**HUMAN IMPACT POSTER PROJECT**

*“Human influence on Earth can be positive or negative, benign or catastrophic. Recognizing this responsibility is the first step each of us can take to transform the human footprint and save the last of the wild.”*

* Dr. Eric W. Sanderson, Director of the Human Footprint Project

**Student Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Date Due: Monday, June 11 Period: \_\_\_\_\_\_\_\_\_\_**

**Human Impact Project Topic: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Background**: If your family has guests for the weekend, you may find that you run out of hot water for showers or do not have enough milk for everyone’s breakfast. The resources that would ordinarily be enough for your family are no longer enough. You previously learned that resources such as food, water and living space can be limiting factors for biological populations. These same resources limit Earth’s population. As the human population grows, it uses more resources – just as your weekend visitors used more of your home’s resources. The activities of the growing human population are putting pressure on Earth’s ecosystems. Whether we like it or not, humans have a significant impact, both positive and negative, on the world in which we all live.

**Objective**: Your assignment is to research a chosen topic on how humans are currently having an impact on the Earth and then create an educational, environmental poster/public service announcement. The posters will cover topics such as pollution, deforestation, eutrophication, poaching, global warming, invasive species, genetically modified organisms and more. Your environmental poster should communicate the key issues and action steps in relation to your topic.

**Poster requirements:** Below are the project requirements and helpful guiding questions.

* At least **TWO** relevant pictures
* A public service announcement type of slogan or saying
* **Definition of the problem:** You need to describe the problem in sufficient detail. What specifically is the issue? What are the human activities that lead to or contribute (add) to the problem? You need to have AT LEAST one piece of scientific evidence that illustrates the problem and extent of the problem. (This can be a graph, data table, excerpt from scientific study. Be sure to look at scientific journals and university websites for this portion of the assignment, as other sources may not be reputable.)
* **How the problem affects organisms and ecosystems.** How does the issue you have chosen to research relate to
  + **Ecology**: consider how the problem affects biogeochemical cycles (like the carbon or water cycles), food webs, interspecific or intraspecific competition, carrying capacities, predator-prey cycles, natural resources, habitat and food sources for specific organisms
  + **Biochemistry/Cell Biology:** consider how the problem affects metabolism (chemical reactions within organisms), photosynthesis, water acidity, water balance (osmosis), or any other aspect of organism’s/environment’s chemistry
  + **Genetics and Evolution**: consider how the problem affects mutation rates, microevolution (changes in a population’s allele frequencies), natural selection, genetic drift, gene flow, speciation, population sizes, extinction rates
* At least **THREE** action steps
  + What is currently being done by organizations around the world?
  + What can be done in the future?
  + How can high school students contribute and become involved?
* Be creative and make it pleasing to the eye! Colorful and neat!
* For extra credit, address at least **ONE** myth associated with your topic.
* You need to have **THREE** sources properly cited on the back of the poster (NOT INCLUDING WIKIPEDIA) Information should not be plagiarized.

**GRADING RUBRIC**

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| **Category** | **Far below standards - 5** | **Below standards - 10** | **Nearly meets all standards - 15** | **Meets all standards - 20** |
| **Description of Problem** | The problem being addressed is described in very limited detail and/or the piece of evidence used to illustrate the problem is not at all sufficient. | The problem being addressed is not described in enough detail and/or the scientific evidence used to illustrate the problem is not sufficient. | The problem being addressed is described in sufficient detail and includes an appropriate piece of scientific evidence that illustrates the problem. | The problem being addressed is described in great detail and includes an appropriate piece of scientific evidence that illustrates the problem. |
| **Ecology** | Information is not at all detailed and there are many errors in the scientific info. presented. | Information is not sufficiently detailed and/or there are many errors in the scientific info. presented. | Information is sufficiently detailed but there are a few minor errors in the scientific info. presented. | All information is scientifically accurate (no major errors) and greatly detailed. |
| **Biochemistry/Cell Biology** | Information is not at all detailed and there are many errors in the info. | Information is not sufficiently detailed and/or there are many errors in the scientific info | Information is sufficiently detailed but there are a few minor errors in the scientific info. | All information is scientifically accurate and greatly detailed. |
| **Genetics and Evolution** | Information is not at all detailed and there are many errors in the scientific info. | Information is not sufficiently detailed and/or there are many errors in the scientific info. | Information is sufficiently detailed but there are a few minor errors in the scientific info. | All information is scientifically accurate and greatly detailed. |
| **Action Research** | Action research is very minimal and shows no thought or detail. | Action research shows very little thought and detail in how to solve the problem that is being presented. | Action research shows some detail and thought into how to solve the problem that is presented, but could be elaborated upon. | Action research is presented in great detail and great thought was put into a solution to the problem being presented. |