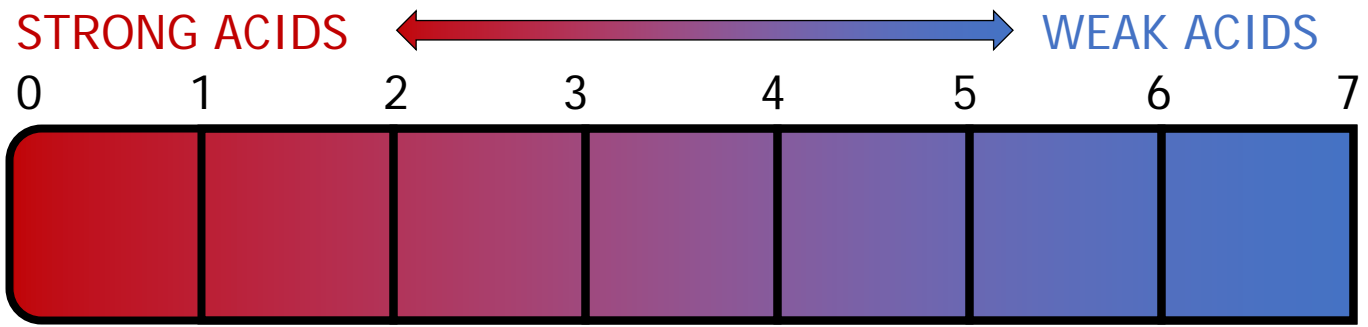


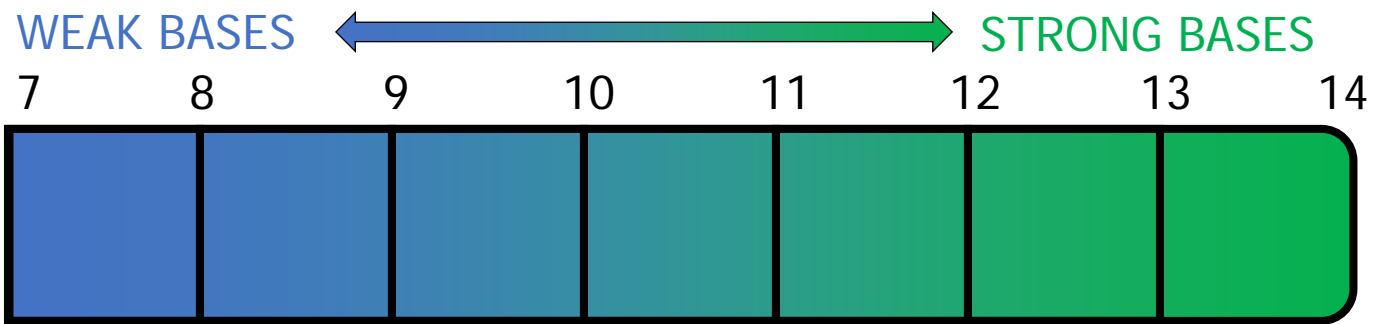
ACIDS & BASES



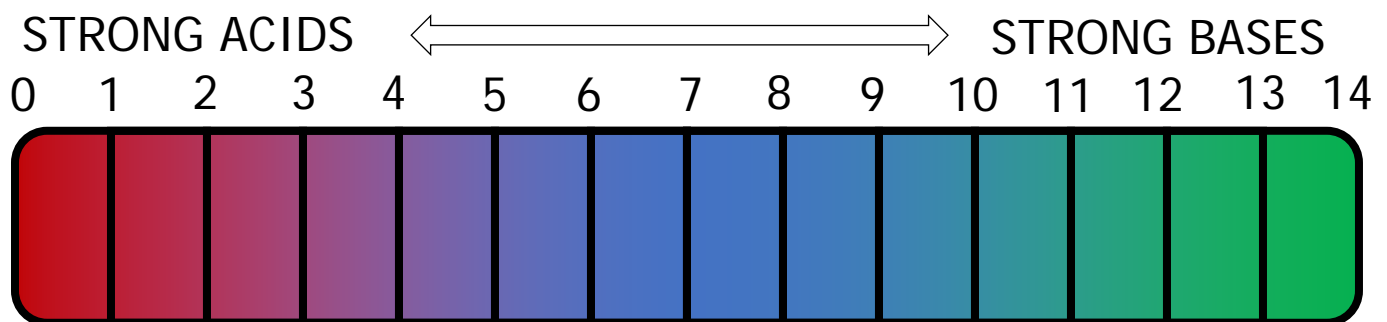
Today, we're going to learn about **acids**. We can measure how **acidic** something is on a **pH scale** from 0 to 7.



We're also going to learn about **bases**. We can measure how **basic** something is on a **pH scale** from 7 to 14.



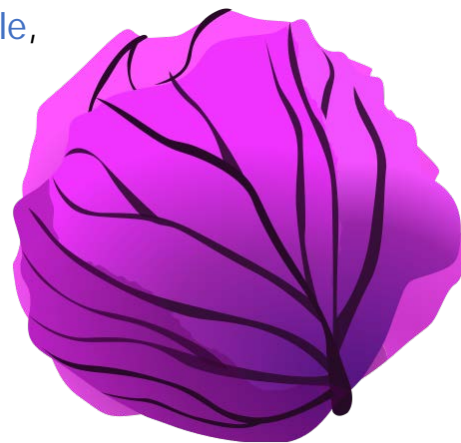
If you put these together, you can make a **full pH scale**, which includes acids and bases. You'll notice that the farther the pH gets from 7, the stronger it is. If something has a pH of 7, we call it **neutral**.



In order to figure out where something belongs on the pH scale, we use a pH indicator, which turns different colors when it comes into contact with an acid or a base.

Surprisingly, one very good pH indicator is red cabbage juice!

Below are a list of common substances you might find around your school. Some of them are acids, some are bases, and some are neither!



Use the chart below to develop your own pH scale for red cabbage juice!

| Substance | pH | Acid, base, or neutral? | Color |
|-------------|----|-------------------------|-------|
| Lemon juice | 2 | | |
| Soda pop | 3 | | |
| Antacids | 4 | | |
| Coffee | 5 | | |
| Milk | 6 | | |
| Pure water | 7 | | |
| Baking soda | 9 | | |
| Hand soap | 10 | | |
| Ammonia | 11 | | |
| Soapy water | 12 | | |
| Bleach | 13 | | |

Now that you know what colors your indicator turns for different pHs, try to figure out the pH of these other liquids:

Vinegar

Tap water

Milk of magnesia

Source: <https://youtu.be/I18K2upEHLc>