Grade 7 Acids, Bases and Salts Worksheets

A. Answer the following questions in short:

1. State differences between acids and bases.
2. Ammonia is found in many household products, such as window cleaners. It turns red litmus blue. What is its nature?
3. Name the source from which litmus solution is obtained. What is the use of this solution?
4. Is the distilled water acidic/basic/neutral? How would you verify it?
5. Describe the process of neutralization with the help of an example.
6. Dorji has a few bottles of soft drink in his restaurant. But, unfortunately, these are not labelled. He has to serve the drinks on the demand of customers. One customer wants acidic drink, another wants basic and third one wants neutral drink. How will Dorji decide which drink is to be served to whom?
7. Explain, why?

(i) An antacid tablet is taken when you suffer from acidity.
(ii) Calamine solution is applied on the skin when an ant bites.
(iii) Factory waste is neutralised before disposing it into the water bodies.

8. Three liquids are given to you. One is hydrochloric acid, another is sodium hydroxide and third is a sugar solution. How will you identify them? You have only turmeric indicator.
9. Blue litmus paper is dipped in a solution. It remains blue. What is the nature of the solution? Explain.
10. Consider the following statements:

(a) Both acids and bases change colour of all indicators.
(b) If an indicator gives a colour change with an acid, it does not give a change with a base.
(c) If an indicator changes colour with a base, it does not change colour with an acid.
(d) Change of colour in an acid and a base depends on the type of the indicator.

Which of these statements are correct?

(i) All four
(ii) a and d
(iii) b and c
(iv) only d

11. What are indicators?
12. Mention three differences between acids and bases.
13. Why a turmeric stain on a white shirt is turned to red when it is washed with soap?
14. Riya is suffering from indigestion due to acidity. Is it advisable to give her orange juice in this situation and why?

B. State 'True' or 'False':

1. Nitric acid turns red litmus blue. ……..
2. Sodium hydroxide turns blue litmus red. …….
3. Sodium hydroxide and hydrochloric acid neutralize each other and form salt and water. ……
4. Indicator is a substance which shows different colours in acidic and basic solutions. …….
5. Tooth decay is caused by the presence of a base. ……..
6. Both acids and bases change colour of all indicators. ……

C. Tick (✓) the correct option:

1. The taste of acid is:
(a) bitter
(b) sour
(c) salty
(d) sweet

2. The strongest acid is:
(a) sulphuric acid
(b) hydrochloric acid
(c) acetic acid
(d) nitric acid

3. Which of the following is not an indicator?
(a) Lemon
(b) China rose petal's
(c) Beet
(d) Turmeric

4. The chemical formula of common salt is:
(a) $CaCO_3$
(b) $CaCl_2$
(c) HCl
(d) NaCl

5. …… produce hydroxyl ions in water:
(a) Alkalies
(b) Bases
(c) Acids
(d) Salts

D. Fill in the blanks:

1. An alkali is a …… soluble in water.
2. Acid rain causes ……. of buildings.
3. …….. turns red litmus blue.
4. The pH of pure water is …… .
5. The chemical formula for blue vitriol is …….. .

E. Match the following:

'A'	'B'
1. Marble	a. Na_2CO_3
2. Blue vitriol	b. $Cu(OH)_2$
3. Soda ash	c. KOH
4. Copper hydroxide	d. $CaCO_3$
5. Potassium hydroxide	e. $CuSO_4.5H_2O$

F. Using the knowledge of acids and bases, write a secret message with the help of baking soda and beet root. Explain how it works.

[Hint: Prepare baking soda solution in water. Use this solution to write the message on a sheet of white paper with a cotton bud. Rub a slice of fresh beet root over the message.]

