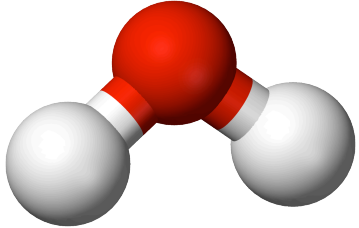


Processing: Chemistry – states of matter of water

Peabody Charter 5th grade -- Z. Wood & J. Wilcox & C. Hebert

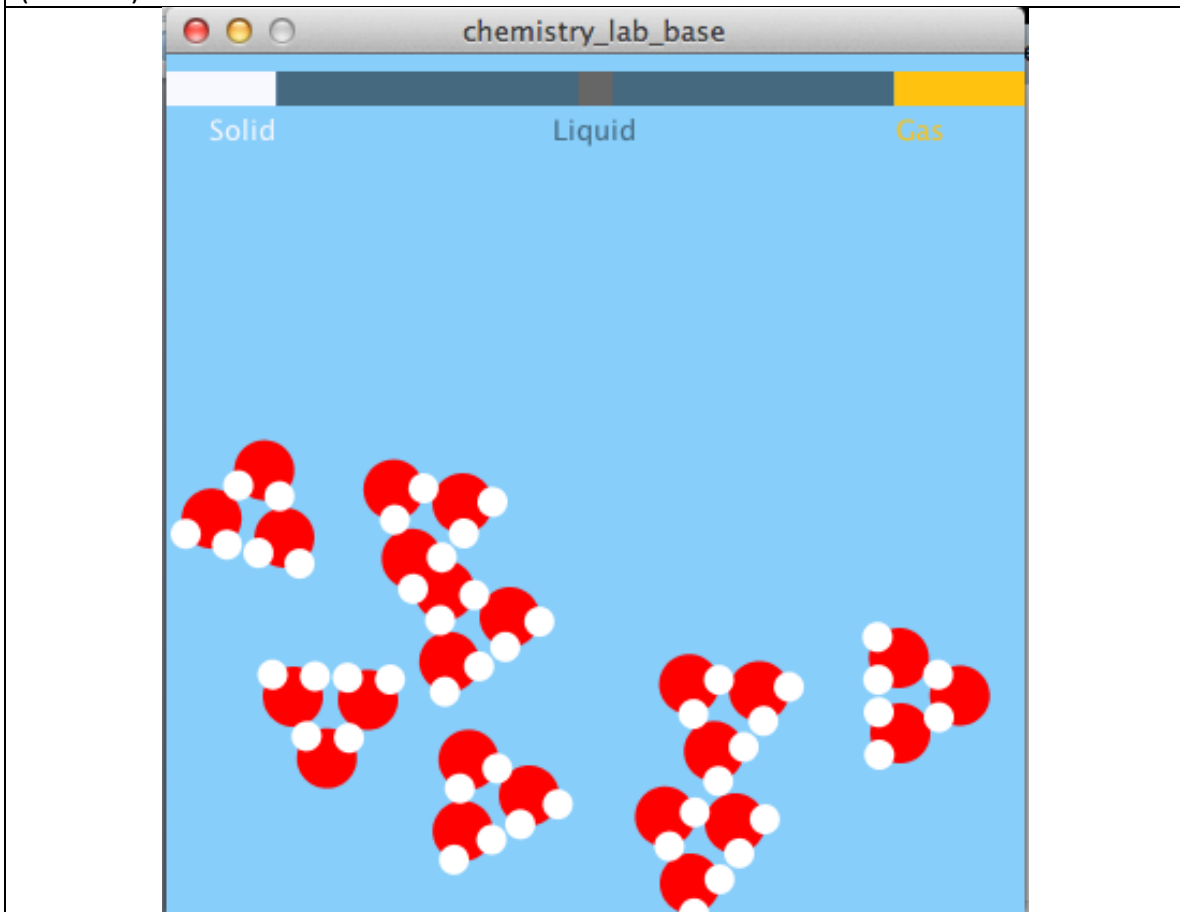
Today we will modify a program that simulates the states of matter of water. ***Our goal is see a program simulate the state of matter and correctly identify the temperatures, which change the state of matter of water.***

The program simulates water molecules. One molecule of water contains one oxygen atom (red) and two hydrogen atoms (white).

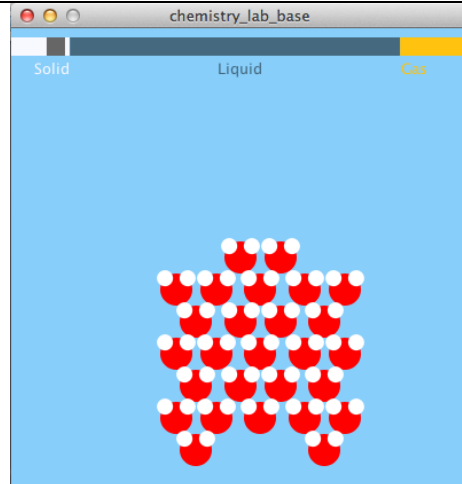


Water appears commonly on earth in three states of matter (solid, liquid and gas). The phase of matter of water depends on temperature (and pressure). This simulation only uses temperature to model water molecules in their different phases.

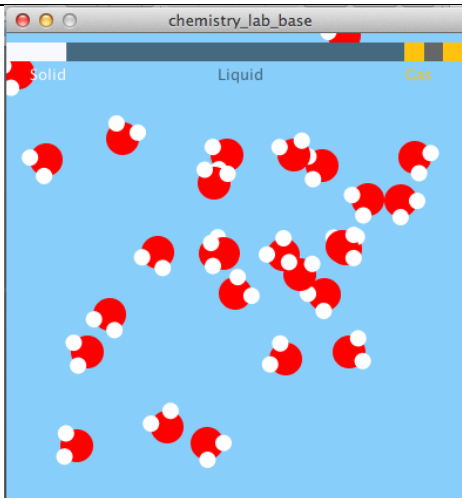
In its liquid state, the molecules are close together but can move around freely ("water").



In its solid state the molecules are close together and fixed in place (ice).



In its gaseous state, the molecules can move freely are not necessarily close together (steam)



Your job is to set the value of the variables that control the behavior of the molecules in the program. Specifically, look up and set the correct temperature for when water becomes solid:

```
float iceTemperature = ??;
```

and set the value of the variable for when water becomes a gas (steam or water vapor):

```
float gasTemperature = ??
```

Last, if you would like to explore, you can modify the way the molecules when they are in their liquid state, by playing with the code in the “update” method for the “FloatingWaterMolecule” class. Look for the words “TODO” in the program file.