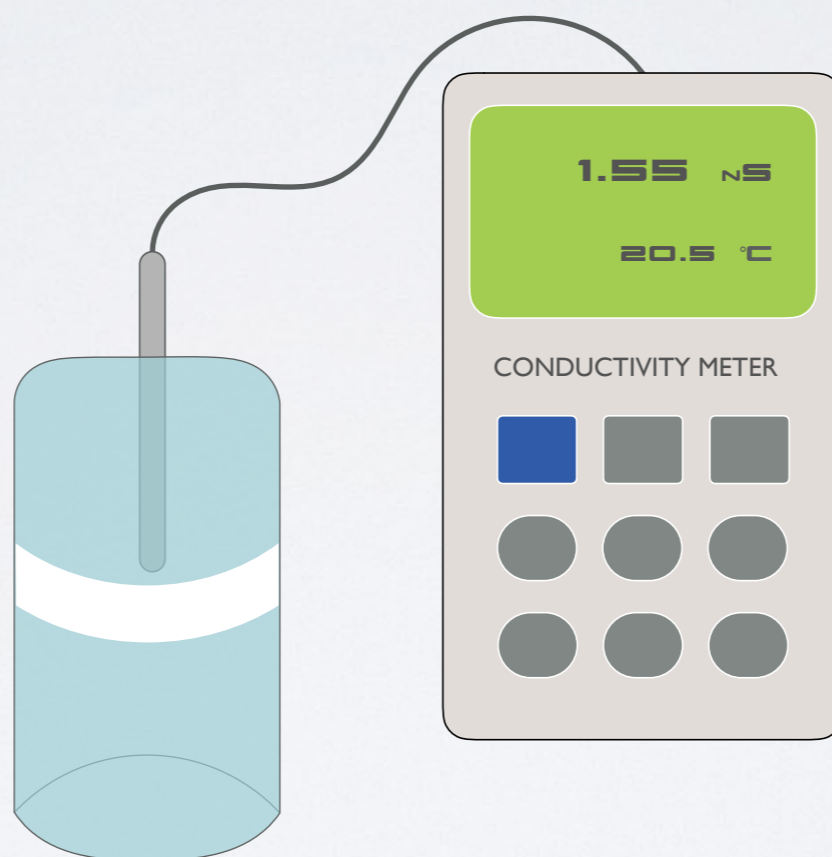
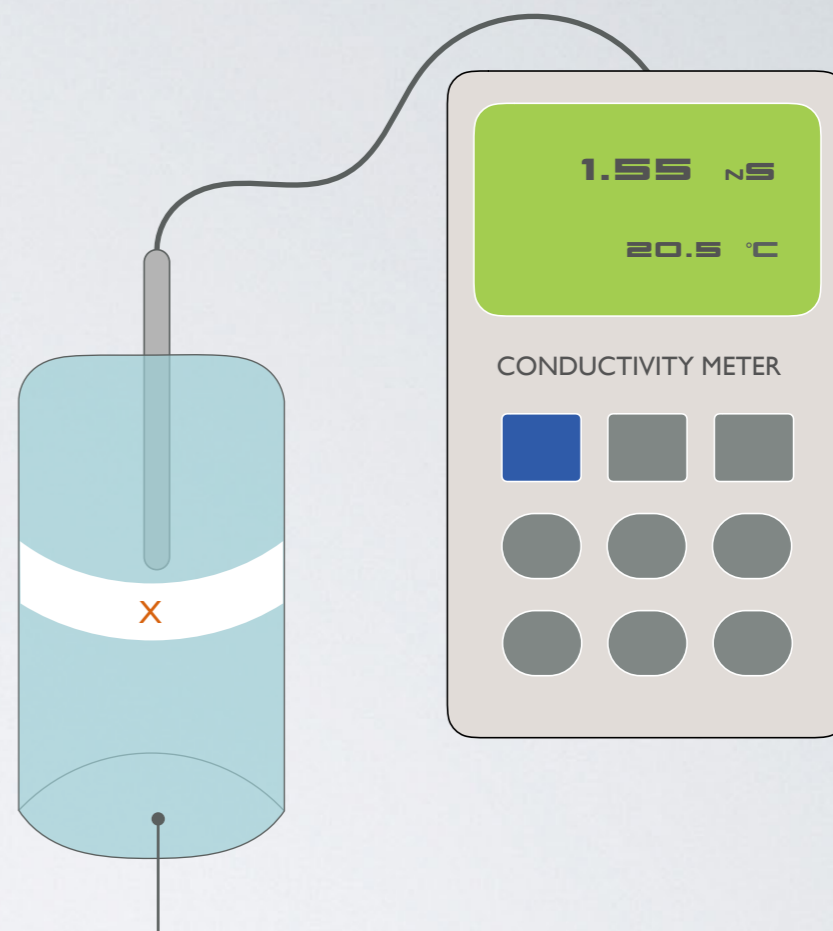


