

Name: key
 Pd: _____ Date: _____

Chemistry 12
 ACID BASES UNIT
 Lessons #1 + 2

Read pgs 109-114 in Hebden before completing the following worksheet.

1. Arrhenius definitions:

Acids: releases H⁺ ions in water

Bases: releases OH⁻ ions in water

Salts: neutral product formed when

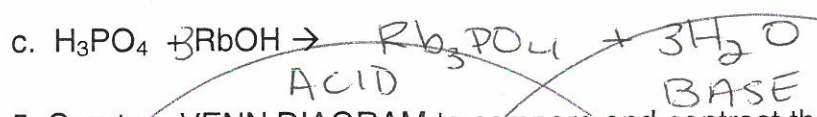
2. Classify the following as either an Arrhenius ACID, BASE or SALT:

- | | | | |
|----------------------|-------------|-------------|-------------------------|
| a. RbNO ₃ | b. CsOH | c. HF | d. CH ₃ COOH |
| <u>salt</u> | <u>base</u> | <u>acid</u> | <u>acid (organic)</u> |

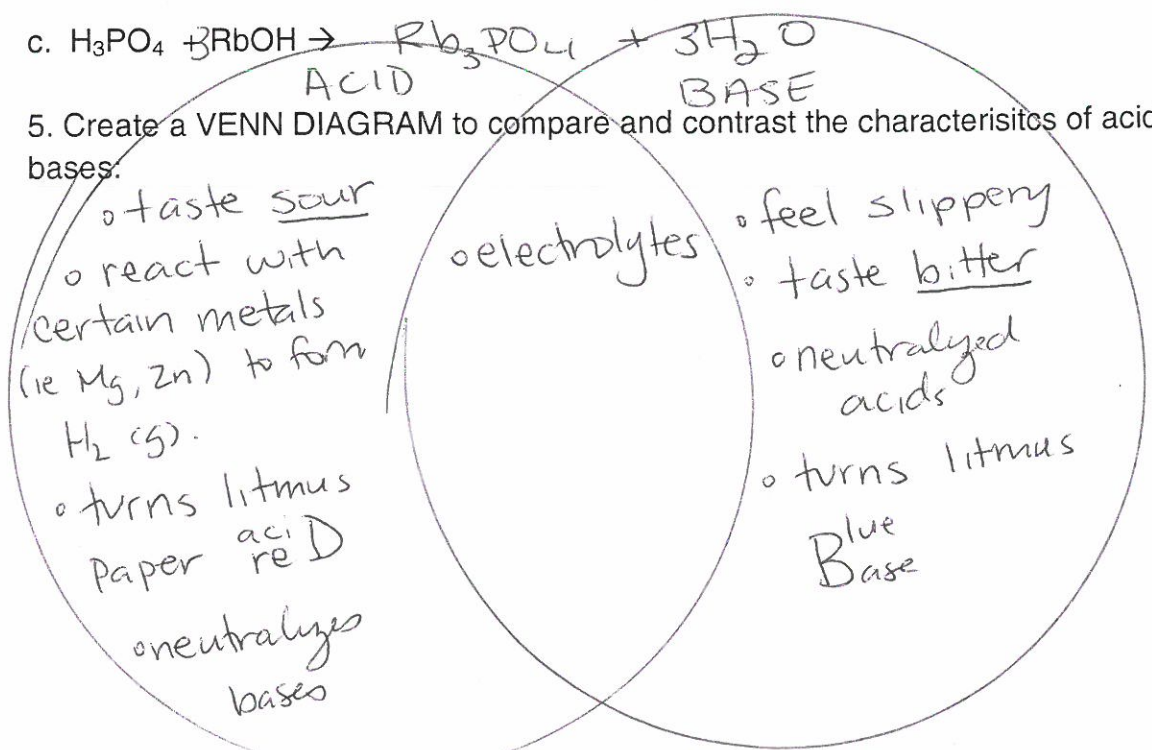
3. Explain what a neutralization reaction is:

when an arrhenius acid reacts with an
arrhenius base to form a salt and water
ex NaOH + HCl → NaCl + H₂O

4. Complete and then balance the following Neutralization reactions:



5. Create a VENN DIAGRAM to compare and contrast the characteristics of acids and bases.



6. COMPLETE THE FOLLOWING CHART:

Chemical Compound Name	Properties	Uses	Commercial Names
H_2SO_4 <u>Sulphuric</u> ◦ oil of vitriol	◦ dehydrant ◦ exothermic in water ◦ chars sugars	◦ car batteries ◦ fertilizers ◦ sulphates	Oil of vitriol
HCl <u>Hydrochloric</u> muratic acid	◦ choking odour	◦ chloride ◦ cleaning metal + brick ◦ stomach acid	muratic
HNO_3 <u>nitric</u>	◦ colours protein yellow ◦ reacts quickly w metals	◦ nitrates ◦ explosives	"nitric"
CH_3COOH <u>Acetic</u> Vinegar	◦ weak electrolyte	◦ pickling ◦ making textiles + plastics	Vinegar
$NaOH$ <u>Sodium</u> hydroxide	◦ corrosive to tissues ◦ exothermic in water	◦ making soaps ◦ cleaning products ◦ aluminium	caustic soda lye
KOH <u>Potassium</u> hydroxide	◦ see above, low melting pt	◦ liquid soaps ◦ CO_2 absorption ◦ battery electrolyte	caustic potash
NH_3 <u>Ammonia</u>	◦ pungent odour ◦ exothermic in water	◦ explosives ◦ fertilizers ◦ refrigeration gas.	ammonium hydroxide NH_4OH

Ex: 1 - 9

PLO's: J1 - J5