Acids and Bases Virtual Lab

Today you will test various substances and determine if they are acids or bases. You will conduct a virtual pH test on substances.

Pre-Lab Questions:
1. What does pH mean?

2. What are the pH ranges for acids, bases and neutral substances?

3. What are the different properties of acids, bases and neutral substances?

4. Acids give off what ions when in water?

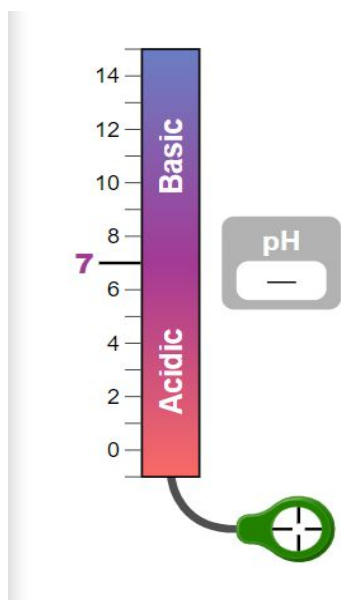5. Bases give off what ions when in water?

Hypothesis: Develop an "If….then…" hypothesis for this lab

Materials:

1. Computer with internet access
2. [Phet pH simulation](#)

Procedure:

1. Click on: [Phet pH simulation](#)
2. Select the Macro test option
3. Fill in the data table below with the substance you will test and your prediction.
4. Conduct the pH test for each substance.
5. Using your cursor, move the pH reader (⊕)into the substance.

6. In the last column of your data table mark if your initial prediction was correct.

Data Table:

Substance	Prediction: Acid, Base or Neutral?	pHr: pH Number	Prediction Correct: Yes or No?
Drain Cleaner			
Hand Soap			
Blood			
Spit			
Water			
Milk			
Chicken Soup			
Coffee			
Orange Juice			
Soda			
Vomit			
Battery Acid			

Post-Lab Questions:

1. Why do acids and bases have different tastes? Either sour or bitter.

2. What are three real world applications of pH and litmus tests?

3. What two organs maintain pH balance in the human body? How do they do this?

4. What is respiratory and metabolic acidosis? What are the symptoms and treatments?

5. What is respiratory and metabolic alkalosis? What are the symptoms and treatments?

6. Create your own pH scale using the substances that you tested in this lab.