

Components of a Scientific Conclusion

- Answer the investigative question in a general way, using the words from the question in your answer if possible: What happens to the brightness of a bulb when you change the length of wire in a closed circuit? “When the length of the wire changes in a closed circuit the brightness of the bulb changes.”
- Provide evidence from your observations or tests. Include:
Qualitative data (for example, more/less; longer/shorter; brighter/dimmer): “The bulb was brighter with shorter wire and dimmer with longer wire.”
Quantitative data (measured data): “For example, with 10 cm wire, the bulb brightness was 9. But with the 30 cm wire, the brightness was only 7.”
- Make a concluding statement(s) that is based on the evidence: “Therefore, the shorter the wire the brighter the bulb.”
State the relationship: “This is an inversely proportional relationship.”
- Refer to your prediction. Did your data support it? If they did not, how has your thinking changed? “The data did not support my prediction because I thought that the bulbs would have the same brightness. I didn’t think the length of the wire would make any difference. Now I know that the length does have an effect.”
- Make an inference about what you think caused these test results: “I think this happens because longer wire has more resistance than shorter wire.”
- If you had data that were different from what other groups had, what do you think could have caused these results? “I think my group got different results because we used a different type of wire than the others did. We should have kept that variable the same as everyone else.”
- What other questions do you have now that you want to investigate? “What would happen if we used wires of different thicknesses?”