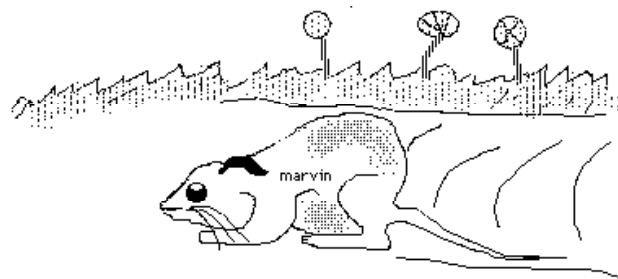


- Determine the mass of a 250 mL erlenmeyer flask and a square of aluminum foil (the lid) together.
Record.:g
- Pour about 5.0 mL of the unknown volatile liquid # into the flask (*just enough to cover the bottom of the flask*)
Now prepare a lid for the flask by placing the identical piece of aluminum foil over the mouth of the flask and secure it tightly .Use a pin to make a tiny hole in the center of the foil. (This will allow any excess gas to escape)
- Prepare a hot water bath using a **1.0 L** beaker. (Half a beaker of water should be sufficient) .Lower your flask right up to the neck into the hot water bath and secure at a slight angle so you can see the unknown liquid in the flask. Continue heating. **CAUTION :Hot water may splash!** - *** Wear Goggles to prevent injury !!
- Heat until the last drop of the liquid has vaporized in the flask. **Without delay** remove the flask from the water bath , allow it to cool slightly and dry it off completely.
Don't be alarmed if the liquid reappears in the flask, this is the gas that completely filled the flask condensing into a liquid.
- Go to the balance and find the mass of the flask and " gas / liquid " = g
*Calculate the mass of the gas that was in the flask when it was full = g
- Find the volume of the flask by filling it with water and emptying it into a grad cylinder =.....mL
= L
- Atmospheric pressure in the lab today is kPa
- The temperature the gas was at when it filled the flask was°C →K
- Using **PVmm =mRT** find the molar mass of the unknown liquid #



- Given the HINT on the board, **identify** the unknown liquid # and **draw** its correct structural diagram

% error =