

Section 4C Review

Name _____

1) What is a precipitate? What is a salt?

A precipitate is a solid that appears when two aqueous solutions mix together. A salt is the other substance made, besides water, from an acid-base neutralization.

2) What is a reference solution? How is it used?

A reference solution is a solution that contains the material or ion that you are looking for in a chemical reaction. It is used in a confirming test to identify the material tested for.

3) What is a confirming test?

A confirming test is a test that exposes an ion that you are testing. If the confirming test does the same thing as the reference in the test, you will identify that that ion is present.

4) What is a net ionic equation?

A net ionic equation shows the reaction of the two ions that form the solid in a precipitation reaction.

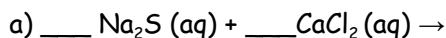
5) Using your solubility rules, determine whether the following substances are soluble or insoluble in water.

Name	Soluble or Insoluble?	Name	Soluble or Insoluble?
potassium sulfate	soluble	lithium carbonate	soluble
calcium phosphate	insoluble	ammonium acetate	soluble
iron (III) hydroxide	insoluble	magnesium sulfide	insoluble

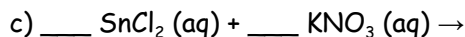
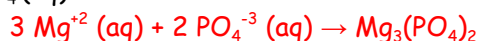
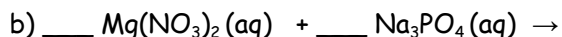
6) Name and write the formula of the precipitate formed in the reaction between magnesium chloride and potassium carbonate.

magnesium carbonate, $MgCO_3$

7) Identify the solid produced by the following reaction. Write a net ionic equation for the reaction. If the combination does not form a precipitate, write NR.



NR



NR

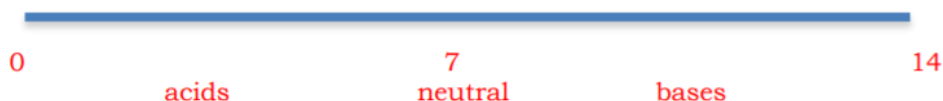
8) When acids and bases react together, what is formed?

Acids and bases react in a neutralization reaction to produce water and a salt.

9) Compare and contrast hydrogen ions and hydroxide ions.

- Both are in water and both affect the pH
- Hydrogen ion is H^+ , is the acid ion and brings the pH down. Hydroxide ion is OH^- , is the base ion and raises the pH

10) Draw a diagram of the pH scale, including important numbers and ranges.



11) Explain what the numbers of the pH scale mean. What is the difference between a pH of 4 and a pH of 5? A pH of 4 and a pH of 7?

pH scale means the potential of hydrogen ions scale. A pH of 4 would be 10 times more acidic than a pH of 5. A pH of 4 is 1000 times more acidic than a pH of 7.

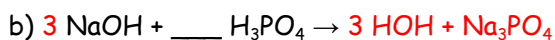
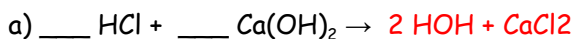
12) What is a buffer and what does it do?

A buffer is a substance in a solution that can react with acids or bases added to it and it keep the pH of changing very much. It has slightly acidic or basic compound in it that can neutralize additional acid or base that is added.

13) Identify the following as acids, bases or neutral solutions.

Formula	Acid, Base or Neutral?	Formula?	Acid, Base or Neutral?
HBr	acid	KCl	neutral
$Fe(OH)_2$	base	H_2SO_4	acid
$Ba(NO_3)_2$	neutral	NH_4OH	base

14) Complete and balance the following neutralization reactions.



15) We used two indicators in the acid/base unit. Universal indicator and phenolphthalein indicator. Tell the colors of these indicators in acid, base and neutral solutions.

Universal: red, orange and yellow in an acid, green in neutral, and blue or violet in a base.

Phenolphthalein: colorless in an acid, light pink in neutral, and dark purple in a base.