Guide to writing your CER

Claims, Evidence, Reasoning

CER Rubric

Table of Contents

9. Claims

A statement that answers the answers the question/problem.

- 1-2 sentences long
- Refers to the problem/question

The size of the bubbles increased.

When experimenting to find out how glycerin affects bubble size it was found that the diameter of the bubbles increased when the amount of glycerin in the solution increased.

9. Claims

Tips for a good claim

- Repeat the question/problem
- Use Comparative words such as
  - Increase/Decrease
  - More/Less
- Possible Sentence starter
  - When__(IV)_____ increased/decreased then_____(DV)_____ increased/decreased.

9. Evidence

- Scientific data that supports the claim.
- The data needs to be appropriate and sufficient to support the claim.
- Experiment described for evidence collected.

The largest bubble diameter is 10.2

See Next Slide

9. Evidence

The average diameter of ten different bubbles made from a solution of water, soap, glycerin where calculated for three different concentrations of glycerin, 2, 4, and 6 drops.

It was found out that the bubble solution with the largest amount of glycerin, of 6 drops, had the largest average bubble size of 9 cm. Compared to the smallest concentration of 2 drops with an average diameter of 8 cm.

9. Evidence

Tips for Writing the Evidence

- Pick 2-3 data points to compare from the beginning, middle, and end of your data set.
- Be sure to use the pair of IV and DV numbers.
- Make sure every number has a unit.
- Give a brief summary of your procedure (1-2 sentences).
- Possible sentence starter
  - According to the data when ___(IV#)____ was __(DV #)___ then the __(IV#)_____ was ___(DV #)____.

9. Reasoning

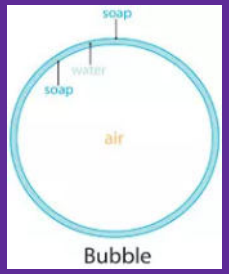
Part 1: A justification that connects the evidence to the claim and why it counts as evidence.

Part 2: Use appropriate and sufficient scientific principles to explain the connection between the results and scientific concepts. **THE SCIENCE!**

The largest bubble was the highest amount of glycerin because it is the strongest.

See Next Slide

9. Reasoning



The data shows that when the glycerin was the smallest at 2 drops it had a smaller bubble size, when the amount of drops increased to 6 drops the size of the bubble increased. The reason why an increase in glycerin causes an increase in bubble size is because glycerin adds strength to the bubble. The film around a bubble is like a sandwich made up of soap on the outside and water in the middle. The soap and glycerin stops the water from evaporating. When the water evaporates the bubble pops so when there is more glycerin less water evaporates and the bubble can get bigger. The glycerin in the solution helps keep the water from evaporating and the soap film stronger allowing the bubble to get bigger.