**Conclusions**

Conclusions are a very important part of the scientific process; it is a chance in which you as a scientist are able to display your results to others in a clear and concise way. Conclusions that are unclear or not complete do not display the full knowledge that you have of the experiment, thus it is paramount that you write good conclusions. This activity will help you do so.

Conclusions start with a claim that you are then going to back up with data. This is followed by a brief explanation of what you did which helps you validate your claim. Then you need to back up your claim with your significant results from the experiment. Finally, you relate what you were doing to the purpose of the experiment; this allows you to relate back to the start of what you did and give you validation for what you did in the experiment.

 **Part 1: Evaluating a claim with data.**

Directions: Next to each statement decide whether the statement is a valid claim. Keep in mind, a valid claim must have data to back it up. Circle your choice and provide reasoning for why you chose the answer you did.

1. **Valid/Invalid** The tree is tall.
2. **Valid/Invalid** The car is fast traveling at 110 miles/hour.
3. **Valid/Invalid** The television is very wide.
4. **Valid/Invalid** Ursa Major is found in another galaxy.
5. **Valid/Invalid** There are 31 people in this class which makes it a large class.
6. **Valid/Invalid** Music can be heard at 36 hz by the human ear.
7. **Valid/Invalid** The windows are see-through.
8. **Valid/Invalid** The pie in the oven is hot.

**Part 3: Write your own conclusion**

Question: Do red or blue cars drive faster on Highway 3?

Procedure: A student sat on the side of the road and calculated the average speed of all red and blue cars that drove past.

Results:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Car Color | Speed (m/s) |  | Car Color | Speed (m/s) |
| Red | 45  |  | Blue | 49 |
| Red | 49 |  | Blue | 49 |
| Red | 55 |  | Blue | 55 |
| Red | 46 |  | Blue | 52 |
| Average  | 48.75 |  | Average  | 51.25 |

**Write a conclusion based on these results and based on what we talked about today during class. Keep in mind the following while writing the conclusion.**

* Answer the experimental question.
* Include **supporting** data from the data table.
* Explain how these data **support** your conclusion.
* Provide a **scientific** explanation for the trend in the data.

# \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_