



Testing if daytime and night affect how many aerosols appear

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Abstract

- my research was is there a difference in aerosol particles during daytime and nighttime? My hypothesis was that there would be more aerosols in The daytime because of activity. I find aerosols really interesting that's why I wanted to do this experiment . Are used aerosol traps to collect my data. Then proceeded to fill out aerosol sample grid. My end result is That there are more aerosols at night then in the day.

Research Methods

Planning Investigations

Describes the planning process

My idea for investigation is to put my aerosol traps out at It's designated time. With an aerosol trap can be easily made .With cardboard ,parchment paper ,and clips. I will be using the aerosols to find out if there's truly a difference between day time aerosols and nighttime aerosols.It would be very important for me to keep the time relatively the same and I put them out and I take them in and I put it would be very important for me to keep the time relatively the same. NASA's research helped me a lot. They also gave me a valid Source to collect some information from. My investigation took place at my house in Mansfield Ohio. The data was taken in the same place .There will be six data collected in total. After Collecting the aerosol trap proceeds to fill out the sheet. I plan on Calculating and putting all my data together at the end.

Carrying Out Investigations

Describes what *actually* happened

I carried out my On November 24 2020 I put out my first aerosol trap. It is slightly cold outside. Then after that I proceeded to put a second one out for night time. I wanted to make sure that I did my research on the same days. Making sure if I put an a.m. trap out after I would put my PM trap out. It was really important that I did it at the same time of day and collected my data at the same time a day. This was important to me because it is very important to keep all dependent variables the same in one of the dependent variables is the time of day,There were a few of them but I couldn't control. Such as the weather when putting out my third trap it proceeded to start snowing throughout the day. It was difficult to find a day that it wasn't raining or snowing. When finished I collected a total of three data sheets for both daytime and nighttime.The experiment took place at my house. To be more Pacific The yellow dot on my site map. I didn't when all the data was collected I analyzed and calculated the average.

Figure #1



Results

Analyzing Data

My results show that there's a difference between Daytime and nighttime aerosols. My graph Shows that nighttime has a higher rate of aerosols than daytime. My research question Is there a difference in aerosol particles during daytime and night time?question which was was answered. Yes, there are more hairstyles in the night. As shown in the bar graph call on my first data collection there was a significant difference. There is 17.2 percent difference. I noticed that in the second In the second and third data collection there isn't as big as a difference as the first.

