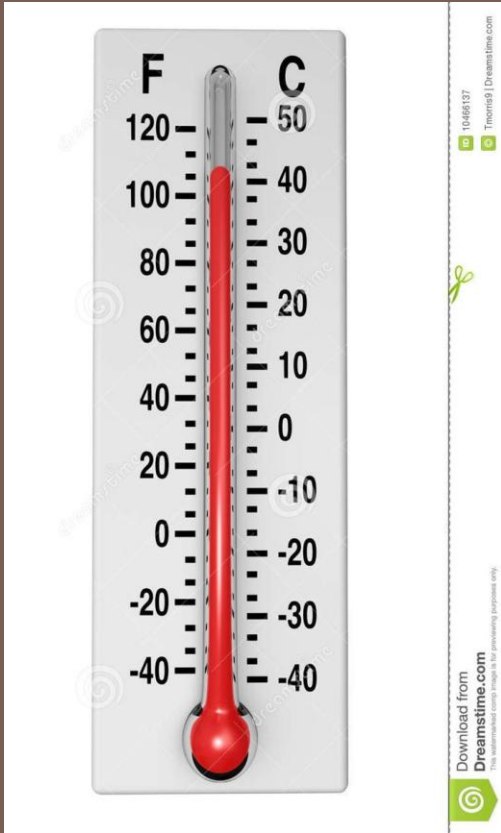


IAN page



THE UPS AND DOWNS OF THERMOMETERS

Objective:

- To be able to describe, on a molecular level, why the liquid in a thermometer goes up when it is heated and down when it is cooled.

Key Concepts: We will come back to these after the activity.

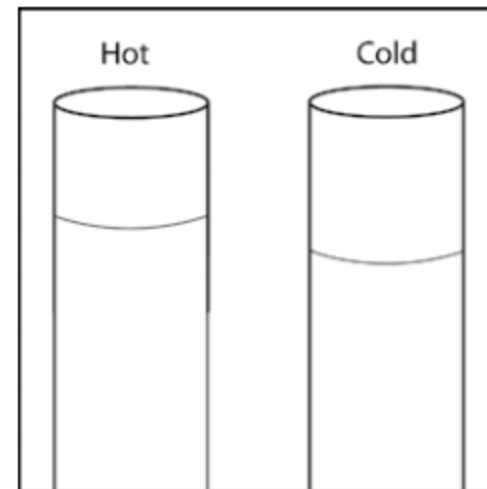
- Why do you think the liquid in a thermometer moves up and down when it is heated and cooled?

Do the Activity, Part A and Part B. (15 minutes)

Animation of the molecules of liquid in a thermometer as they are heated and cooled:

- **While the animation is playing, draw (in your IAN) circles to represent alcohol molecules when the liquid is hot and when the liquid is cold.**

Thermometer Animation



Key Concepts:

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- The way a thermometer works is an example of **heating** and **cooling** liquid.
- When heated, the molecules of the liquid in the thermometer **move faster**, causing them to **get a little further apart**. This results in **movement up the thermometer**.
- When cooled, the molecules of the liquid in the thermometer **move slower**, causing them to **get a little closer together**. This results in **movement down the thermometer**.