

CER CHECKLIST

There are SO many different ways to do one of these CER summaries of a lab. The general guidelines should be the same regardless of which class or teacher you have. Please use these guidelines to help guide you for what I am looking for in your chemistry class. If it is a little different than what you did in your biology class, or middle school classes, which is fine! Things sometimes look a little differently in a chemistry class due to the nature of what we are learning about! While there are general core ideas and cross cutting concepts across all disciplines of science, sometimes the specifics of how we do things, how we explain things, how we write things are different. That is part of what you are learning about!

C

CLAIM

- Does the Claim answer the question?
- The Claim should ONLY answer the question – make sure it does not have any evidence or explaining in the claim!
- Is the Claim more than a “yes” or “no” answer?
- Is the Claim a complete sentence?
- Is the Claim written in third person, lacking pronouns like I, we, you, me, etc.

E

EVIDENCE

- Is each piece of evidence actually relevant to the claim? You do not want to just list every piece of evidence! Only the ones related to the claim!
- Is there enough evidence listed to support the claim? Sometimes this may just be one piece, sometimes it may be several pieces.
- The evidence should ONLY be the observations and/or data from the lab – make sure it does not have any explaining in the evidence!
- Is the Evidence listed specific and not vague or a generalization?
- Is the Evidence written in complete sentences?
- Is the Evidence written in third person, past tense, lacking pronouns like I, we, you, me, etc.

R

REASONING

- THIS IS WHERE YOU EXPLAIN THE SCIENCE YOU ARE LEARNING IN CLASS AND HOW IT RELATES TO THE LAB!
- Is there a justification for how each piece of evidence supports the claim?
- The reasoning should not simply repeat the evidence- is there an actual link between the evidence and claim provided?
- Is the scientific principle explicitly mentioned and explained? Using scientific terms/vocab/etc? Underlining or highlighting these pieces is a great way to show that you are doing this part!
- Is it explained why the scientific principle explains/connects/supports the claim?
- Is the reasoning written in complete sentences?
- Is the reasoning written in third person, lacking pronouns like I, we, you, me, etc.

Example

C: The unknown metal object was found to be aluminum.

E: The density of the object was found to be 2.7 g/mL.

R: Density is an intrinsic property, which means that the density of a material is the same no matter what size or shape it is. The density of the unknown object was found by weighing it on a digital balance to find the mass, and then using the technique of water displacement to find the volume. The calculated density was found by using the equation $D = m/V$. The experimentally found density matched the accepted value for aluminum. The experimentally found density did not match the other potential metals so it can be determined that the unknown metal was aluminum since the density only depends on the identity of the metal, not the size or shape of the object.