<u>Scientific Explanations:</u> Claim, Evidence, & Reasoning

CLAIM: A testable statement or conclusion that answers the original question.

EVIDENCE: Scientific data that supports the claim.

REASONING: Justification (which means you have to back it up) that shows why the data counts as evidence which supports the claim.

So, you're still confused????

How about an example?

Consider that you just performed a lab experiment where you mixed yellow and blue food coloring and the result was green food coloring. Your C.E.R may look something like this:

Prediction: If I mix colors together then a new color will result.

C: When yellow and blue are mixed together they make the color green.

E: 10 ml of yellow food coloring was measured and mixed with 10 ml of blue food coloring which resulted (you ended up with) 20 ml of green food coloring. Three identical tests were done and they all resulted in green.

R: Observations were used to see that when yellow and blue were mixed together they made green. The fact that the experiment was done 3 times means that it is reproducible and accurate. Two different colors when mixed together do make a new color.

One more!

In Mrs. H's class we made SLIME. Even if you didn't know it, you were experimenting to prove your hypothesis!

Prediction: IF I mix water, glue, and mystery powder (borax) together THEN I will make a new substance (slime).

C: Combining glue, water, and mystery powder caused a chemical reaction which resulted in a new substance called slime.

E: I observed that a new substance was made because the substance that was created had very different properties from the original substances. Some of the new properties were: color change, texture change, cannot be separated, and it bounced.

R: I know that it made a new substance because I did the experiment. I believe it is a chemical change because it cannot be reversed. I observed all the changes myself and because other classmates did the same experiment with the same results it can be considered reliable and reproducible.