Environmental Science 12 - Bryant-Taneda: Land Use and Global Environmental Initiative

Name: _____ Date: _____ Block: _____

Scientific Initiative - Term 3

LAND USE AND SUSTAINABILITY and GLOBAL ENVIRONMENTAL CHANGES
Objective: Students will create and execute a scientific initiative.

EXPERIMENT
The scientific method:

Step 1 – Introduction to the Environmental issue and Hypothesis Introduce and identify an aspect of land use, sustainability, or global environmental changes. Identify the testable hypothesis. Propose how you will assess the land use, sustainability, or global environmental change.	Step 2 – Method, Procedure, and Materials Propose a method of addressing the land use, sustainability, or global environmental issue. Set up the initiative by outlining the step-by-step procedure. Create a data collection table. Present the data chart and analysis method.	Step 3 – Results and Discussion Discuss and analyze the collected data. Is the data statistically significant? Graph the data. Did the data support or reject the hypothesis? Explain how you will address the land use, sustainability, or environmental issue. Institute and report on the proposed solution.
Step 4 – Conclusion Provide a conclusion along with theories and hypotheses to explain the results. Is the hypothesis proved or disproved?	Step 5 – References Provide a list of published literature on the question of the land use, sustainability, or environmental interest.	Step 6 – Abstract Summarize the experiment. When written formally, this is presented at the beginning of the experiment.

EXPERIMENT FORMAT
Type in journal-style format following the order of these sub-titles:

- Abstract (margin set in 5-10 spaces on each side, in smaller font, and single spaced)
- Introduction to the Initiative and Hypothesis (regular margins begin with the Introduction)
- Method (regular margins continue)
- Results and Discussion (regular margins continue; insert the data collection charts and graphs with titles)
- Conclusion, and (regular margins continue)
- References (*Bibliography* style set up)

CRITERIA

1.	Abstract (turn page over for Abstract content)	/+√-
2.	Introduction to the Problem and Hypothesis (TPO for Intro. content)	/5
3.	Method (Turn page over for Method content)	/10
4.	Results – Data (Turn page over for data Results content)	/+√-
5.	Results – Written (Turn page over for written Results content)	/5
6.	Conclusion (Turn page over for Conclusion content)	/5
7.	References (Five sources with name, title, date, and link)	/5
8.	Page layout	/+√-
TOTAL		/30

COMMENTS:

Environmental Science 12 - Bryant-Taneda: Land Use and Global Environmental Initiative