Acids, Bases, Salts, & Buffers



Part I A Conductivity Measurements of Acids & Bases

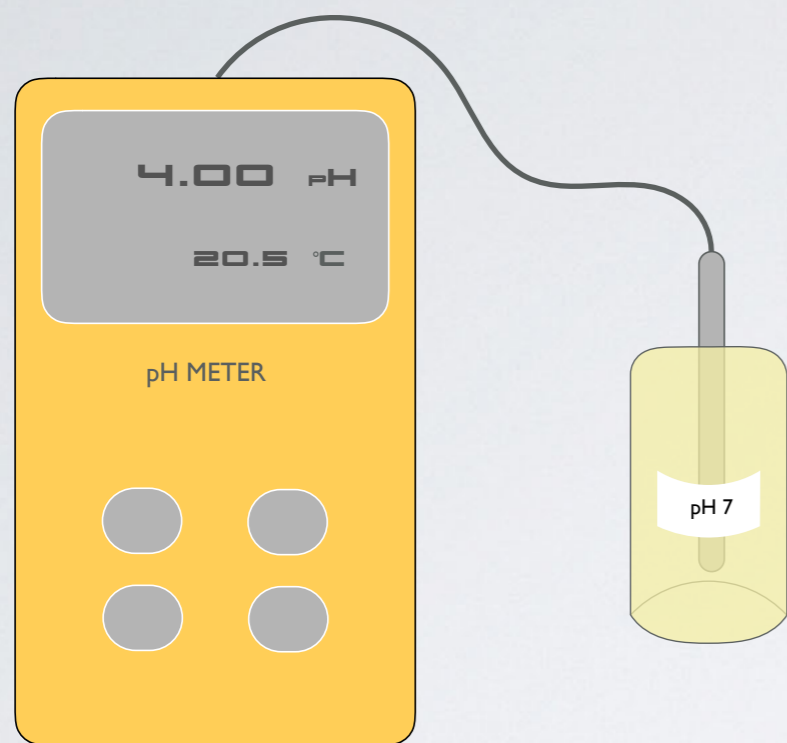


X

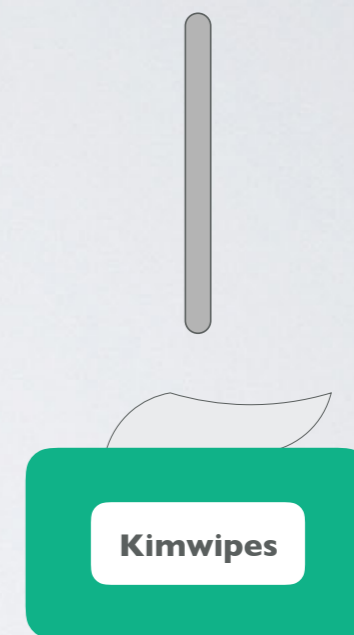
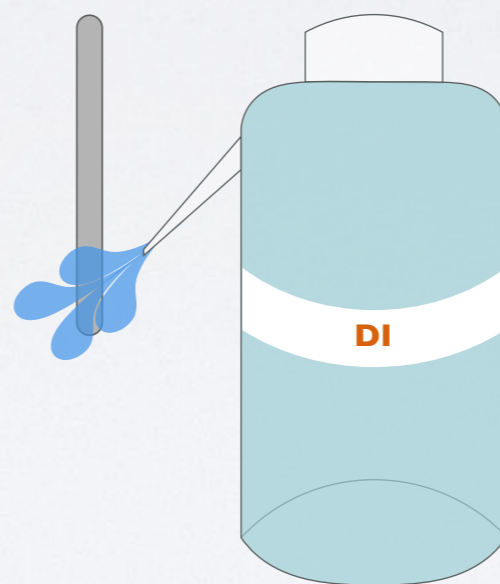
H ₂ O	<i>DI water</i>
HCl	<i>Hydrochloric acid</i>
CH ₃ COOH	<i>Acetic acid</i>
HNO ₃	<i>Nitric acid</i>
CH ₃ CH ₂ CH ₂ NH ₂	<i>Propylamine</i>
KOH	<i>Potassium hydroxide</i>
NaOH	<i>Sodium hydroxide</i>
NH ₃	<i>Ammonia</i>
CH ₃ CH ₂ OH	<i>Ethyl alcohol</i>

1. place conductivity probe in X solution
2. allow to sit for 1 min, measure conductivity
3. rinse probe with DI water before next use
4. measure all solutions with conductivity probe

Part I B Calibration of the pH Meter



IMPORTANT: this is **NOT** a comprehensive procedure for pH meter calibration. You **MUST** watch the “How to calibrate a pH meter” video posted on Blackboard Week 6 ([link](#)).

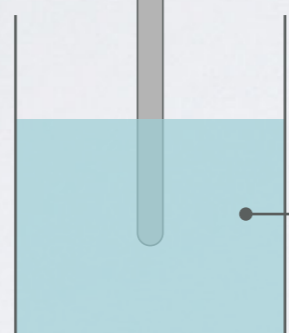
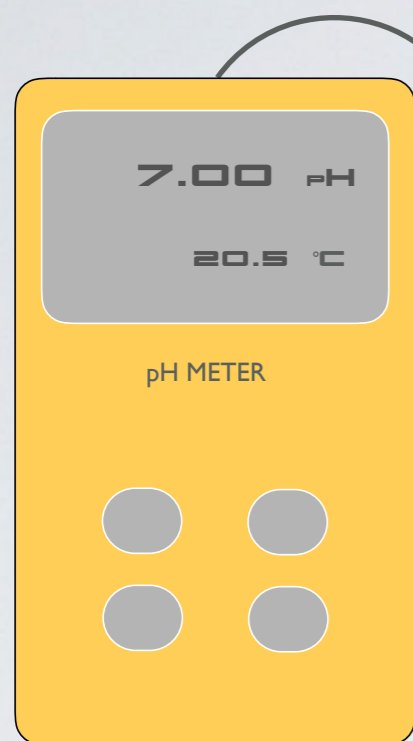


1. push the "mode" button on the pH meter
2. put the probe in pH 7 solution and set the pH meter at pH 7

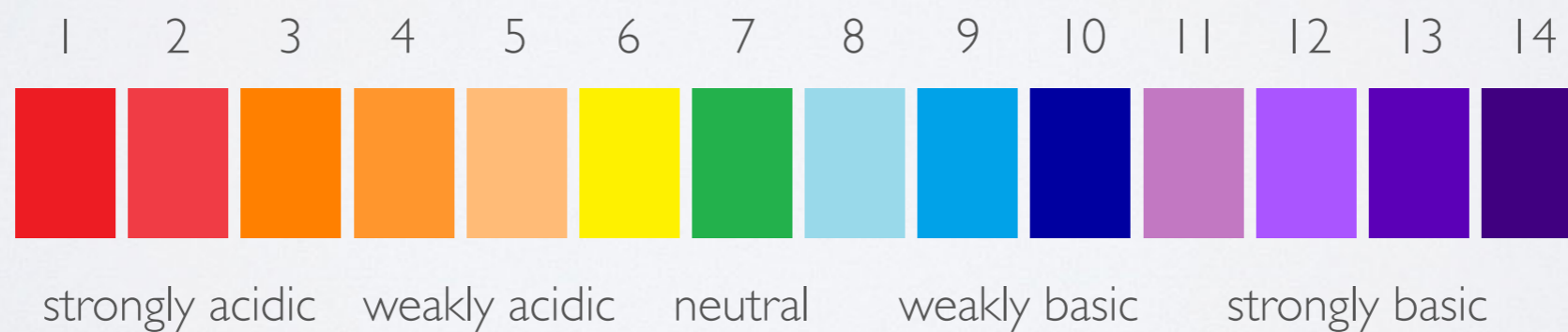
4. wipe probe with Kimwipes
5. repeat steps 1-4 with pH 4 solution

