Video Conference: All about Heat

Experiment materials to have ready during the conference

The unique aspects of video conferencing introduce new challenges when presenting science workshops and shows. Interactivity is paramount and as such we ask that your class have some materials ready for experiments during the video conference. Whilst we may not use all of the materials listed, it will provide an opportunity for your students to do experiments rather than simply just watch a presentation.
Due to the need to keep the conference running at a reasonable pace, we suggest only a couple of students demonstrate each experiment to the rest of the class. If we don't use some of the materials, just run those experiments after the conference!

It is best if you are familiar with the materials prior to the conference

Experiment 1: Balloon blow up (ADULT DEMO ONLY)

You will need:

- Kettle, water, Glass Coke Bottle and a balloon
- Large , deep bowl and a tall plastic container to fit the glass bottle

1. Re-boil a kettle just before the demonstration
2. Place the balloon over the neck of the glass bottle.
3. Place the bottle in the clear plastic container.
4. Carefully pour boiling water over the glass bottle, continuing until the balloon expands

Experiment 2: Ice melt (prepare before class)

You will need:

- Two baking trays, where one is rubber and one is metal
- Ice cubes

1. Add an ice cube to each tray and watch what happens!

Experiment 3: Balloon survives the flame (ADULT DEMO ONLY) (optional)

You will need:

- 1 Candle and matches
- 1 Balloon filled with water

1. Light the bottom of the candle, allow the wax to melt, than stick the candle on a surface.
2. Fill a balloon with water and tie it. Make sure that you keep the balloon fairly small to avoid stretching the rubber too much. See the picture above for reference.
3. Light the candle and place the balloon over the flame so that the flame touches the balloon.
4. Count slowly to ten and then remove the balloon from the flame. It should not have popped!
5. Try the same experiment with an air-filled balloon... it should pop straight away.

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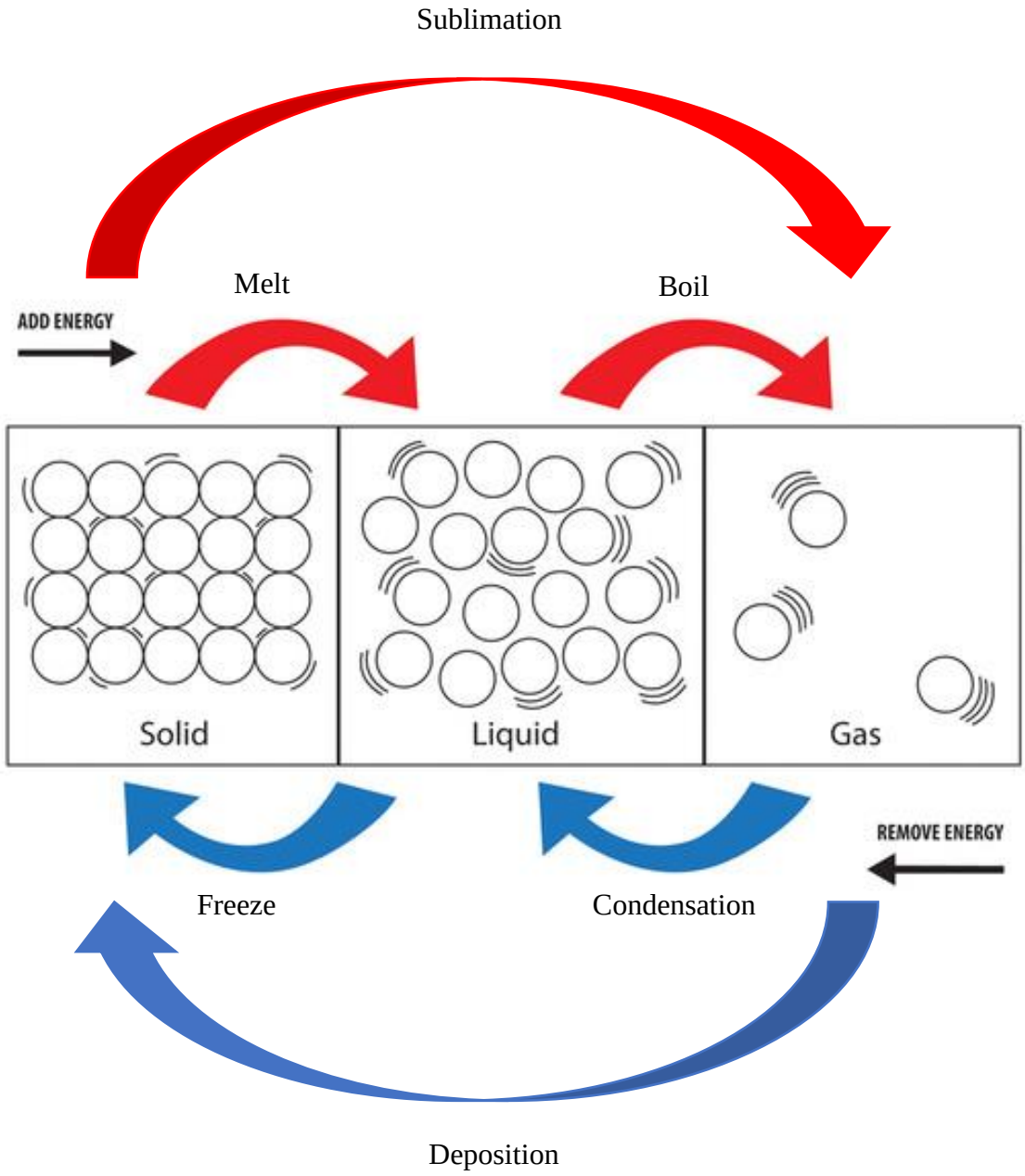
Background

- The Celsius scale is based on water 0˚C (ice) and 100˚C (boil)
- There are different temperature scales – Celsius, Fahrenheit and Kelvin.
- Cold things have heat – just less than hot things. Cold things still have heat!
- Cover phase changes…



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