classroom- Digital Blackboard</p> <p>Development</p> <p>2- Classroom/laboratory/Home.</p> <p>Closing</p> <p>3- Classroom- Reflection</p>
<b>11</b>	<p><b>References - source:</b></p> <p><a href="https://totnens.cat/4-activitats-amb-gel-per-fer-a-casa/">https://totnens.cat/4-activitats-amb-gel-per-fer-a-casa/</a></p>