3. take probe out of pH solution, rinse with DI water

Part I B pH & H₃O⁺ Concentration

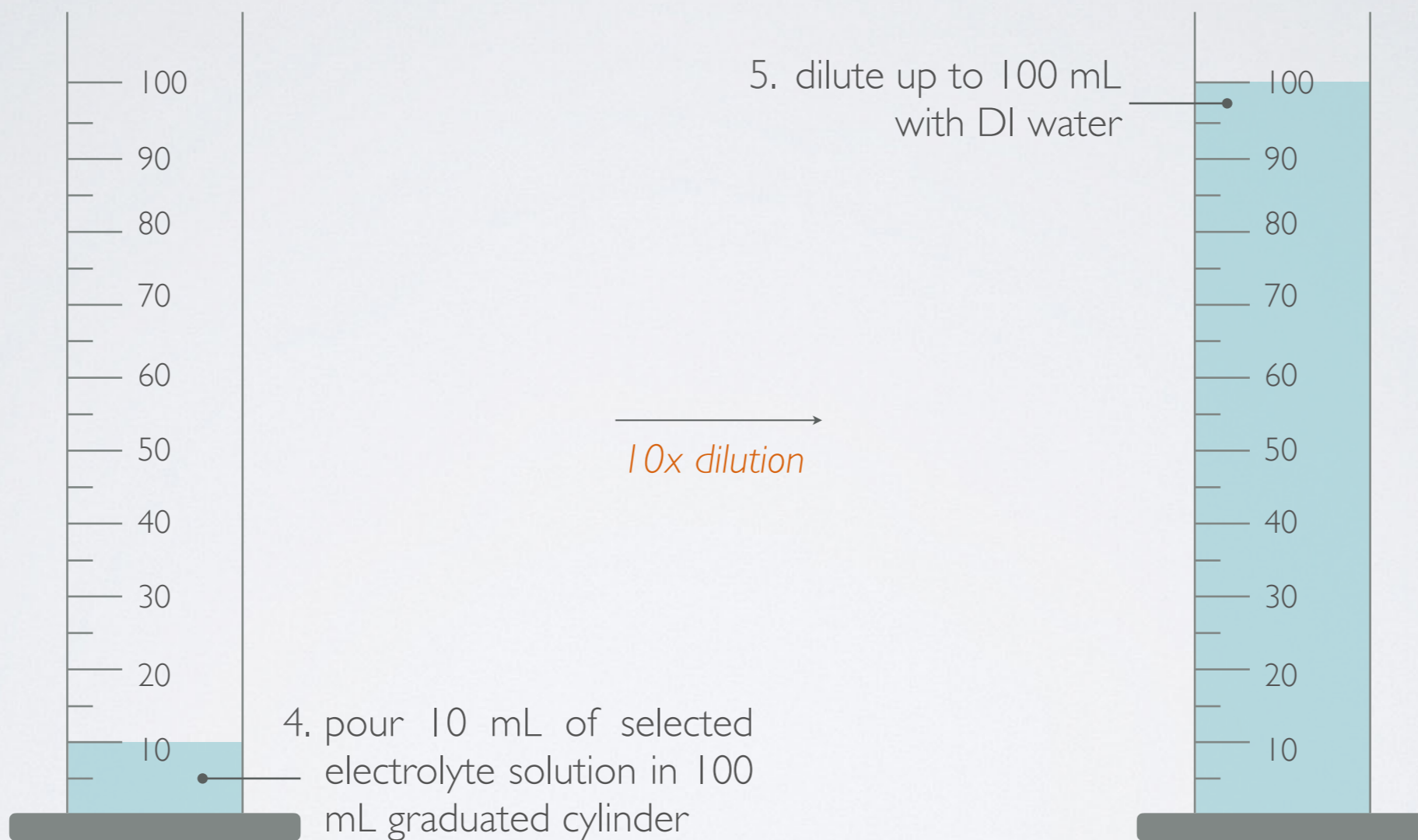


1. pour 15-20 mL of strong/weak electrolyte solution in 30 mL beaker
2. place pH meter, allow to sit for 1 min, read pH
3. rinse probe with DI water before next use

