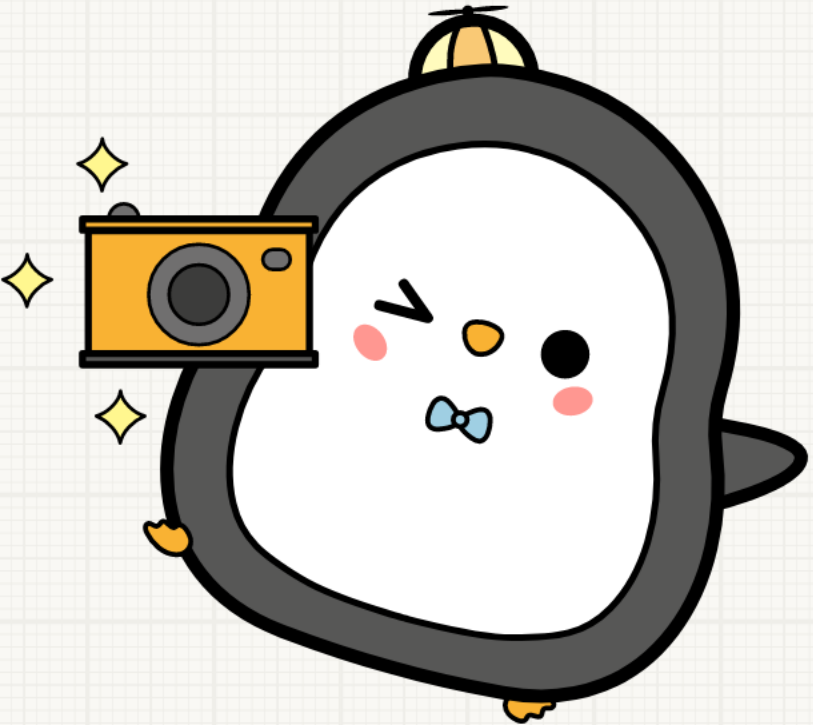
# AP Bio Math Mondays

pH

# pH

$$pH = -\log[H^+]$$



# Math Monday #5

## pH

Compare the number of H+ ions in a solution with a pH of 4 to a solution with a pH of 8. If appropriate, include a negative sign in your answer.

$4 = -\log[H^+]$

$10^{-4} = 10^{\log[H+]}$

$10^{-4} = [H^+]$

**pH**

$$pH = -\log[H^+]$$

$8 = -\log[H^+]$

$10^{-8} = 10^{\log[H+]}$

$10^{-8} = [H^+]$

pH of 4 has 10,000 more $H^+$ ions

# Example Problem

pH

According to the Acid Rain Monitoring Project at University of Mass, the pH measured at King Phillip Brook on April 10, 2012 was near 5, which the pH measured at Robbins Pond on that same date was near 7. Determine to the nearest whole number how many times greater the hydrogen ion concentration was at King Phillip Brook.

$5 = -\log[H^+]$

$10^{-5} = 10^{\log[H+]}$

$10^{-5} = [H^+]$

**pH**

$$pH = -\log[H^+]$$

$7 = -\log[H^+]$

$10^{-7} = 10^{\log[H+]}$

$10^{-7} = [H^+]$

pH of 5 has 100 more $H^+$ ions