



Scientific Inquiry Mission Folder Score Range – 201-300

Team Collaboration

How was your team formed? Was your team assigned or did you choose to work with each other?

Our team was pre-chosen for us, but we got two extra people, from our 7th grade biology class, who did not sign up for the ECybermission.

Provide a detailed description of each team member's responsibilities and jobs during your work on the Mission Folder.

Student 1- Her job was to experiment on all blonde heads. She had to keep up with her own timer and her own data.

Student 2- His job was to experiment on all brown heads. He had to keep up with his timing, and his data.

Student 3- Her job was to experiment on all black haired. She had to track her time and update her data.

Student 4- His job was to help anybody who needed help with their time keeping or data recording.

Did your team face any problems working together? If so, how did you solve them? If not, why do you think you were able to work together so well?

Our team faces a bit of agreement problems. We ended up having to have a partner replaced but after that problem was taken away, our group made a new experiment idea and agreed on it. Therefore, we all worked together and were assigned a specific job.

What were some possible advantages to working together as a team on this project? How would working as individuals have made this project more difficult?

Working as individuals could have made this project more difficult because of the fact that, without a group, all 10 tasks was going to have to be done by one's self.

Use of Scientific Inquiry

What problem in your community will your team be investigating through scientific inquiry using scientific practices? Specifically, based on this problem, what question will you be trying to answer?

The question we are trying to answer is, does your hair color affect the way static electricity reacts?

Research your problem. You must learn more about the problem you are trying to solve and also what testing has already been done. Find AT LEAST 10 different resources and list them here. They should include books, periodicals (magazines, journals, etc.), websites, experts, and any other resources you can think of. Be specific when listing them, and do not list your search engine (Google, etc.) as a resource.

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What did you find out about your problem that you didn't know before? What kinds of experiments have been done by other people before you? Be sure to put this in your OWN words, do not just copy And paste information. Also, be sure to cite your sources.

Based on research, our group figured out that tests have been done with this, but some think that it's just the properties of your hair not the color. I did not know that the lighter your hair, the more energy will attract to your hair.

Based on the question you are trying to answer, and your research, what is your team's hypothesis for this investigation? Be sure to include the independent and dependent variables and how they are related along with evidence of your research.

If hair colors are tested, then the blonde haired people will produce more static electricity because it's a light color.

Identify the independent and dependent variables in your investigation.

Our dependent variable is the amount of static electricity

Our independent variable is hair color.

What are the constants in your investigation?

Our control is the same amount of people tested.

Another control is the balloons will be the same size.

Will your investigation have a control group? If so, describe the control group. If not, why not?

No, we just need people with different hair colors and there are plenty of people with different hair colors already.

List all of the materials you used in your experiment. Be sure to include all physical materials as well as any technology or website used to collect data (not websites you used in your research).

Our materials are:

-2 blonde haired volunteer

-2 brown haired volunteer

-2 black haired volunteer

-3 balloons

-timer



Explain your experimental process. Be sure to list all of the steps and ALL SAFETY PRECAUTIONS for your experiment. Remember to write it so someone else could follow the steps and recreate your experiment.

1. Blow up 3 balloons
2. On your sheet of paper, draw a data table with 6 boxes.
3. Label the first 3 boxes " Time 1, Time 2, Time 3 "
4. Label the last 3 boxes " Brown, Blonde, Black "
5. Go and gather 2 volunteers with each hair color
6. Set up a timer for 30 seconds.
7. Instruct your first volunteer to rub a balloon on their head for 30 sec
8. Then reset the timer, and place the balloon on the wall
9. Once the balloon is stuck on the wall, Start an stopwatch timer and watch how long the balloon sticks.
10. When it falls, stop the timer and record the data.

Present the data you collected from your experiment. Be sure to include all of the data you collected from your observations and measurements. Use of graphs and charts is HIGHLY encouraged. Explain how your data supports or refutes your hypothesis.

When the data was gathered, black haired people collected the most static electricity. Our group hypothesis was unfortunately wrong. We thought that the blonde haired people would collect the most, but it turned out to be the black haired people.

What are your potential sources of error? Remember, this doesn't mean "Did everything work?", all tests have potential sources of error, so make sure you understand what that means. Explain how these sources of error could have affected your results.

Our potential sources of error, was that a lot of balloons ended up not sticking at all. Therefore, we needed more than 6 volunteers.

What conclusions can you draw based on the data you gathered during your experiment(s)? Be sure to include data and how it relates to the experiment(s) and the original question. Your conclusion should be related to your original problem and your experiment, include the data you collected, and discuss if your hypothesis was supported or refuted by your experiment.

The data concluded that when your hair is black, electricity attracts to it more than other hair colors. We thought that the blonde haired people would collect the most, but it turned out to be the black haired people.

Benefit to the Community

Explain how investigating the problem your team chose will help the community. Be sure to include the impacts your research will have on individuals, businesses, organizations, and the environment in your community (if any). Make it very clear why solving this problem would help your community.

It can help people be more aware of the static that could shock them when they put a certain color in their hair or if they're born with that color of hair.



Abstract

Our group project, was based on testing to see what out of 3 specific hair colors would static electricity be more attracted to. In this project science, and mathematics is used. Science is used because of the static electricity topic being covered. Mathematics is being used because of the calculations of the time and data. This project should take no longer than maybe about 15-20 min to really collect data. Static electricity is very important to know about because at any time, a human being could randomly get shocked. People need to know this experiment because of the non-awareness of the amount of shock a person can receive.