

## Acid and Base Reactions – Year 9 Chemistry Worksheet

### Multiple Choice Questions

1. What is produced when an acid reacts with a base?
  - A. Salt and water
  - B. Oxygen and water
  - C. Carbon dioxide and salt
  - D. Hydrogen gas
2. Which of the following is a common indicator used to test acids and bases?
  - A. Sand
  - B. Litmus
  - C. Sodium chloride
  - D. Magnesium
3. Acids have a pH that is:
  - A. Exactly 7
  - B. Greater than 7
  - C. Less than 7
  - D. Always 14
4. When hydrochloric acid reacts with sodium hydroxide, the salt formed is:
  - A. Sodium carbonate
  - B. Sodium chloride
  - C. Sodium sulfate
  - D. Sodium nitrate
5. A base feels \_\_\_\_\_ when touched.
  - A. Rough
  - B. Slippery
  - C. Grainy
  - D. Sticky

### Matching Questions

Match Column A to Column B.

#### Column A

1. Acid
2. Base
3. Neutralization
4. Indicator
5. pH 7

**Column B**

- A. Turns red litmus blue
- B. Produces  $H^+$  ions in solution
- C. pH less than 7
- D. Substance that changes colour in acids/bases
- E. Reaction of acid + base  $\rightarrow$  salt + water
- F. Neutral

**Fill in the Blank Questions**

1. An acid reacts with a base to produce \_\_\_\_\_ and \_\_\_\_\_.
2. A solution with a pH less than 7 is called an \_\_\_\_\_.
3. A base releases \_\_\_\_\_ ions ( $OH^-$ ) in water.
4. Litmus paper turns \_\_\_\_\_ in acids.
5. The reaction between hydrochloric acid and sodium hydroxide forms \_\_\_\_\_ and water.

**Short Answer Questions (1–2 word answers)**

1. What ion do acids produce in water? \_\_\_\_\_
2. What ion do bases produce in water? \_\_\_\_\_
3. What is the name of the reaction between an acid and a base? \_\_\_\_\_
4. What substance is formed (besides salt) in all acid–base reactions? \_\_\_\_\_
5. What is the pH value of a neutral substance? \_\_\_\_\_