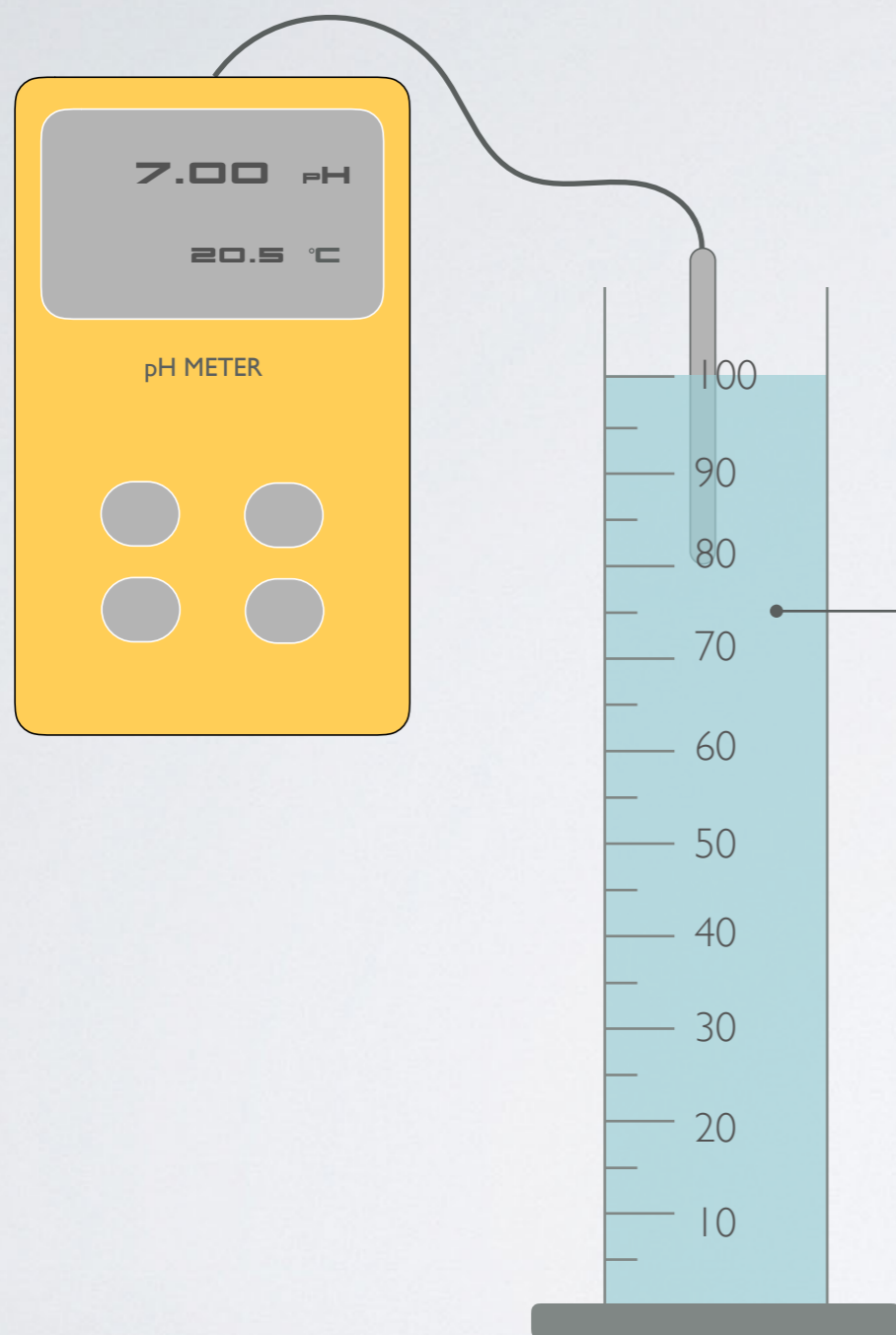


Universal Indicator Colors

Part I B pH & H_3O^+ Concentration

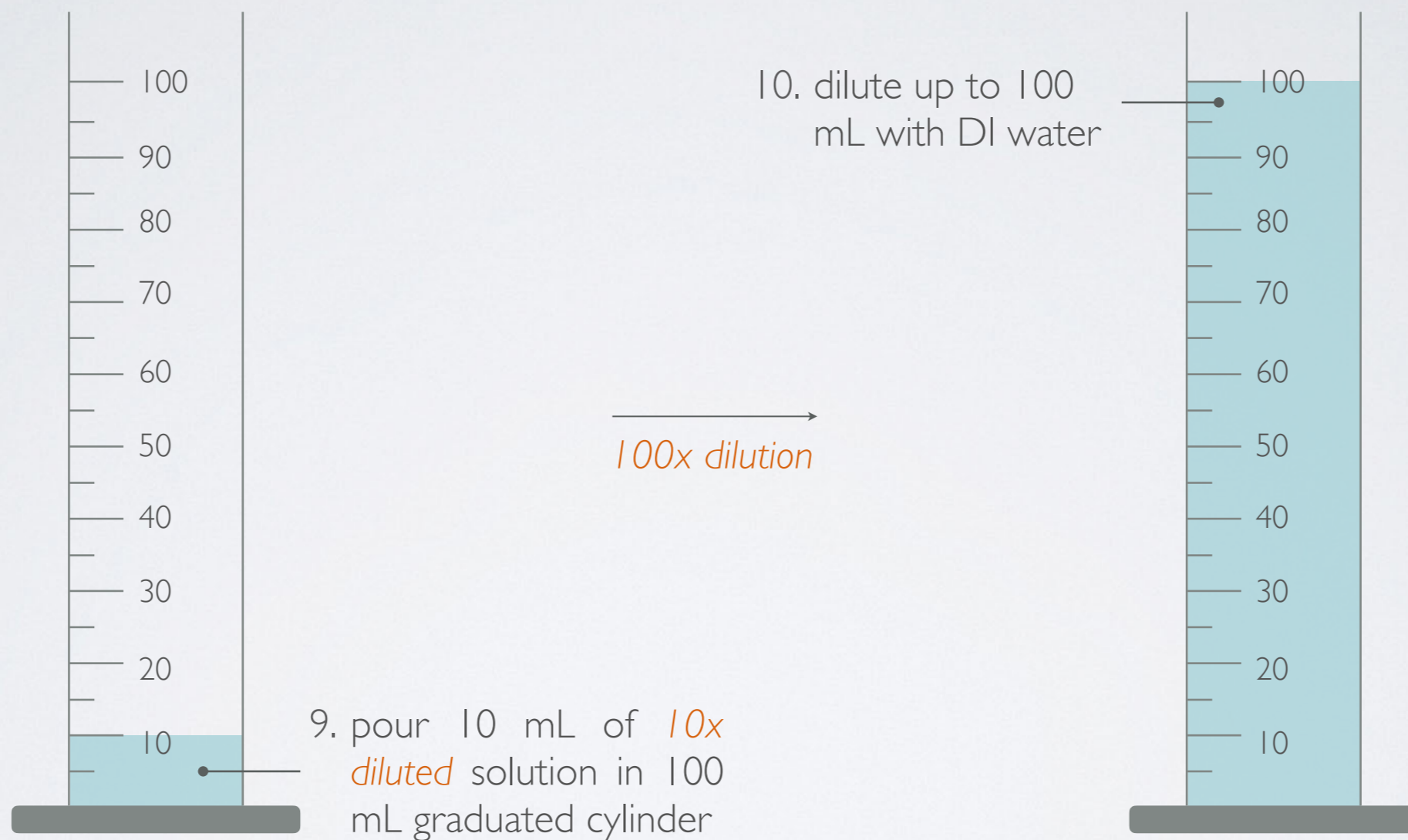


Part I B pH & H_3O^+ Concentration

