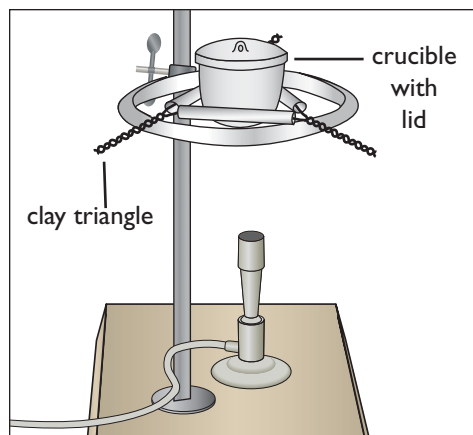


- You will use heat to drive off the water from a hydrate. Dehydrating the hydrated compound requires intense heating for a period of time. You will use a clean, dry crucible and cover to do this. Set up your equipment as shown in the diagram.



- You will need to determine the mass of water in your hydrate.
 - What information will you need to collect in order to calculate this? Design a procedure you will follow to obtain the information. Use the following steps to guide you.
 - Construct a data table for recording this information in your *Active Chemistry* log. Make sure that you identify on your data table which unknown you are testing.
- Light the burner. Heat the crucible with its cover in the hottest part of the flame for 3 min in order to remove any moisture that might be present in the crucible or cover.

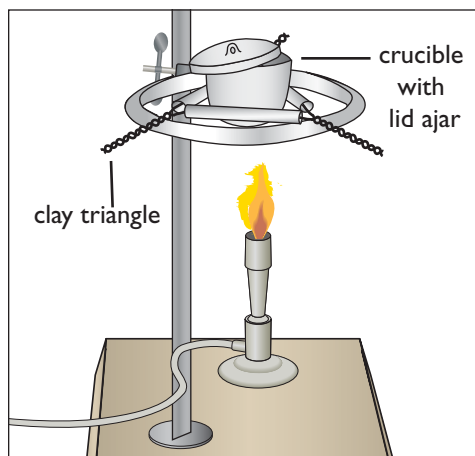
Remove the crucible carefully using tongs. Place it on a heat-resistant surface on your lab table to cool. Turn off the burner.

When the crucible and lid have cooled, determine the mass to the nearest 0.01 g.

- Obtain your unknown hydrate. You will not need more than 2.00 g of the hydrate. Observe the hydrated compound with a hand lens. Measure the mass of the unknown hydrate, crucible/lid to the nearest 0.01 g.

- Record the letter of your unknown on your data table.
- Describe the crystalline structure of the hydrate in your *Active Chemistry* log.

- Place the hydrate in the crucible and then on the clay triangle. The cover should tilt slightly, which will allow water vapor to escape as it forms. Light your Bunsen burner and adjust flame.
- Begin heating gently, gradually increasing the heat until there is no more popping or spattering. Remove the cover using tongs and examine the material in the crucible. If the edges of the solid are turning brown, reduce the heat momentarily and then begin heating again at a slower rate.



- Use tongs to remove the crucible, lid, and contents. Allow them to cool before making any measurements. Some anhydrous compounds will readily absorb moisture from the air so it is important that you quickly determine the mass as soon as it has cooled down. If a desiccator is available, place your crucible inside the desiccator to let it cool.



Safety goggles and a lab apron must be worn at all times in a chemistry lab.

Follow all safety rules for working with an open flame.

Handle objects with care once they have been heated. Objects look the same whether they are hot or cool.