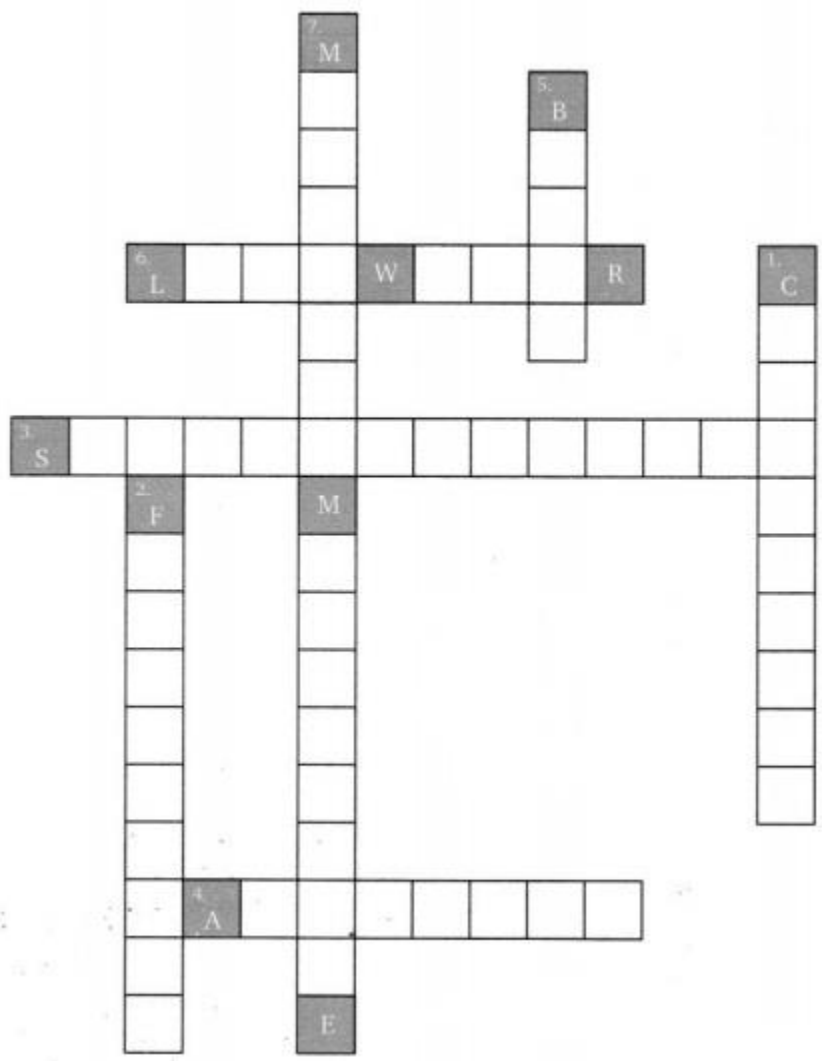
G. Let us recall tastes of some edible substances listed in the table given and complete it:

Substance	Taste (sour/bitter/any other)
Lemon juice	
Orange juice	
Vinegar	
Curd	
Tamarind (*imli*)	
Sugar	
Common salt	
Amla	
Baking soda	
Grapes	
Unripe mango	

H. Science Puzzle:

Solve the following crossword puzzle:
Across (→)
3. This acid is found in car batteries.
4. A rain with high acid concentration.
6. Common name of calcium hydroxide.

Down (↓)
1. This acid is present in oranges.
2. This acid is present in the sting of ants and bees.
5. Substances which are bitter in taste and feel soapy on touch.
7. Its common name is milk of magnesia.



I. The following table shows the list of some naturally occurring weak acids. Complete the table with the appropriate words given in the box:
formic acid, ascorbic acid, citric acid, curd, vinegar, spinach, grapes

Name of acid	Found in
1. Acetic acid	
2.	Ant’s sting
3. Oxalic acid	
4. Tartaric acid	
5.	Citrus fruits such as oranges, lemons, etc.
6. Lactic acid	
7.	Amla, citrus fruits

J. Visit a doctor. Find out the medicines, he prescribes to treat acidity. Ask him how acidity can be prevented.