

CER Lab Reporting: Claim, Evidence, Reasoning

(Cats Eat Rats)

When scientists conduct experiments, they make observations and write down data in a neat, organized table. Quantitative data may need units included. After the data is collected, the scientist must analyze the data to determine if the hypothesis is supported or not. This may mean performing mathematical calculations (finding % change or % difference, calculating speed of a fall, etc) or it may mean making a graph.

In our science class, we will use the CER method of lab reporting. Reminder:

C (claim)—1 sentence that answers the original problem question, based on the data

E (evidence)—2-3 sentences that shows the claim is supported. It must use the actual data

R (reasoning)—a short paragraph that ties the evidence to the claim. It tells why the evidence supports the claim. It should also include some scientific principles that explain the results.

Read the following description of an experiment. Then on the back, complete the analysis of the data and write the CER. Then answer the questions.

A biologist thought that plants would not grow well if too many were planted in a limited area. His experiment consisted of 3 containers filled with equal amounts of potting soil. Into container 1, he placed one seed, in container 2 he placed 5 seeds, and into container 3 he placed 10 seeds. The containers were all then placed next to each other by a window. Each container received the same amount of water each day for 2 weeks. The biologist measured the average height of all the plants growing in each container every day. The data table is below:

Average Height of Growing Plants (in millimeters)

Container	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
1	20	50	58	60	75	80	85	90	110	120
2	16	30	41	50	58	70	75	80	100	108
3	10	12	20	24	30	35	42	50	58	60