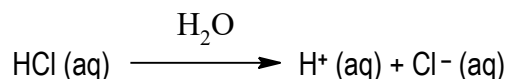
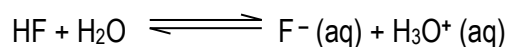


CONCEPT: BINARY ACID STRENGTH

STRONG ACIDS are considered _____ Electrolytes so they ionize completely in water.



WEAK ACIDS are considered _____ Electrolytes so they don't completely ionize in water.



The strength of a **BINARY ACID** is based on the _____ or _____ of the nonmetal.

- Elements in the **SAME PERIOD** look at _____. The _____, the _____ acidic.
- Elements in the **SAME GROUP** look at _____. The _____, the _____ acidic.

Electronegativity (EN) ____

Atomic Radius (AR) ____

1A
(1)

2A
(2)

3A
(3)

4A
(4)

5A
(5)

6A
(6)

7A
(7)

8A
(8)

1

2

3

4

5

6

7

H

Li

Na

K

Rb

Cs

Fr

Be

Mg

Ca

Sr

Ba

Ra

Sc

Y

La

Ac

Ti

Zr

Hf

Rf

V

Nb

Ta

Db

Cr

Mo

W

Sg

Mn

Tc

Re

Bh

Fe

Ru

Os

Hs

Co

Rh

Ir

Mt

Ni

Pd

Pt

Ds

Cu

Ag

Au

Rg

Zn

Cd

Hg

Cn

Ga

In

Tl

Nh

B

Al

C

Si

Ge

Sn

Pb

Fl

N

P

As

Sb

Bi

Mc

O

S

Se

Te

Po

Lv

F

Cl

Br

I

At

Ts

He

Ne

Ar

Kr

Xe

Rn

Og

EXAMPLE 1: Which is the weakest acid from the following?

- a) H_2S b) HF c) H_2Te d) All would have the same acid strength.

EXAMPLE 2: Which of the following acids would be classified as the strongest?

- a) CH_4 b) NH_3 c) H_2O d) HF e) PH_3

CONCEPT: OXYACID STRENGTH

The strength of **OXYACIDS** is based on the number of _____ or the _____ of the nonmetal.

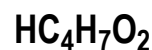
- RULE:** If my oxyacid has **2 or More** _____ than _____ then my oxyacid is a _____ **ACID**.



____ Oxygens
– ____ Hydrogens



____ Oxygens
– ____ Hydrogens



____ Oxygens
– ____ Hydrogens

When comparing the strengths of different oxyacids remember:

- If they have **different number of oxygens** then the _____ oxygen the _____ acidic
- If they have the **same number of oxygens** then the _____ electronegative the nonmetal the _____ acidic.

Electronegativity _____																			
1A (1)	2A (2)												3A (3)	4A (4)	5A (5)	6A (6)	7A (7)	8A (8)	
1	H																		He
2	Li	Be	3B	4B	5B	6B	7B	8B (8) (9) (10)			1B	2B	B	C	N	O	F	Ne	
3	Na	Mg	(3)	(4)	(5)	(6)	(7)				(11)	(12)	Al	Si	P	S	Cl	Ar	
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe	
6	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn	
7	Fr	Ra	Ac	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og	

3 Exceptions



____ Oxygens
– ____ Hydrogens



____ Oxygens
– ____ Hydrogens



____ Oxygens
– ____ Hydrogens

EXAMPLE 1: Rank the following oxyacids in terms of increasing acidity.

