

# Writing conclusion paragraphs in a science lab report

A **conclusion paragraph** contains a description of the purpose of the experiment, a discussion of your major findings, an explanation of your findings, and recommendations for further study.

Address the following points in paragraph form (don't just number off and answer each question)

1. Restate the overall purpose of the experiment (include IV and DV in this sentence.)

**One format:** The purpose of the experiment was to investigate the effect of the (IV) on the (DV)

**Example:** The purpose of the experiment was to investigate the effect of stress on the growth of bean plants by comparing the growth of bean plants subjected to stress for 15 days with a control (non-stressed plants.)

2. What were the major findings? (Summarize your data and graph results)

**Example:** No significant difference existed between the height of stressed plants and non-stressed plants. As the graph shows above, the average height of all the stressed plants was 10.2 cm and the average height of all the non-stressed plants was 10.4 cm.

3. Was the hypothesis supported by the data?

**One format:** The hypothesis that (insert your hypothesis) was (supported, partially supported, or not supported.) Please do not ever use the word "prove" – we do NOT prove hypotheses true in science.

**Example:** The hypothesis that stressed plants would have a dramatically lower mean height was not supported.

4. How could this experiment be improved?

**Example:** This experiment relied on an artificial source of stress – just digging out the plants at one time and replanting them. Perhaps this experiment could be improved by simulating real-life stressors, including drought and lack of nutrients in soil.

**NOT acceptable:** This experiment would have been better if we had done it correctly – we did sloppy work and made careless measurements.

5. What could be studied next after this experiment? What new experiment could continue study of this topic?

**Example:** Additional investigations using various sources of stress at more frequent intervals would be a good additional experiment. Also, other crops could be subjected to the same experiment, such as corn and squash. Perhaps scientists could find a chemical that the plants release during stress.

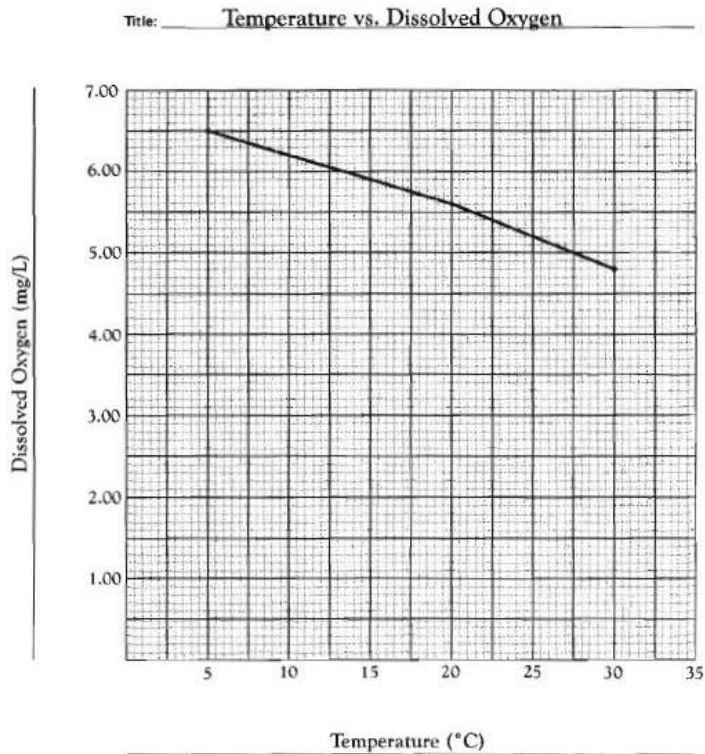
## Rubric for conclusion paragraphs in lab reports

Purpose restated	
Major findings stated, refers to graph or data table	
Revisits hypothesis (supported or not supported)	
Suggests improvement to lab procedure	

## Sample conclusion paragraph

*Experiment:* Mr. Bleier is trying to create the best environment for his fish in his aquarium. He wants to figure out the relationship between the water's temperature and the amount of oxygen dissolved in it (fish need enough oxygen to breathe through their gills in the water).

He sets up an experiment where he uses ice and a hot plate to make different temperatures of water, then measures the amount of dissolved oxygen present in the sample (with a chemical set). **Hypothesis:** Oxygen levels will increase in warmer temperature water.



