**pH Notes**

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0 - 6.9 7 7.1 - 14

**Calculating strength of pH**

For every unit on the pH scale there is a 10x difference between strengths.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

How much weaker is an acid of 4 vs 1?

How much stronger is a base of 13 vs 8?

How much stronger is a base of 9 vs an acid of 5?

**Determining strength to neutralize pH**

- Each specific unit has its opposite on the pH scale.

- To neutralize must have same amount and strength of the opposite unit.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

1- What would you add to neutralize 30 mL of a pH of 6?

2- What would you add to neutralize 60 mL of a pH of 10?

3- You want to neutralize 50 mL of a pH of 3. You only have pH 8 available. What do you do?

**The pH of rain water is\_\_\_\_\_\_**

**Identifying unknowns using indicators and buffer solutions**

**Buffer solution**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Indicators:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Different indicators will produce different colours when mixed with buffer solutions. Sometimes the colour change gives a lot of info, sometimes very little info.

What procedure would be followed when you have different indicators which you will be mixed with the buffer solutions and you use the 96 well plate?

