

Introduction:

In this lab we are learning about acids and bases. A compound that contains hydrogen is an acid and a compound that can “accept” a positive hydrogen is a base.

Research Question:

Do all indicators work ion the same way? Are all indicators infinitely precise?

Vocabulary:

Acid - A molecule or other entity that can donate a proton or except an electron pair in reactions.

Base - A compound that reacts with and acid to form a salt, as ammonia, calcium hydroxide, or certain nitrogen-containing organic compounds.

Indicator - a substance, as litmus that indicates the presence or concentration of a certain constituent.

PH - The symbol for the logarithm of the reciprocal of hydrogen ion concentration in gram atoms per liter, used to express the acidity or alkalinity of a solution on a scale of 0 to 14, where less than 7 represents acidity, 7 neutrality, and more than 7 alkalinity.

Information:

DATA/OBSERVATIONS FOR DISTINGUISHING BETWEEN ACIDS & BASES
VIA VARIOUS INDICATORS

Substance	Litmus Paper (R or B)	PH Strip – Indicate Color & #	Golden Rod Paper (Y or N for color change)	Phenolphthalein (Y or N for color change)	Bogen Universal Indicator Indicate Color	Acid or Base
Vinegar	Red	Orange 4	No	No	Cherry Red	Acid
Bleach	Blue	Yellow 5	Yes	Yes	Yellow (tinged)	Base
Ammonia	Blue	BlueGreen 8	Yes	Yes	Forest Green	Base
Orange Juice	Red	Yellow 5	No	No	Blood Red	Acid
Lemon Juice	Red	Orange 4	No	No	Deep Red	Acid
MOM	Blue	Teal 10	Yes	Yes	Army Green	Base

Conclusion:

Not every indication operates in the same way. Some change color in varied degrees. They frequently change colors once or twice. Some are made of paper, some of liquid. Indicators are estimations rather than being exact.