

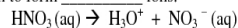
Worksheet: Acids, Bases, and Salts

Name: _____

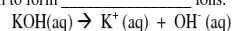
What are Acids, Bases, and Salts?

The Swedish chemist, Svante Arrhenius introduced the theory of ionization and used this theory to explain much about the behavior of acids and bases.

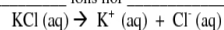
- An Arrhenius acid is defined as any compound that dissociates in aqueous solution to form _____ ions.



- An Arrhenius base is defined as any compound that dissociates in aqueous solution to form _____ ions.



- Salts are compounds that dissociate in aqueous solution releasing neither _____ ions nor _____ ions.



Using the **Arrhenius definition**, classify the following examples as acids, bases, or salts:

HBr	_____	KCl	_____
Mg(OH) ₂	_____	H ₃ PO ₄	_____
HCl	_____	HClO	_____
KNO ₂	_____	Al(OH) ₃	_____
HFO ₄	_____	KC ₂ H ₃ O ₂	_____
Ba(OH) ₂	_____	NaCl	_____

Acids and bases can also be identified using an operational definition. Operational definitions are simply a list of properties.

ACIDS:

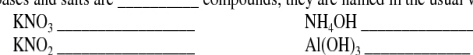
- A _____ taste is a characteristic property of all acids in aqueous solution.
- Acids react with some metals to produce _____ gas.
- Because aqueous acid solutions conduct electricity, they are identified as _____.
- Acids react with bases to produce a _____ and water.
- Acids turn _____ different colors.

BASES:

- Bases tend to taste _____ and feel _____.
- Like acids, aqueous basic solutions conduct _____, and are identified as _____.
- Bases react with _____ to produce a salt and _____.
- Bases turn _____ different colors.

Naming Acids, Bases, and Salts

Since bases and salts are _____ compounds, they are named in the usual way:



- Binary acids** consist of _____ element, the first being _____.

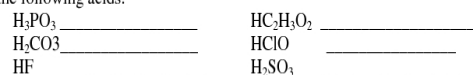
Binary acids are named using the format:

Hydro_(root word of second element) **ic** acid

- Ternary acids** consist of _____ elements. Do **NOT** use a prefix. Simply change the ending of the polyatomic ion's name and add the word "acid":

-ate becomes _____ and **-ite** becomes _____

Name the following acids:

**Acids & Bases Properties**

- What are five general properties of acids?

a. _____	b. _____
c. _____	d. _____
e. _____	

- Name 4 common substances that have one or more of these properties.

a. _____	b. _____
c. _____	d. _____

- Name the following acids:

a. HBrO _____
b. HBrO ₃ _____