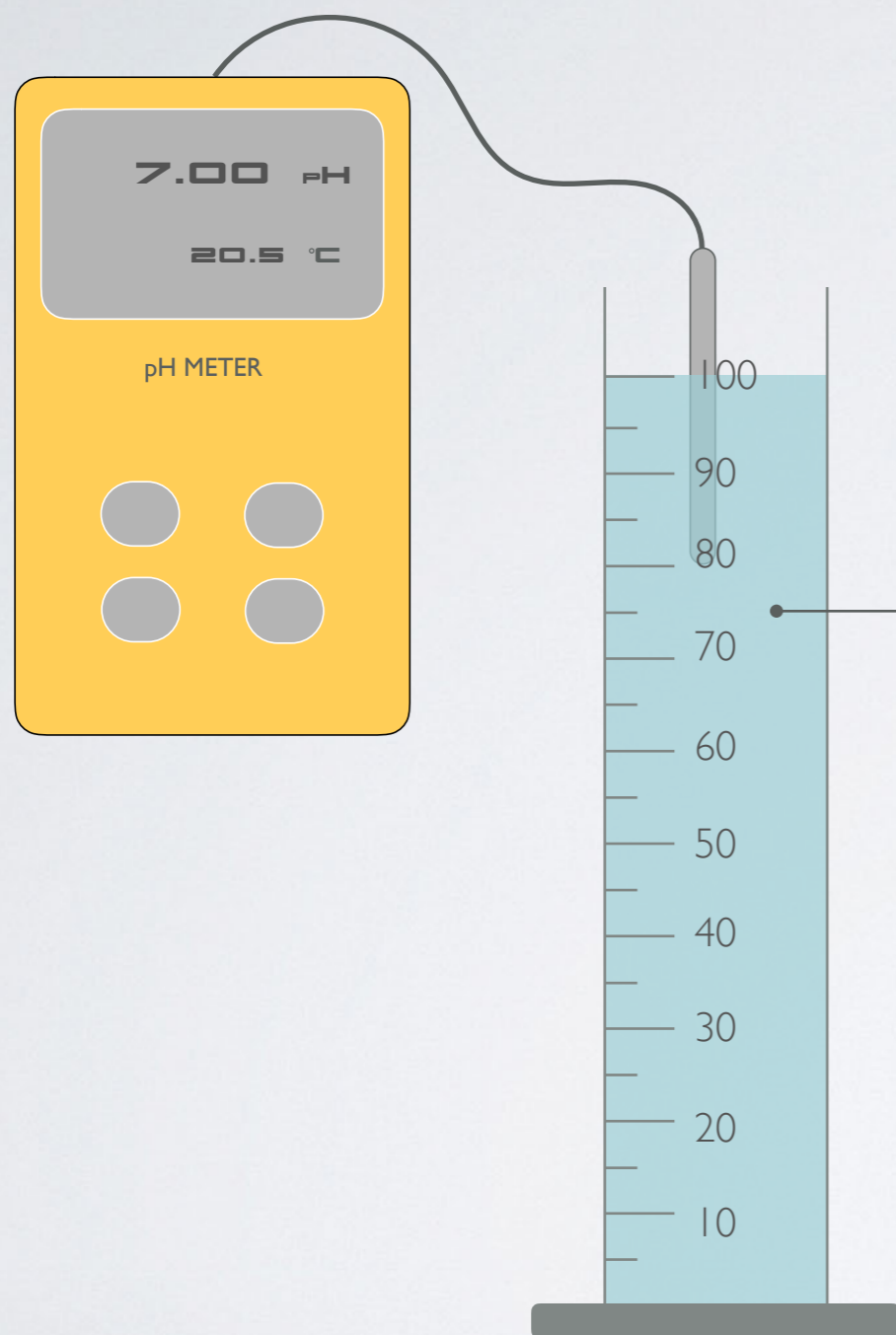


6. place pH meter in *10x diluted* solution
7. allow to sit for 1 min, read pH
8. rinse probe with DI water before next use

