ACTIVITY 2 :- WATER SAFETY DETECTOR

STAGE 1: RESEARCH

Referred sites :- [senorex.com](http://senorex.com)

When measuring the quality of water, pH is one of the first measurements that you should take. The pH of water is measured with a simple pH sensor or test kit, which will tell you how acidic or basic the water is. Acidic water will invariably be composed of more hydrogen ions . On the other hand, basic water contains more hydroxyl ions which is more hazardous to used to even wash clothes and face

It’s possible for pH levels to range from 0-14. If you receive a reading of 7.0, this means that the water is neutral. Any readings below 7.0 are acidic, while any readings above 7.0 are alkaline. Pure water has a neutral pH. However, rainfall is somewhat more acidic and typically has a 5.6 pH. Water is considered to be safe to drink if it has a pH of 6.5-8.5. Mildly acidic water like ph 5.5-6.5 can be used to wash clothes, and can be used in daily life. Ph range above 8.5 can't be used for either.

STAGE 2 : ANALYSIS

Ph analysis for water detectors can be given as. Ph scale has 0 to 14 readings in which the data is of acidity basicity and neutral is as follows.

| Ph <7 | ACIDIC |
| --- | --- |
| Ph=7 | NEUTRAL |
| Ph>7 | BASIC |

Now in this we will discuss what pH of water can be used to wash clothes, face, body without causing irritation and which water is safe to drink.

| Ph range between 5.5 to 6.4 | Mildly safe, can be used for washing clothes |
| --- | --- |
| Ph range between 6.5 to 8.5 | Safe, can be used for everything. |
| Ph range between 8.6 to 9 | Used for cleaning purposes only |
| Ph range between 9.1 to 11 | Hazardous to health |

STAGE 3:- IDEATION:

Due to a lot of health problems occurring nowadays due to impure water either having less pH or more pH causes skin irritation and neurological issues hence we should use water safety detectors.

Algorithm

1. Start
2. Read input values
3. If ph value range from 5.5 to 6.4 display Mildly safe, can be used for washing clothes
4. Else if ph range from 6.5 to 8.5 display Safe, can be used for everything.
5. Else if ph range from 8.6 to 9 display Used for cleaning purposes only
6. Else if ph range 9 to 11 display hazardous to health
7. Else display input invalid
8. stop

STAGE 4:- BUILT

#include <stdio.h>

int main() {

float ph;

printf("enter ph value :");

scanf("%f",&ph);

if(ph >=5.5 && ph <=6.4){

printf("Mildly safe,can be used to wash clothes");

}

else if(ph >=6.5 && ph <=8.5){

printf("safe to everyday use");

}

else if(ph >=8.6 && ph <=9){

printf("used for heavy cleaning purposes only");

}

else if(ph >=9.1 && ph <=11){

printf("hazardous for health");

}

else{

printf("invalid");

}

return 0;

}

STAGE 5:- TEST

enter ph value :4.2

invalid

enter ph value :6.1

Mildly safe,can be used to wash clothes

enter ph value :8.8

used for heavy cleaning purposes only

enter ph value :10.6

hazardous for health

STAGE 6:- IMPLEMENTATION :-