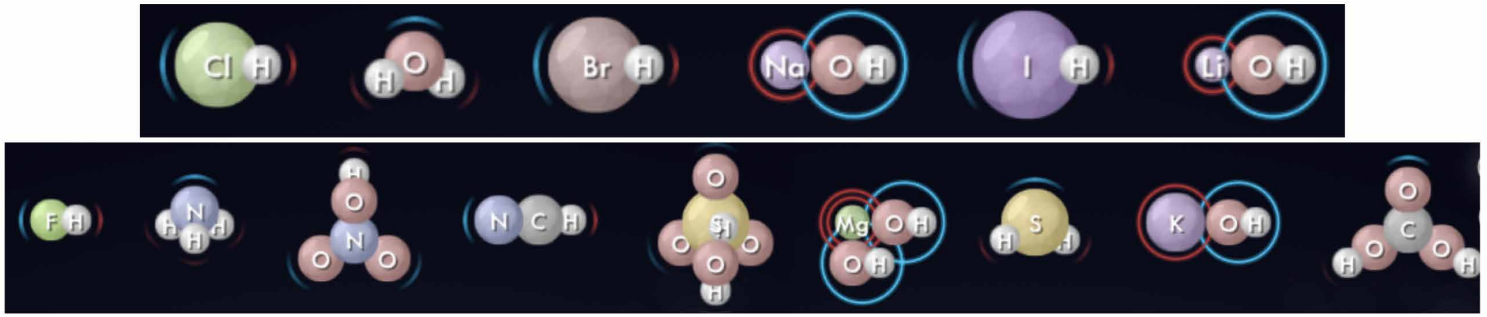
ACID STRENGTH - INTRODUCTION TO COLLEGE CHEMISTRY
FORMATIVE ASSESSMENT

STUDENT CHECK FOR UNDERSTANDING

Concepts:
Bronsted-Lowry Acids & Bases, Strong vs Weak Acids, Percent Dissociation, Neutralization Reactions, Polyprotic Acids, Amphoteric Substances, Conjugate Acids & Bases, and Charge of Resulting Ions

DIRECTIONS:
Identify the reactants and products from the bank that fulfill each scenario described in the table. Simply write the coefficients (if needed), chemical formulas, and state symbols (use "aq" for most, "*ℓ*" for H_2O, and "s" for solid when using $Mg(OH)_2$ as it is mostly insoluble in water) on the appropriate lines in the "Balanced Molecular Equation" column. Use the sandbox to help as needed. **Some substances may be used more than once and some scenarios might have more than one correct answer.**



Scenario	Balanced Molecular Equation
A strong acid reacts with a base.	___ ___ + ___ ___ → ___ ___ + ___ ___ Coefficient (If needed) Chemical Formula + State …
An acid that dissociates only partially at 0.1 M reacts with an ionic salt that fully dissociates at the same concentration.	___ ___ + ___ ___ → ___ ___ + ___ ___

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Addition of this substance to water produces an amphoteric substance which can also dissociate in water. **Write the equations for each individual reaction.**	____ _____ + ____ H_2O (ℓ) ⇌ ____ _____ + ____ HCO_3^- (aq) ____ HCO_3^- (aq) + ____ H_2O (ℓ) ⇌ ____ _____ + ____ _____
The neutralization reaction between these two substances produces anions with -1 charges and cations with +2 charges.	____ _____ + ____ _____ → ____ _____ + ____ _____
The neutralization reaction between these two substances involves a weak acid and produces anions with -1 charges and cations with +1 charges.	____ _____ + ____ _____ → ____ _____ + ____ _____
A neutralization reaction occurs between a weak acid and a base that is not ionic.	____ _____ + ____ _____ → ____ _____