Figure #2

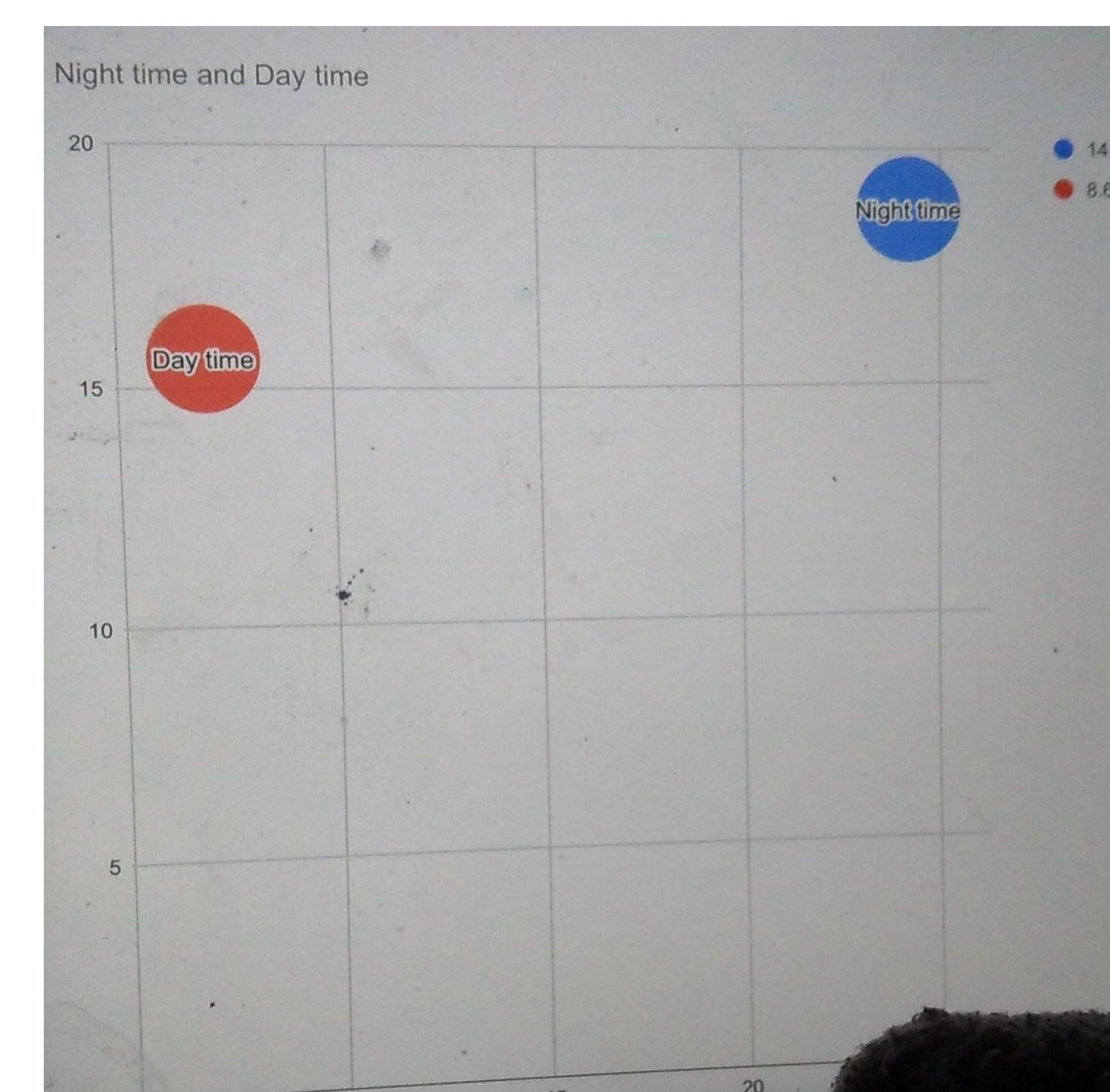