Part I B pH & H_3O^+ Concentration

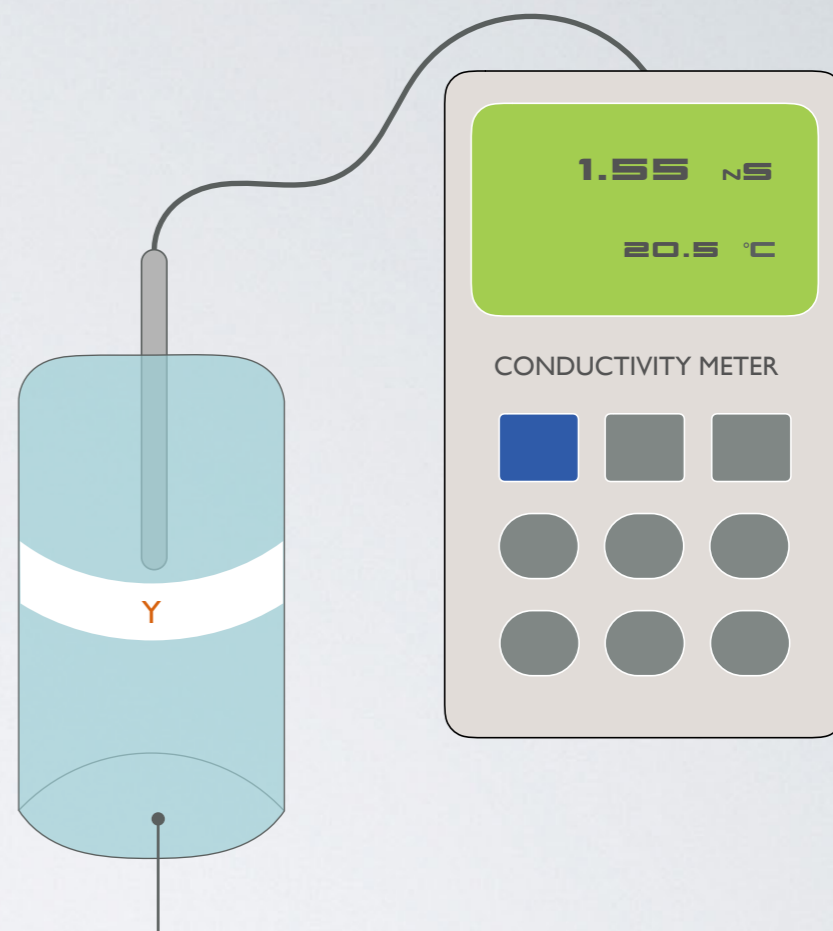
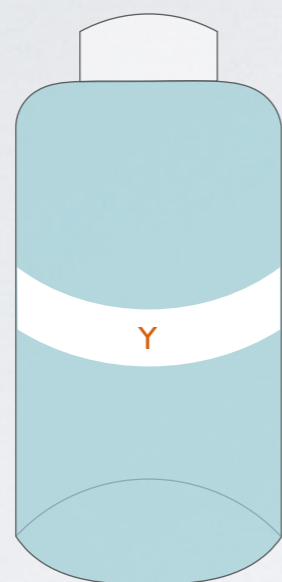


Part I B pH & H_3O^+ Concentration



1. place pH meter in *100x diluted* solution
2. allow to sit for 1 min, read pH
3. rinse probe with DI water before next use

Part 2A Conductivity Measurements of Salts

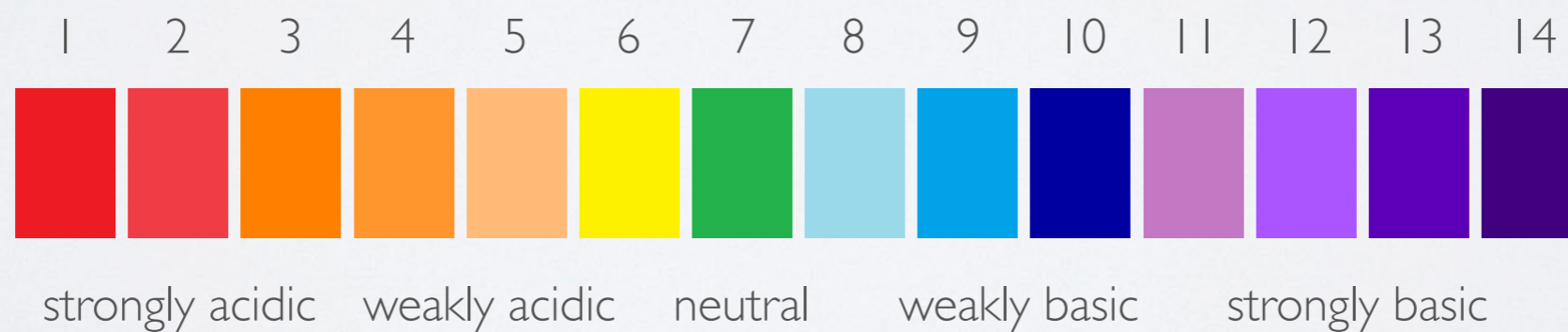
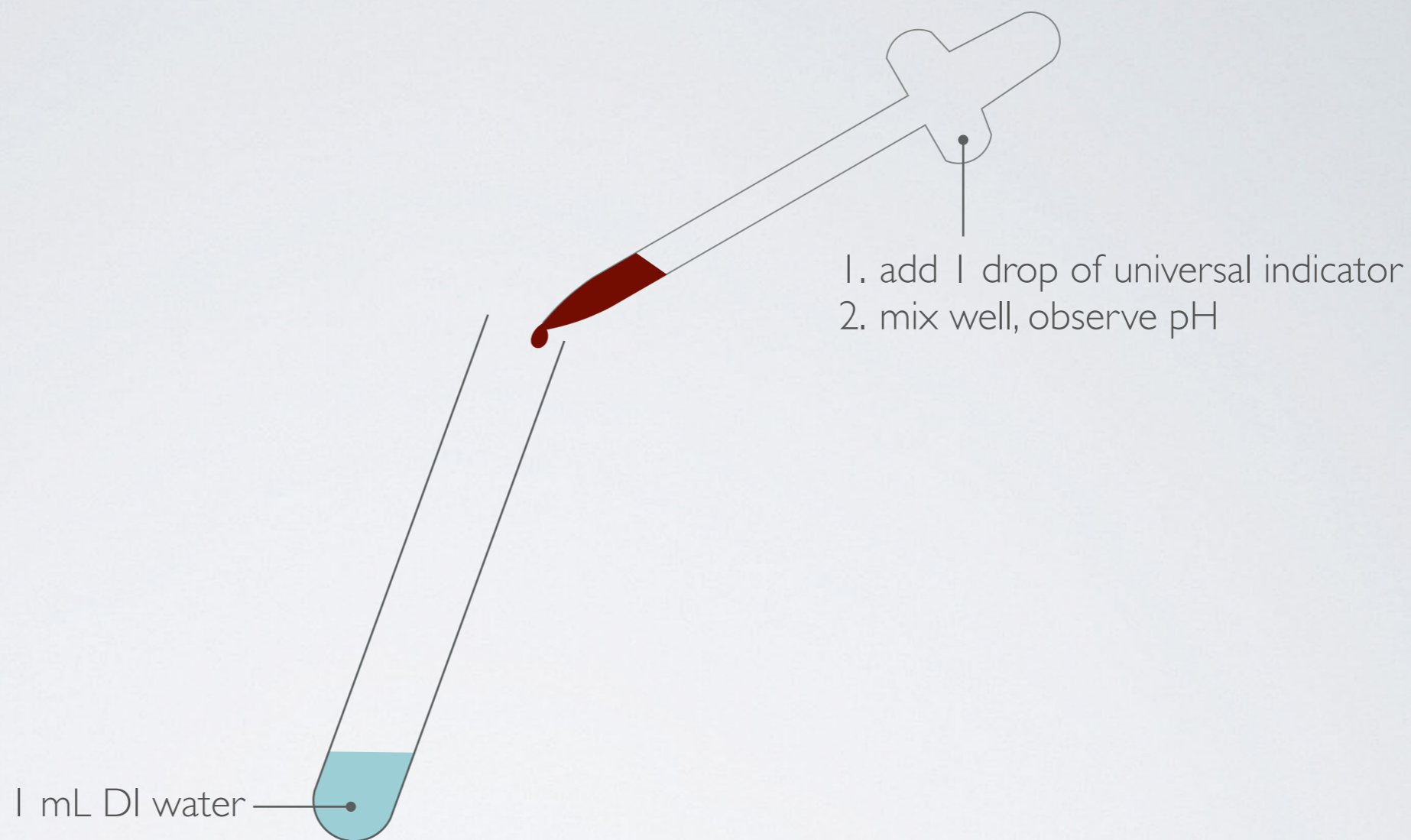


