

MRB 1 Iniúchadh Turgnamhach Sínte

Does a larger volume  
water stay warmer for  
longer



Research and  
planning

## MRB 1 Iniúchadh Turgnamhach Sínte

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### My Experiment

- The experiment is to figure out “does a larger volume water stay warmer for longer ??”. This is related to cup of tea: if you leave a cup of tea for a while and come back it is usually colder
- Our experiment is to figure out if we leave a small cup and a large cup which one stays warmer the longest

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### Our inspiration

- I made myself a cup of tea and brought it upstairs then I realized I didn't unplug the kettle so I left it upstairs and I went back down and unplugged the kettle . Unfortunately by the time I went back up my tea was cold and wasn't as nice .
- The point of the story is it got us thinking , “if my cup was a smaller would it have kept more heat “

### Planning

- We need to know the measurements and variables : our variable was the different water measurements. We decided 300 ml and 600 ml and 10 minutes as measurements.
- What we were going to use as an substitution for the tea , we didn't use tea as it was more cost affective to use water .

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### Safety

- During our experiment we were working with electrical appliances and boiling hot water . We needed to be careful boiling the kettle and pouring it . The correct way to do it was boil the water then carefully lift and pour it directly into the beaker

### Possible Variables

- **Amount of water** : this was the variable we chose , we did 300ml and 600ml per beaker .
- **Amount of time we boiled it for** : we chose 10 minutes for both beakers but we could have done different amounts of time eg . 5 , 15, 7 minutes .

1. Tugtar breac-chuntas ar chúinsí sábháilteachta nach mór a chur san áireamh.

2. Sainithnítear athróg atá le tomhas.

3. Sainithnítear an dara hathróg, ach tá sí mícheart. Scríobhtar 'fiuchadh' nuair is léir ón modh gur 'fágadh' atá i gceist.



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### Equipment

- We used a kettle to boil the 300ml and 600ml of water to begin with .
- A timer set to 10 minutes .
- Beakers to hold the water and the thermometer to go see the beginning and end temperatures
- And water to boil .

### Hypothesis

- My hypothesis was the larger beaker contained warmer water longer than the small beaker because the large beaker has more water , more heat and if my hypothesis is correct that means the heat left at the same gradual speed in both beakers . If that is the case the larger beaker needs more time to dispose all the heat since there's more .

4. Ceaptar hipitéis is féidir a thástáil agus cosnaítear í.

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Measurements  
1. 300ml Beaker  
2. 600ml beaker  
3. 10 minutes



5. Déantar cur síos ar mhodh sábháilte chun sonraí a bhailiú.

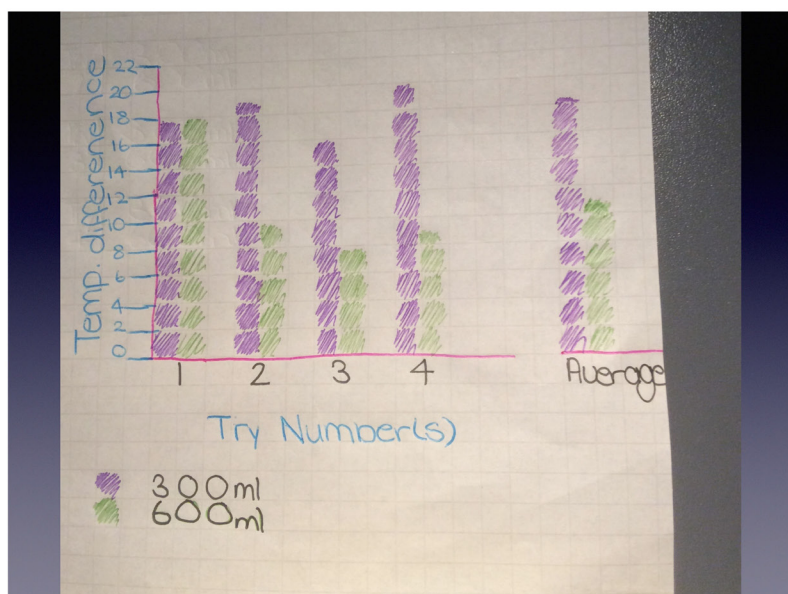
### How we obtained Our Results

- We boiled the kettle and prepared the timer for 10 minutes
- We poured the water into the beakers into a 300ml and 600ml high .
- Watched it and found the highest temperature point and then waited 10 minutes and found out how much the temperature decreased.

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### Data and results

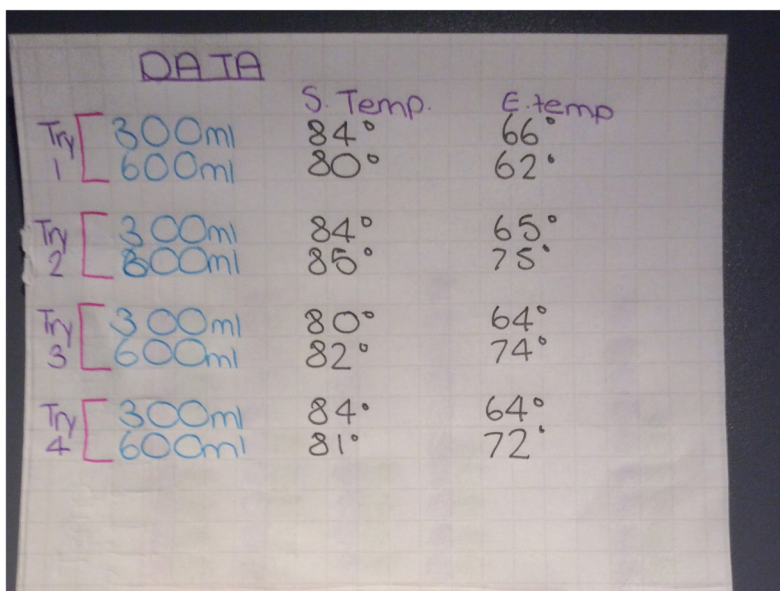
6. Léirítear torthaí ar chairt shimplí ach ní thugtar aonaid.



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## Our results

- We did 4 of each test (both the 300ml and 600ml) . As you can see by the bar chart there was less heat on lost in the 600ml and more heat lost in the 300ml . That diagram illustrates the difference not the start or end temperature. There was an average difference of 7\* (18.25-11.25) .



DATA		
Try	S.Temp.	E.temp
1	300ml 84°	66°
	600ml 80°	62°
2	300ml 84°	65°
	600ml 85°	75°
3	300ml 80°	64°
	600ml 82°	74°
4	300ml 84°	64°
	600ml 81°	72°

7. Luaitear gaol idir athróga.

8. Taifeadtar sonraí loma.



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### The data

- The way we recorded our data was we wrote down the highest point of each trial and its temperature after we left it and the thermometer alone for the 10 minutes we then calculated the difference and wrote out our own personal bar charts .

### Analysis

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### What id do differently

- I'd hope to get more planning done , by figuring out the best time space and water measurements .
- More time for more try's to get the most accurate and correct results
- To have more time to work on my write up .
- To achieve any of these myself and my group would need to more time efficient

### Conclusion

- To base my results we have discovered that the larger amount of water could keep more heat referring it back to my inspiration the cup of tea . If you want to come back to your cup of tea your better of to have a bigger cup of tea for it to stay warm

9. Moltar roinnt feabhsuithe.

10. Ceanglaítear na torthaí leis an hipitéis tosaigh.

**Breithiúnas ar an iomlán:**  Ag teacht leis na hionchais