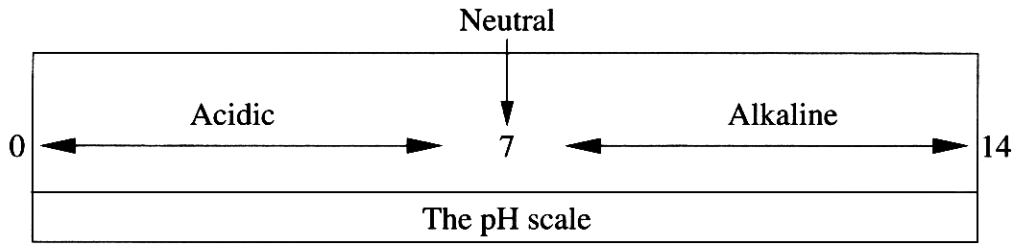
Marks

Question 26 (5 marks)

The following is an extract from a gardening website. **5**



> Hydrangeas are amazingly versatile in that you can alter the flower colour by changing the pH of the soil. In acid soils, hydrangeas produce blue flowers. In alkaline soils, hydrangeas produce mauve, pink and red flowers.

Describe a first-hand investigation that could be used to verify the effects of pH on the colour of hydrangea flowers.

Aim: to verify the effects of pH on hydrangeas

Variables: Independent - pH

Dependent - flower colour

Controlled - water, temperature, light, time, soil type, exposure to wind

Method: 6

1) Plant 5 different hydrangea plants in exactly the same conditions.

2) For the first two pairs of plants, add 5mL of 0.01M HCl & 0.01M NaOH to each pair respectively & label.

3) Leave the last pair of plants as a control.

4) Leave plants in same conditions for a week.

5) Record any changes in flower colour.

6) Repeat the above for accuracy