



Driving Question:

How does the temperature change during the evaporation of liquids?



Thinking about the question

How do you feel when you get out of a swimming pool in a warm, windy day?

Why do you perspire on a hot day?

What does your skin feel when you spill deodorant or perfume on it?

In all these situations you observe the effects of evaporation. In this activity you will measure temperature changes during the evaporation of liquids.

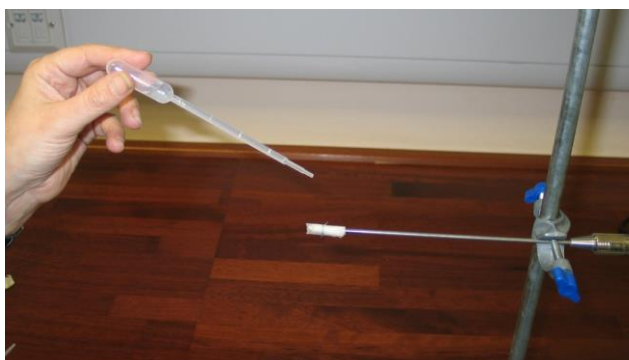
Materials

In your investigations you will use:

- Data-logger e.g. CMA VinciLab,
- Temperature sensor,
- Tissue paper or cotton wool,
- Pipette.
- Demineralized water
- Alcohol (for example in perfume)

Investigations

1. Connect the temperature sensor to input 1 of your data-logger.
2. Assemble the temperature probe in the stand.
3. Wrap a cotton wool or tissue paper around the end of the temperature sensor and secure it with a rubber bands.



4. Open Coach Activity 'Evaporation of water'.
5. Fill a pipette with water.
6. Use the pipette to soak the tissue paper with water.
7. Start the measurement and record the temperature.
8. How does the temperature change during evaporation of water?
9. How quickly does the temperature sensor cool?
10. How long does the cooling last?
11. What was the lowest temperature reached?
12. How many seconds did it take for the lowest temperature to be reached?
13. Repeat the experiment for an alcohol.
14. How does the temperature change during evaporation of alcohol?
15. Compare the rates of evaporation of the alcohol and water.
16. Which liquid evaporates more rapidly? Can you explain why?

Resources:

Coach 6 Activity: Evaporation of water.cma

Coach 6 Result: Evaporation of water.cmr