Agriscience Position Paper: C3/C4 Plants & Climate Change

***Name: Hour: Date:***

***Directions – READ THE FOLLOWING INSTRUCTIONS BEFORE DOING ANYTHING!:***

***1) Click “File” and “Save As”. Save this file to your class’s folder in the R:Common Drive Agriscience Folder as “Your Last Name C3 C4”.***

***2) Add your name, hour, and date to the space above.***

***3) In the spaces below, replace each line with the information it is requesting (e.g. begin with a definition of climate change that you are paraphrasing from a credible .gov or .edu website). Keep the blue headers so that each section is separate from each other.***

***4) When you have added each line of information, format your work so that it is a readable paper (combine lines to make paragraphs and adjust the language so that your paper reads like a normal piece of writing).***

***5) Delete these instructions but keep the blue headers; save your work often.***

## Introduction

What is climate change? *(use .gov or .edu sources only – in Google, type “ climate change site:.gov ”)*

What evidence do we have that it is real? *(use .gov or .edu sources only)*

What is the primary cause of climate change?

How does climate change relate to the carbon cycle?

## Climate Change & Society

What impact will climate change have on agriculture?

How will climate change affect the world, specifically in regards to:

Predicted future CO2 levels

Impact on weather, specifically droughts and flooding

Predicted changes in temperature

Impact on society, specifically cost of materials, energy, and food

## C3 vs. C4 plants

What is a C3 plant?

What is a C4 plant?

How do C3 plants photosynthesize differently from C4 plants?

In what conditions do C3 plants do better? Why?

In what conditions do C4 plants do better? Why?

## C3/C4 and climate change

Which kind (C3 or C4) is expected to fare better in a future affected by climate change?

What are 3 sources that support this hypothesis?

## Conclusion

Summarize what the world will be like in the future as a result of climate change – use credible sources!

Summarize the impacts of climate change on agriculture – use credible sources!

Restate your hypothesis as to which kind (C3 or C4) will fare better in the future.

State how this hypothesis, if correct, could be used to offset some predicted problems from climate change.

**Bibliography**

In addition to parenthetical citation after each fact, cite all sources using modified APA format:  
Author last name, first name. Year. Title. Source (publisher or website).

E.g. Smith, John. 2010. “Agronomy and Climate Change.” Purdue University – [www.purdue.edu](http://www.purdue.edu)

**Extra Credit Option:**

Add a section entitled, “Why Should I Care About Climate Change” and provide 10 reasons for why the average American should care about this issue. Be sure to include factual information for each of your 10 reasons and cite each fact with both parenthetical and bibliographical citation.