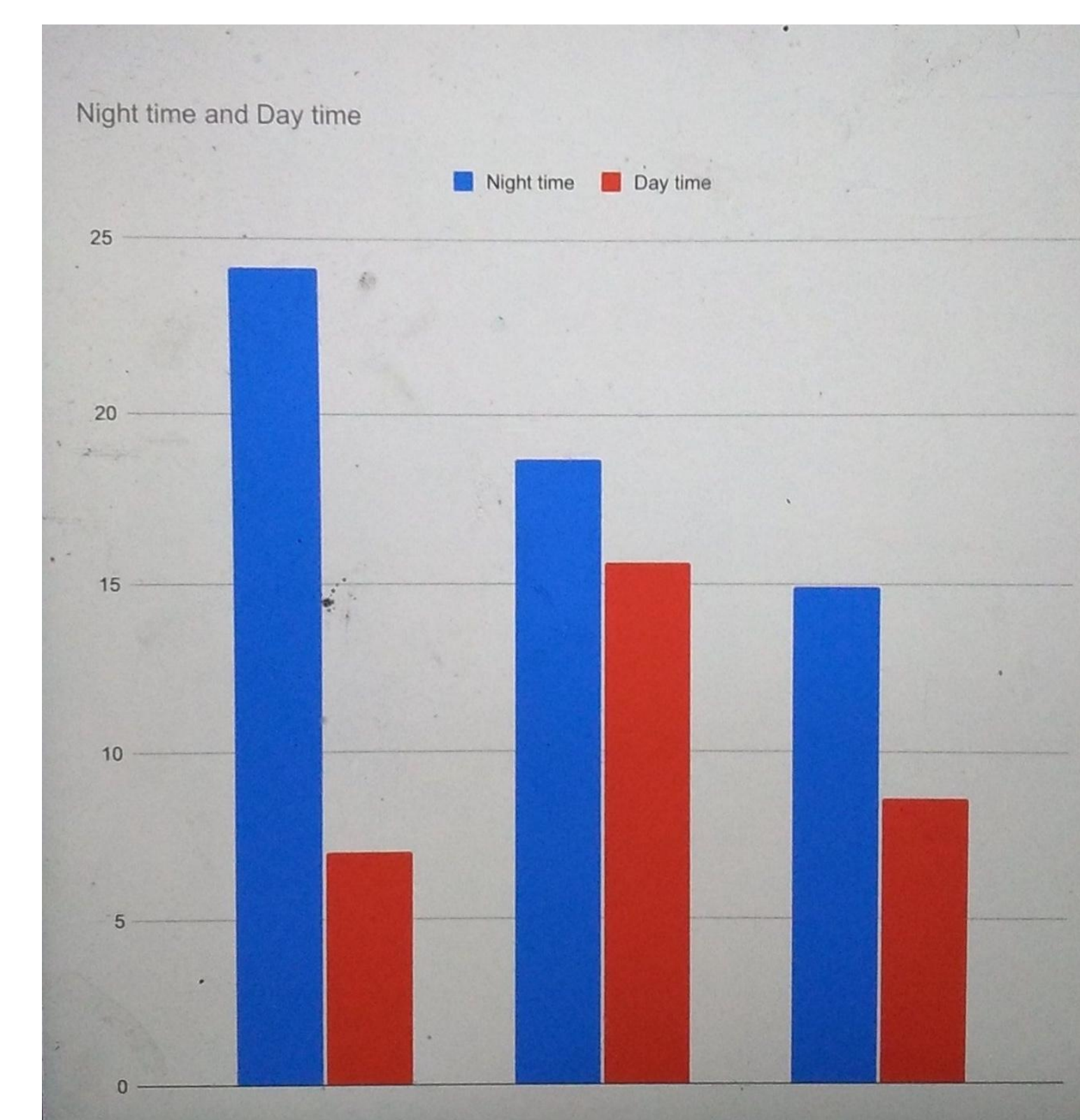


