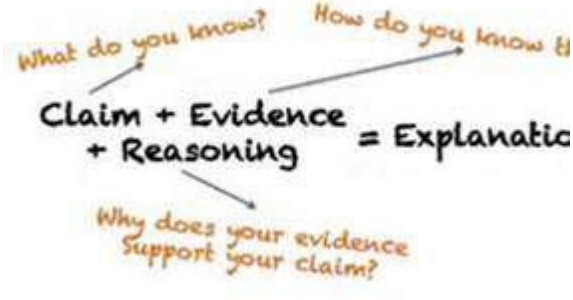
Claim Evidence Reasoning (CER) Practice

All good writing starts with an important statement or INTRODUCTION. This is often called a "thesis statement" or a "topic sentence". In science, it is often called a hypothesis. Any time you are writing, you need to begin by letting your reader know what the writing will be about. This will be useful for when we begin laboratory reports and are required to write an introduction to our investigation and a discussion of our results.

Example: (from www.am.dodea.edu)

CER (Claim, Evidence, Reasoning) is a format for writing about science. It allows you to think about your data in an organized, thorough manner. See below for a sample.

Claim: a conclusion about a problem
Evidence: scientific data that is *appropriate* and *sufficient* to support the claim
Reasoning: a justification that shows why the data counts as evidence tosupport the claim and includes appropriate scientific principles



Sample # 1

WHAT ARE FACTORS THAT AFFECT PLANT GROWTH?

Claim:
The rate of pumpkin plant growth increases as the temperature increases.

Evidence:
Our control group was growing at normal room temperature, while our experimental group was growing in a hot greenhouse for one week. Over the course of the week, we observed that the experimental plant was healthier looking, had more leaves, and grew taller than the control plant. The mass of the experimental plant increased from 10 g to 20 g, while the control plant increased from 10 g to 15 g. The experimental group grew from 14 cm to 18 cm (increase of 4 cm), and the control group grew from 12 cm to 14 cm (increase of 2 cm). The experimental plant got five new leaves and the control only got two new leaves.

Reasoning:
Pumpkin plants are sensitive to the temperature of their surroundings. All plants grow best within a certain temperature range (some plants would actually grow better in at cool temperatures than warm temperatures).
Maybe pumpkin plants originated in a habitat with a warm climate. Plants need energy to grow, and their energy comes from photosynthesis. Maybe pumpkin plants are able to do photosynthesis faster at warm temperatures, so they are able to grow more. I would have thought that the only factors influencing plant growth are water, sunlight, and soil nutrients, but this experiment illustrated that other factors can affect growth, too. I wonder if anything besides the temperature difference could affect the growth rate. Maybe there was more carbon dioxide in the greenhouse than the classroom. Maybe the glass window in the classroom filters out some kind of light that plants need, while the plastic greenhouse does not. There are some factors that we could not control, so I guess we don't know for sure that temperature was the ONLY difference.

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Homework Practice

Directions: Use the example on the previous page to help you practice your claims below. The table will help you organize your ideas then you will write the claim below it.

Question: Do you think that school days should be made longer?

Your Claim

Statement	
Why?	
General reasons	

NOW – PUT IT IN A SENTENCE – Your final CLAIM using the above information:

_____

_____

_____

Read the paragraph below and answer the question with a CLAIM using information from the paragraph as your reasons.

Teachers assign homework to increase kid's knowledge and help them practice skills. Homework sometimes reviews what students have already learned, helps them review for tests or prepare for a difficult lesson, or introduces an idea that will be discussed in class. Homework also provides an opportunity for parents to participate in their children's education. However, people who are against homework say that it is repetitive, boring and useless. It takes up kid's time without giving them much benefit. Kids today have many activities outside of school. It is difficult for families to put in the time it takes for homework to be done well.

SHOULD TEACHERS GIVE HOMEWORK?

Your Claim:

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