### Conclusion paragraph:

The purpose of this experiment was to see the effect of changing water temperature on the amount of dissolved oxygen that it carries (1). As the graph shows above, the coldest temperature water had the most oxygen in it – about 6.50 mg / L at 5°C. The warmest temperature water had the least oxygen in it – and the trend seems to be linear – as the temperature increases, the amount of available oxygen decreases (2). This data contradicts my original hypothesis (3). In this lab, we had trouble maintaining a temperature long enough to test it accurately (the water would warm up as we went through the oxygen testing procedure). Perhaps future tests could be done more quickly to prevent temperature swings (4). Future experiments could test for other factors that affect oxygen levels in water – maybe adding plants to the aquarium could affect oxygen levels (when they make oxygen in photosynthesis) (5).

### Rubric for conclusion paragraphs in lab reports

Purpose restated	1
Major findings stated, refers to graph or data table	2
Revisits hypothesis (supported or not supported)	3
Suggests improvement to lab procedure	4
Suggests extension to lab	5

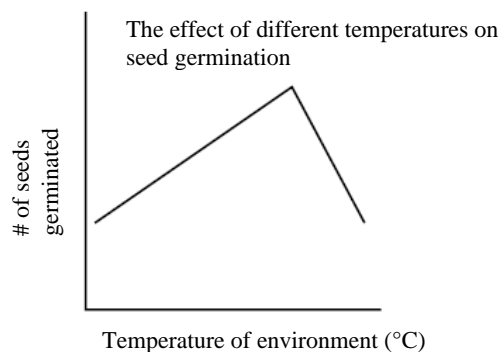
# Practice writing conclusion paragraphs

**Directions:** Write conclusion paragraphs for each of the following experiments. When you are finished, have a partner evaluate your conclusion by using the rubric below.

## Rubric for conclusion paragraphs in lab reports

Purpose restated	
Major findings stated, refers to graph or data table	
Revisits hypothesis (supported or not supported)	
Suggests improvement to lab procedure	
Suggests extension to lab	

1. **Hypothesis:** If the temperature is increased, then the average number of seeds that germinate will increase.



**Results Sentence:** As the temperature increased, the number of seed that germinated increased, but above 25°C the number of seed that germinated decreased.

**Conclusion Paragraph:**

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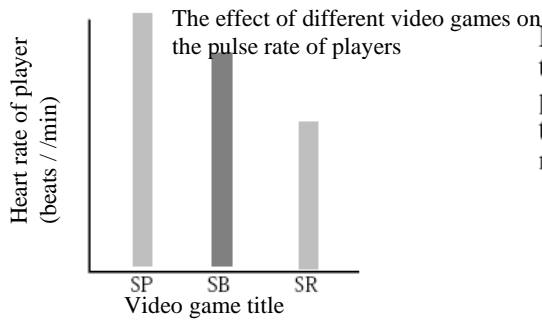
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2. **Hypothesis:** If different video games are played, then the pulse rate of the player will change.



**Results Sentence:** As the video games were played, the pulse rate of the player changed. Star-Pods produced the highest pulse rate, SpaceRace produced the lowest pulse rate, and ScooterBoy produced a moderate pulse rate.

**Conclusion Paragraph:**

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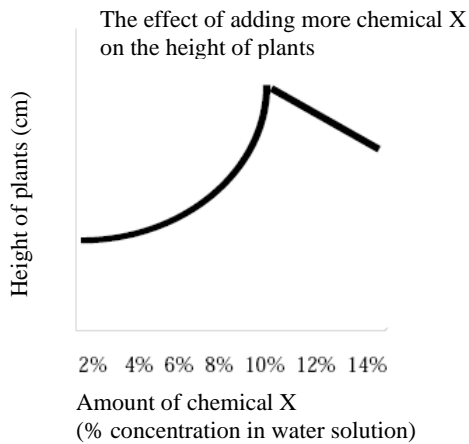
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3. **Hypothesis:** If the concentration of Chemical X is increased, then the height of plants exposed will increase.



**Results Sentence:** As the concentration of Chemical X was increased, plant height increased, but above 10 % concentrations, plant height decreased.

**Conclusion Paragraph:**

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