Y

NaCl	Sodium chloride
KNO ₃	Potassium nitrate
NaHCO ₂	Sodium formate
NaCH ₃ CO ₂	Sodium acetate
NH ₄ NO ₃	Ammonium nitrate
CH ₃ CH ₂ CH ₂ NH ₃ Cl	Propylamine hydrochloride

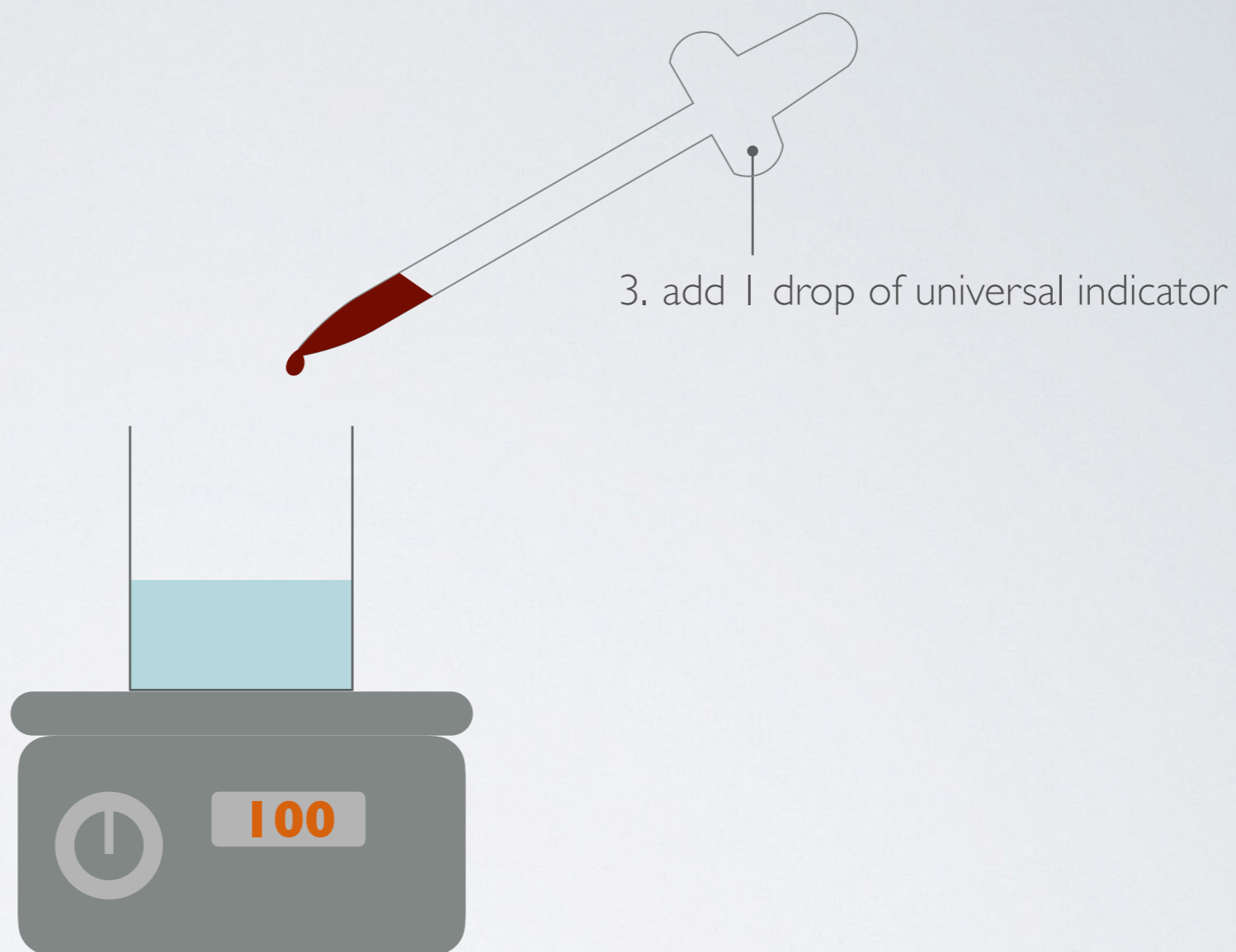
1. place conductivity probe in Y solution
2. allow to sit for 1 min, measure conductivity
3. rinse probe with DI water before next use
4. measure all solutions with conductivity probe

