

25.4: Procedures

Warnings

- Do not place a thermometer in a beaker while the beaker is on the heat source.
- Always assume your heat source is hot, even if it is off.

You will boil pure water and salt water, simultaneously.

1. Use the graduated cylinder to add 50 mL of the distilled water one beaker and 40 mL of the distilled water to the second beaker.
2. Measure 10 grams of salt into a paper cup on the triple beam balance, and add the salt to the beaker that has 40 mL of water. Stir for 2 minutes or until the salt has completely dissolved, whichever comes first.
3. Draw a table in which to record water levels and peak temperatures. **Do not fill in data until you have read the instructions for obtaining that data.**

Table 25.4.1: Water Level & Temperature Data

	Initial Water Line Level	Final Water Line Level	mL Vaporized	Peak Temperature
Pure Water				
Salt Water				

4. Use the grease pencil to carefully and accurately mark the level of the water line on each beaker. Record the initial number of mL in each beaker under *initial water line level*.
5. Place both beakers on the heat source. You will need to closely observe the two beakers so that you are able to determine which substance begins to boil first. Your team will need to decide what constitutes boiling and apply this to both beakers. Each substance will need to boil for 10 minutes total, and then be removed from the heat source to the lab table. Use the two stop watches to track the boiling of each substance. As you remove each beaker from the heat source, measure and record the peak temperature. Record which substance boiled first, under your data table.
6. View the level of the water line on each beaker, after each substance has boiled for 10 minutes, and record the final number of mL in each beaker under *final water line level*.
7. Calculate the number of mL vaporized by finding the difference between the initial water line level and the final water line level. Enter these values in your data table.

Clean-up

- **Wash and dry beakers**
- Wash and dry thermometers before replacing them in protective containers
- Dispose of 3 oz paper cup
- Place graduated cylinder on drying rack

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