Figure #3



Discussion

Interpreting Data

The most important result is the difference in both of my experiments. There is a clear difference looking at the graph. My results mean that there are more aerosols at night then day. It also means that my hypothesis was incorrect. There would be more aerosols in the day because of the activity. My research helps us know when aerosols are most likely rapid. It also can give us a better understanding of global warming and how it works. To make my research more accurate there would need to be more testing done and making sure everything is Constant. NASA has done a view test on this topic. Usually if NASA measures night aerosols it's to measure the dryness. One NASA article states The reasoning behind more aerosols in the nighttime is because of the humidity and growth of hygroscopic aerosols .This growth ends up trappy heat and causing surface radiation in the mornings. My results answer my research question: Is there a difference in aerosol particles during daytime and night time?I predict there will be more during the day. By finding and collecting data to then study and examine. Then finding out my results and conclusion. I can answer my research question with the data I have collected. There are more aerosols during the night than during the day.

Question/Hypothesis

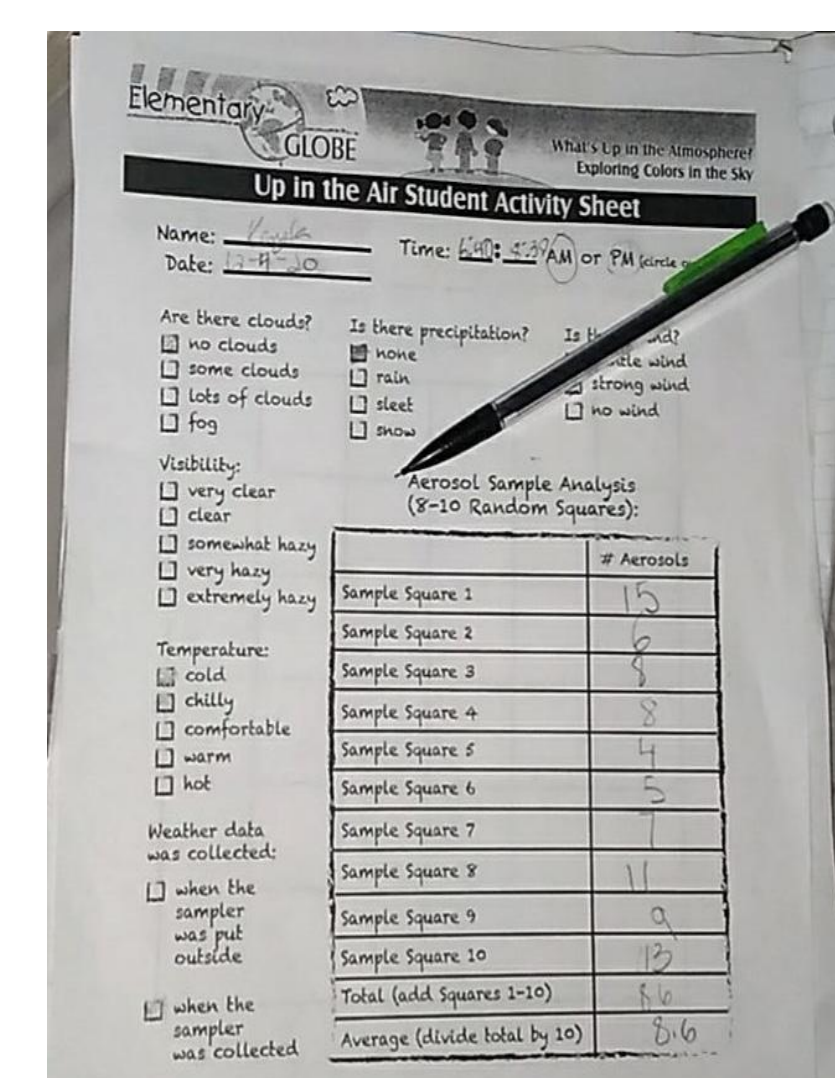
Asking Questions

My research asks: Is there a difference in aerosol particles during daytime and night time? I predict there will be more during the day. I think because of the weather and it's snowing in winter that it will be a little difficult to go through with my experiment. I know I'll make the best out of it though.This research question can help scientists study and find out if more aerosols can potentially change the weather or affect the earth's aerosphere .I am interested in this project because I find a resource really intriguing. When we were setting up for this project I thought to myself what would be a good question and what is something that I want to research and find more about this topic. I honestly think this should be looked in more. I am very interested to see what the end result will be. It is also really important that all my variables stay the same.

Introduction

Content Knowledge

- The air is felt with millions of solid particles and liquid droplets. These small fragments of stuff in our air are known as aerosols and they can be found everywhere. Aerosols can manage how much energy from the sun reaches Earth's surface by affecting the amount that is taken into the atmosphere. My research questions if there are more aerosols during the day or night. I think my research can help scientists have a better understanding of how weather works and how aerosols play a big part in climate.



Aerosol catcher tra

Conclusions

Drawing Conclusions & Next Steps

My conclusion is that Nighttime has more air sauce than daytime. My results support my conclusion. After a long time calculating all the average results I put all my data in a chart .On the other hand my hypothesis is the op my hypothesis was that I predicted that there would be more aerosols in the day time because of the activity throw the day . I collected 3 data sheets for both experiments 6 in total. I think NASA should do more test or look into this. I I think that is great that I had an opportunity to do this and maybe help out.

Bibliography

References

- <https://earthobservatory.nasa.gov/features/Aerosols>
- NASA.gov