THE VILLAGE
INTERNATIONAL SCHOOL
"We Nurture Dreams"

GRADE 10 CHEMISTRY

MT3 REVISION WORKSHEET

1	Which one of the following is acidic? (a) Lemon juice (b) Tomatoes (c) Milk (d) All	1
2	Which one of the following will turn red litmus blue? (a) Vinegar (b) Baking soda solution (c) Lemon juice (d) Soft drinks	1
3	Which one of the following will turn blue litmus red? (a) Vinegar (b) Lime water (c) Baking soda solution (d) Washing soda solution	1
4	Methyl orange is (a) Pink in acidic medium, yellow in basic medium (b) Yellow in acidic medium, pink in basic medium (c) Colourless in acidic medium, pink in basic medium (d) Pink in acidic medium, colourless in basic medium.	1
5	Lime water is (a) CaO (b) Ca(OH)2 (c) CaCO3 (d) CaCI2	1
6	The nature of calcium phosphate is present in tooth enamel is (a) Basic (b) Amphoteric (c) Acidic (d) Neutral	1
7	Which of the following salts has no water of crystallization? (a) Blue vitriol (b) Washing soda (c) Baking soda (d) Gypsum	1
8	The chemical formula of caustic potash is (a) NaOH (b) $Ca(OH)_2$ (c) NH_4OH (D) KOH	1
9	The difference of molecules of water in gypsum and PoP is (a)5/2 (b) 2b (c) 3/2 (d) ½	1
10	The function of quick lime in soda lime mixture is to (a) Absorb moisture present in soda lime (b) Increase the efficiency of soda lime (c) Increase the pH of soda lime (d) Take part in reaction with NaOH	1
11	What effect does the concentration of H+(aq) ions have on the nature of the solution?	2
12	Do basic solutions also have H+ (aq) ions? If yes, then why are these basic?	2
13	How is the concentration of hydroxide ions (OH–) affected when excess base is dissolved in a solution of sodium hydroxide?	2
14	How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?	2
15	If someone is suffering from the problem of acidity after overeating, which of the following would you suggest as remedy ? Lemon juice, Vinegar, Baking soda solution Give reason for your choice.	2
16	How is the neutralisation of a carbonate with an acid different from the neutralisation of an oxide or a hydroxide?	2
17	The pH of a sample of vegetable soup was found to be 6.5. How is this soup likely to taste?	2
18	Salt commonly used in bakery products on heating gets converted into another salt B which itself is used for removal of hardness of water and a gas C is evolved. The gas C when passed through lime water, turns it milky. Identify A, B and C	3
19	Plaster of Paris should be stored in a moisture-proof container. Explain why?	3
20	A metal carbonate X on reacting with an acid gives a gas which when passed through a solution Y gives the carbonate back. On the other hand, a gas G that is obtained at	3

	anode during electrolysis of brine is passed on dry Y, it gives a compound Z, used for disinfecting drinking water. Identity X, Y, G and Z.	
21	A student dropped few pieces of marble in dilute hydrochloric acid, contained in a test-tube. The evolved gas was then passed through lime water. What change would be observed in lime water? What will happen if excess of gas is passed through lime water? With the help of balanced chemical equations for all the changes explain the observations.	3
22	(i) What is the action of litmus on : (a) Dry litmus paper (ii) (b) Solution of ammonia gas in water.	3
	ANSWER KEY	
1	(d)	
2	(b)	
3	(a)	
4	(a)	
5	(b)	
6	(a)	
7	(c)	
8	(d)	
9	(c)	
10	(a)	
11	With increase in H+ ion concentration, the solution becomes more acidic, while a decrease in the concentration of H+ ion causes an increase in the basicity of the solution	
12	Yes, basic solution also has H+ (aq) ions. But the concentration of H+ ions is less as compared to the concentration of OH– ions that makes the solution basic.	
13	The concentration of hydroxide ions (OH–) would increase when excess base is dissolved in a solution of sodium hydroxide.	
14	Hydrogen gas is released when hydrochloric acid reacts with an active metal. To test the gas released, bring a burning matchstick near the gas. It burns with 'pop' sound showing that it is hydrogen gas	
15	Baking soda solution. The solution being basic in nature, neutralises excess acid in the stomach.	
16	Neutralisation of a carbonate with an acid produces carbon dioxide gas but not with an oxide or hydroxide.	
17	pH 6.5 indicates that soup is weakly acidic. Therefore, the taste will be slightly sour.	
18	Salt A is Baking powder ($NaHCO_3$), which is commonly used in bakery products. On heating it forms sodium carbonate (Na_2CO_3), i.e, salt B and CO_2 gas, C is evolved. When CO_2 gas is passed through lime water it forms calcium carbonate ($CaCO_3$), which is slightly soluble in water making it milky. Therefore, A is $NaHCO_3$, B is Na_2CO_3 and C is CO_2 gas.	
19	Plaster of Paris, a powdery mass, is hygroscopic i.e., absorbs water (moisture) to form a hard solid known as gypsum. Therefore, it should be stored in a moisture-proof container.	
20	X is calcium carbonate. It reacts with HCl and produces carbon dioxide gas. This gas when react with slaked line or Calcium Hydroxide (Y) gives back the carbonate. The gas evolved at anode during electrolysis of brine is chlorine gas (G). When chlorine gas is passed through dry slaked line (Y), bleaching powder (Z) is produced. It is used for disinfecting drinking water. $CaCO_3 \rightarrow CaO + CO_2\uparrow$ (X) D (Acidic gas) 2. $CO_2 + Ca(OH)_2 \rightarrow CaCO_3 + H_2O$ (Y) (X) 3. $2NaCl\ (aq) + 2H_2O(l) \rightarrow 2NaOH\ (aq) + Cl_2(g) + H_2(g)$ (G)	

	4. $Cl_2 + Ca(OH)_2 \rightarrow CaOCl_2 + H_2O$ (G) (Dry) (Z) Thus, X is calcium carbonate, Y is calcium hydroxide, G is chlorine gas and Z is bleaching powder.	
21	Marble is chemically calcium carbonate. When dilute HCl is added to calcium carbonate, it forms calcium chloride, water and carbon dioxide. The chemical equation for the reaction is as follows $CaCO_3 + 2HCl \rightarrow CaCl_2 + H_2O + CO_2$ When this carbon dioxide gas is passed through lime water, lime water turns milky. The chemical equation can be represented as : $Ca(OH)_2 + CO_2 \rightarrow CaCO_3 + H_2O$ milkiness If excess of gas is passed through lime water, milkiness disappears due to formation of calcium hydrogen carbonate which is soluble in water. $CaCO_3 + H_2O + CO_2 \rightarrow Ca(HCO_3)_2$ Soluble in water	
22	(a) No change in colour with dry litmus paper. (b) Red litmus paper will turn blue because ammonia is basic in nature.	