Part 2B pH Measurements of Water & Salts



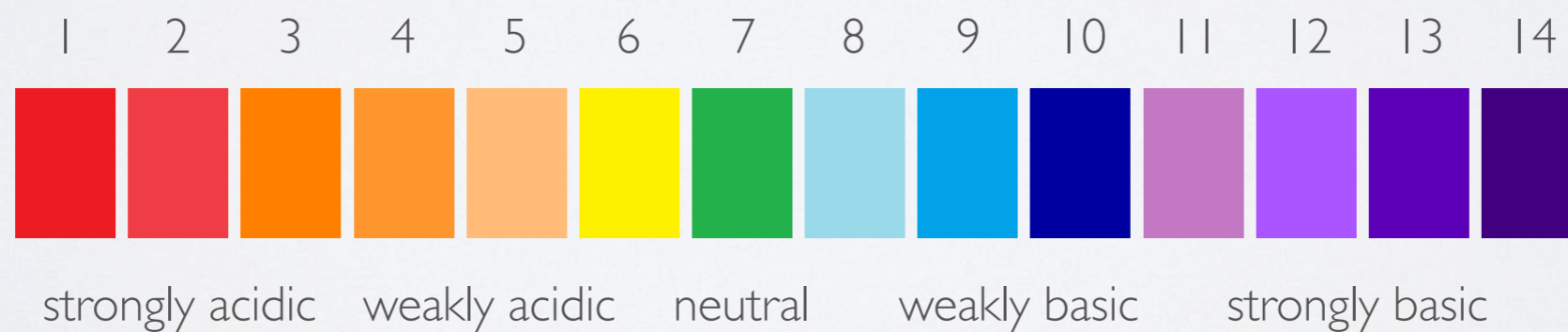
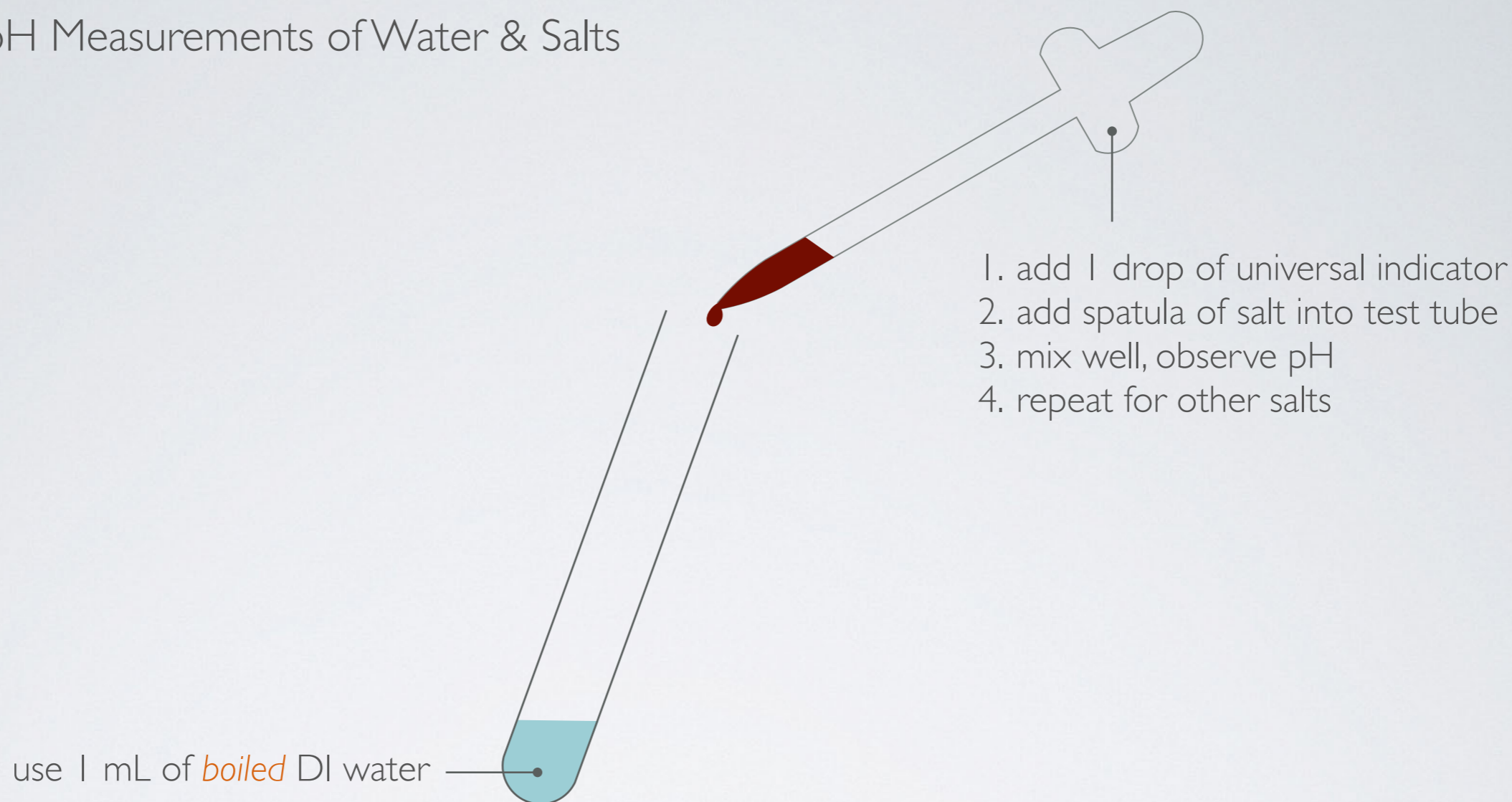
Universal Indicator Colors

Part 2B pH Measurements of Water & Salts



4. boil 50 mL of DI water in 100 mL beaker
5. done when pH indicator turns green (neutral)
6. quickly proceed next to avoid CO_2 reabsorption

Part 2B pH Measurements of Water & Salts



Universal Indicator Colors