Holey Cup Lab – Teacher Notes

This lab should help students practise regression, and relate the parts of a polynomial to a real tangible example. ( 1 class)

* Collect the data
  + You will need to bring in containers, water, measuring cups in mL, nail or screw to puncture the container, Sharpies to draw on containers.
  + The containers need to be made of a plastic that you can puncture without cracking . They also need to be somewhat clear so the water level can be observed from the outside.
  + Make the hole at least 3mm wide. It needs to be quite big or else the draining will take **a long time**.
* Analyze the data
  + Students should graph amount of water left vs time or even the opposite and it creates a nice quadratic. Depending on your thinking time or water level could be argued to be the independent variable. Just pay attention to what the students did because question 5 and 6 will switch.
    - *Most did fine with the set up but one group graphed the time it took for each 100ml to drain out. This approach makes the questions hard to answer. I tried to clarify the instructions since then.*