**The Turning Point of Acid/Base Indicators**

Indicators are chemicals which change colours when pH changes e.g. litmus.

An indicator may change colour only in acids or only in bases or both.

The **turning point** of an indicator is NOT a point—it is the **pH range** over which an indicator changes from 1 colour to a different colour through an intermediate colour e.g. from blue to yellow through green.

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| **Indicator** |  |  |  |  | **X** |  |  |  |  |  |  |
| **pH** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** |
| **Colour** | **blue** | **blue** | **blue** | **blue** | **blue** | **blue** | **blue** | **Green** | **Light Green** | **Yellow** | **Yellow** |
| **Turning Point** |  |  |  |  |  |  |  |  |  |  |  |

**Purpose:**

* To determine the turning point of various indicators

**Procedure:**

* Use 1 indicator per group of 3 students.
* Wash and dry a chemplate well!
* Add approx. 10 drops of each pH from pH 1 to 12 into each well.
* Add 2 drops of indicator to each well.
* **Colour** in each of the wells for the specific indicator = use the **right colours**!!!!
* Determine the turning point for each indicator—the **pH range** over which it changes colours.
* Do a “Gallery Walk” and **record** all the other groups’ indicators.

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| **Name of Indicator:** |  |  |  |  |  |  |  |  |  |  |  |  |
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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Turning Point** | **pH** |  |  |  |  |  |  |  |  |  |  |  |

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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Turning Point** | **pH** |  |  |  |  |  |  |  |  |  |  |  |

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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Turning Point** | **pH** |  |  |  |  |  |  |  |  |  |  |  |
| **Name of Indicator:** |  |  |  |  |  |  |  |  |  |  |  |  |
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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
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| **Name of Indicator:** |  |  |  |  |  |  |  |  |  |  |  |  |
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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Turning Point** | **pH** |  |  |  |  |  |  |  |  |  |  |  |

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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Turning Point** | **pH** |  |  |  |  |  |  |  |  |  |  |  |

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| **Name of Indicator:** |  |  |  |  |  |  |  |  |  |  |  |  |
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| **pH** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Turning Point** | **pH** |  |  |  |  |  |  |  |  |  |  |  |

**Choose Any 2 Unknowns and determine their pH and justify your decision by the choice of indicator(s) you used to make your decision and how.**

**Unknown \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Unknown \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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