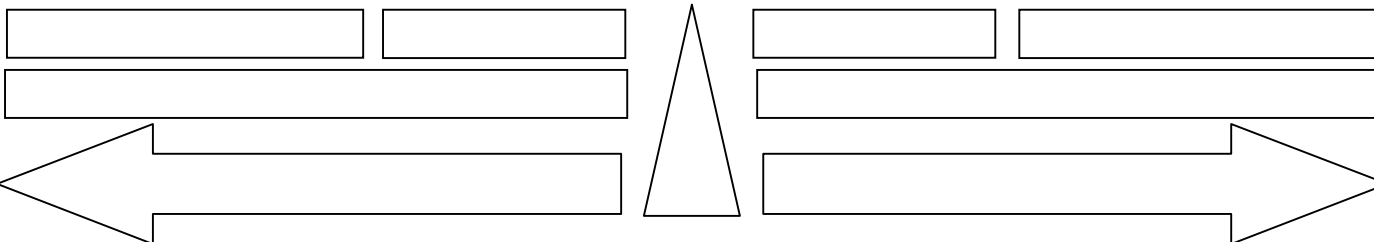


THE pH SCALE



1. Use the colours on the table below (Universal Indicator colours) to shade in the pH scale, and write on it the following labels: i) Acids, ii) Neutral, iii) Alkalis, iv) Strong acid, v) Weak acid, vi) Strong alkali, vii) Weak alkali, viii) Acids get stronger, ix) Alkalis get stronger.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
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pH value	Colour	pH value	Colour
0	dark red	8	greeny blue
1	red	9	dark greeny blue
2	orangey red	10	blue
3	orange	11	dark blue
4	yellowy orange	12	purpley blue
5	yellow	13	purple
6	greeny yellow	14	dark purple
7	green		



2. Find the names of 3 acids, 3 alkalis and 3 indicators in this word search:

F P L E M O N J U I C E W S V M A
 Y M B O E N A U R D O T T D G A B
 H E Y D T A T O I I L H Y C O P C
 J A U C H Z U P I C E G I F I H D
 O D E U Y S D M C A Q A O O C E E
 P C H A L E C E V C U O P A V N F
 V A M M O N I A A I N I E U W O G
 Q I L T R U V F T R E L R T A L H
 W E N F A K E H Y O B B P I L P I
 E L I E N O W I B L O N L C K H J
 R I N G G E L U N H A R E F O T K
 I T E M E A P M K C V P B Z H H L
 L M M P O T R I A O R Z I E G A M
 O U F U M C C A L R O P U X U L N
 N S O D I U M H Y D R O X I D E O
 A X S A C E R T I Y F R I G S I P
 S S Z T T I M O L H S E R B A N Q

ACIDS:
ALKALIS:
INDICATORS:



3. Which are true and which are false?

- | | True | False |
|-------------------------------------------------------|--------------------------|--------------------------|
| a) all acids are dangerous. | <input type="checkbox"/> | <input type="checkbox"/> |
| b) acids are sweet tasting. | <input type="checkbox"/> | <input type="checkbox"/> |
| c) acids have a pH of below 7. | <input type="checkbox"/> | <input type="checkbox"/> |
| d) acids turn Universal Indicator purple. | <input type="checkbox"/> | <input type="checkbox"/> |
| e) acids react with alkalis in a combustion reaction. | <input type="checkbox"/> | <input type="checkbox"/> |
| f) corrosive acids and alkalis eat away your skin. | <input type="checkbox"/> | <input type="checkbox"/> |



4. *Universal Indicator* is one of a number of indicators that can tell us whether a substance is acid or alkaline.

a) Name one other indicator and say what colour it turns in an acid and an alkaline solution.

b) Why is Universal Indicator more helpful to us?



5. Fill in the following sentences using the words from the box below.

- a) Solutions of substances in water are called aqueous solutions. An aqueous solution may be acidic, or neutral. Water itself is
- b) An can be used to show how acidic or alkaline a solution is by the way the changes.
- c) A neutral solution turns indicator, a very acid solution, and a very alkaline solution
- d) The scale is used to show numerically how acidic or alkaline a solution is. If the pH=..... the solution is neutral, if the pH is over 7 it is and if it is less than 7 it is
- e) If a solution has a pH of 6 it is classified as a acid. If a solution has a pH of 14 it is classified as a alkali. If a solution has a pH of it is classified as a weak alkali. If a solution has a pH of it is classified as a strong acid.
- f) Salt solutions are usually with a pH of 7 and turn universal indicator and so we can safely bathe in the sea.
- g) Chemicals such as acid are a acid with a pH of and are
- h) A fizzy citrus drink will turn universal indicator to an colour.
- i) A solution of vinegar has a pH of 3 and is classed as acid.

1	1	7	9	acidic
alkaline	alkaline	colour	corrosive	dissolved
green	green	hydrochloric	indicator	neutral
neutral	orange	pH	purple	red
strong	strong	universal	weak	weak