Dissolving Sugar

Aim: To find out how quickly different size sugar grains dissolve in water

Hypothesis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Materials:

* Icing sugar, white sugar, sugar cube
* Stop watch
* Stirring rod
* Electronic balance
* Spatula
* Measuring cylinder
* Plastic pipette
* X3 beakers (medium)
* X3 beakers (small)

Method:

1. Using a measuring cylinder, fill 3 medium sized beakers with 100ml of water
2. Using an electronic balance, weigh a sugar cube in a small beaker and record its weight (be sure to zero the beaker, we only want the weight of the sugar cube)
3. Using a spatula, weigh **the same amount** of icing sugar into one small beaker and white sugar in the other. Record these exact weights into your table
4. Start the stopwatch at the same time you add the sugar into the large beaker of water
5. Stir slowly at a constant rate *(do not crush the cube)*
6. Record the time it took for all of the sugar cube to dissolve
7. Repeat steps 4-6 for the other two sugars

Results:

1. Complete the following table

|  |  |  |  |
| --- | --- | --- | --- |
|  | Icing Sugar | White Sugar | Sugar Cube |
| Weight (g) |  |  |  |
| Time (sec) |  |  |  |

1. On the graph paper provided, draw a bar graph displaying these results

Discussion:

1. Which sugar dissolves the fastest and which is the slowest
2. What is a control variable? List all of the control variables
3. Explain the difference between a dependent and independent variable
4. What is the thing we changed on purpose? What type of variable is this?
5. What is the dependent variable in this experiment?

Conclusion: Write one sentence relating back to your aim

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