Which fruits can power a light best from the acidic level in them essay sample

MATERIALS

1. copper electrode

2. zinc electrode

3. multimeter capable of measuring voltage

4. flashlight light bulb 1. 2 volts

5. screw base or socket for light bulb

6. wires

7. aligator clips

8. board for mounting the base or board

9. 2 lemons

10. 2 grapefruit

11. 2 bananas

12. 2 limes

PROBLEM/QUESTION

To determine which fruits will generate enough electricity to light a light bulb and to see which fruit will light a bulb the longest.

Can fruits produce electricity to light a light bulb?

I think that citrus fruit can produce electricity but not enough to light a light bulb of 1. 2 volts.

Research

My experiment was to see of you could produce electricity from fruits. I got electricity out of grapefruits, lemons, limes, and bananas. It took me about an hour or two to get this experiment but to get all the typing and to decorate my board it will probably take me about 2 hours.

I have also found out that certain fruits contain substances such as ascorbic acid, citric acid, and NADH.

The fruit with the citric acid is the type of fruit I used. citric acid seemed to produce a lot of electricity but not enough to light a light bulb.

in order to power a light bulb you will need both voltage and current. When connect fruit in parallel, it gives you a higher current. Connect the fruit in series arrangement it increase the voltage.

Voltaic Battery Test Results

Grapefruit

1.. 10 volts

2.. 12 volts

3.. 15 volts

The grapefruit with the most volts will not produce light

Lemons

1.. 40 volts

2.. 35 volts

3.. 35 volts

One lemon does not light a bulb. When 1 and 2 are in series it contains . 45 volts.

Limes

1.. 25 volts

2.. 20 volts

3.. 20 volts

When 1 and 2 are in series it contains . 30 volts

Bananas

1.. 25 volts

2.. 20 volts

3.. 25 volts

When 1 and 2 are in series it contains . 30 volts

Conclusion

From January 30th to March 30th I've been experimenting with a science project on " Can fruit produce enough electricity to light a light bulb". Through my experiment I have found out that a lemon produces the most amount of electricity (. 40 volts).

The banana and lime both had 25 volts. The fruit with the least amount of electricity was the grapefruit (. 10 volts). When I finished my experiment I also found out that none of the fruits could actually light a light bulb.

If I did this project again I would use an LED light, clock, or calculator instead of a light bulb. Another thing I could try would be to compare vegetables to fruits. Fruit produces a small amount if current, not enough to light up a light bulb, even with multiple fruits attached together. Vegetables, especially potatoes, may have higher current than fruit.

PROCEDURE

1. I inserted the copper and steel plate into each fruit then I connected heads to each and measured the voltage of each fruit.

2. I recorded the data.

3. I connected alligator clips to the light bulb, tested all fruits.

4. I recorded the results of how long the bulb stays lit.

5. If the bulb does not light up we will connect more fruits together to produce more electricity.

6. Record all the data.