How to Set Up a Scientific Initiative

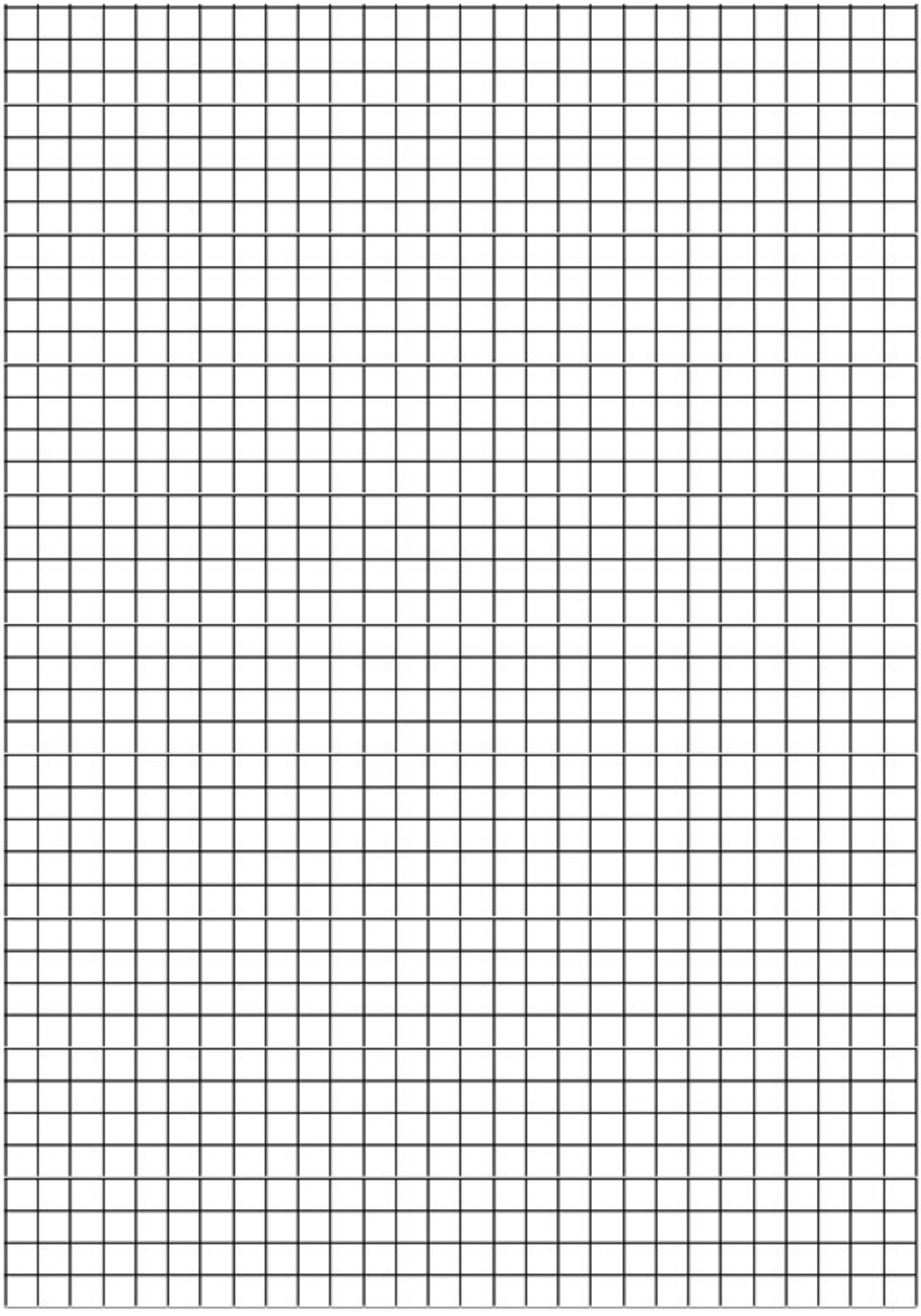
This is a step by step lay out of the initiative you are creating for 3rd term Environmental Science 12. You must create a data collection chart and graph to present the data in visual as well as written form. The chart and graph should be placed with your written results. See the data collection sheets on pages 3 and 4.

The following explanation of *Introduction* to *Abstract* is the chronological progression of how you will complete the scientific initiative. First write your Introduction, then your Method; then, you will execute your scientific initiative according to the Method. Thereafter, you will write up the Results and Conclusion. Finally, you will write up the Abstract.

Introduction to the Problem & Hypothesis:		
	Tell about	•your topic, (*Third Person* throughout the written experiment) •you (the experimenter), •your hypothesis, and •the method by which you hope to measure your hypothesis
Method:	Restate	•your topic •your hypothesis
	State	•who or what you are using for subjects (subjects could be people, trees, and land) •where you are obtaining your subjects •when and how you are executing your initiative (time schedule, procedure) •how you plan on collecting data (interviews, photography, data collection graph)
Results:	Tell about	•what happened in your scientific initiative •problems that arose
	Discuss	•the data that you collected and whether you think it is significant •if things went planned and whether your data supported your hypothesis
Conclusion:	Explain	•theories, hypotheses, and confounding variables within the results •whether you proved or disproved your hypothesis and why •your suggested theories and hypotheses for further study
Abstract*:	Explain	•what your experiment topic is (1 sentence) •your hypothesis (1 sentence) •your method (1 sentence) •the results (1 sentence)
References:	List	•all your literary sources in alphabetical order (author's last name)

*The Abstract is short - and succinct - and is placed first: before all the other paragraphs.

See the following pages 3 and 4 for examples of data collection sheets …



Action Plan

Work Area:

#	Action Items	Who	When
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			