Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **AP Chemistry Titration Lab**

**Guiding question:** What is the molarity of household vinegar?

**Materials:** Flask, burettes, phenolphthalein, vinegar, standardized NaOH solution.

**Prelab**:

1. Describe the steps you will take to find the molarity of vinegar in detail.
2. How will the titration of vinegar differ from the titration of KHP in the previous lab?
3. What would happen if you add the base to the flask with phenolphthalein and then titrated with the acid?
4. What would happen if you forget to use phenolphthalein?

**Data**: Record all measurements with specific labels, units and significant figures.



**Claim:** What is the concentration of your acid?

**Evidence**: Show all necessary calculations here with labels/units and appropriate significant figures.

**Justification**: What are the scientific principles that are necessary for the understanding of the evidence? Use key words like *primary standard, standardization, titrant, titration, equivalence point, phenolphthalein, endpoint.*

**Questions**:

1. If you accidentally passed the endpoint, how can you fix the lab without having to start over?
2. If the acid burette was only rinsed with water, how will that affect the calculated molarity of the acid?

