

3.11 Acids and Bases

Name:

1. Underline the correct word in the following list to complete the sentence. Acids have a _____ taste:

hot *sweet* *sour* *salty*

2. Using the list below, underline which acid is found in lemons?

- Carbonic acid
- Hydrochloric acid
- Citric acid



3. What does corrosive mean?

4. Using some words from the list below complete the following sentence. Some words can be used more than once.

base *red* *green* *blue* *alkalis*

Acid turns litmus paper from _____ to _____. The opposite to an acid is a _____. A base that dissolves in water is called an _____. Bases or _____ turn litmus paper from _____ to _____.

5. Match each substance below with the acid that it contains.

car battery fluid (i)

(a) *carbonic acid*

stomach acid (ii) (b) *sulfuric acid*
fizzy drinks (iii) (c) *hydrochloric acid*

6. List two common bases: _____ and _____

7. Universal indicator can be used to find the pH of a substance by matching a colour change to a colour chart. This tells us how strong an acid or a base is. Add numbers to the chart below to show the pH scale.



Now, match each pH range below with how strong an acid or base it is.

pH 1 – pH 3 (i) (a) *weak acid*
pH 5 – pH 7 (ii) (b) *strong base*
pH 7 (iii) (c) *strong acid*
pH 7 – pH 9 (iv) (d) *neutral*
pH 10 – pH 14 (v) (e) *weak base*

8. Complete the table to list the elements in each of the following acids or bases.

Substance	Formula	Element 1	Element 2	Element 3
Hydrochloric acid		H		
	H ₂ SO ₄			
Sodium hydroxide			O	
	Ca(OH) ₂			

9. Using a diagram to show your idea, design an experiment to test whether cauliflower extract can act as a pH indicator.

(a) List what you need:

(b) What measurements will you make?

(c) Predict what will happen in your experiment.

(d) How accurate do you think your method will be?
