

Human Impact Picture Book

Name: _____

	Exceeds Standards (100)	Meets Standards (90)	Approaches Standards (75)	Far Below Standards (65)	No Evidence (50)
Make Sense of Problems and Persevere in Solving Them	Everything in Meets Standard AND: Comparison requires multiple steps (4+) such as conversions and multiple operations	Statistic and comparison address the question: How can we make sense of the scale of human impact on the environment?	Less than 2 steps to calculate comparison and question doesn't directly address human impact on the environment	Completed planning stage but made no calculations	Did not complete the planning guide or do any calculations.
I can represent numbers using scientific notation.	Demonstrates fluency with scientific notation by expressing operations in scientific notation.	Expresses each answer in scientific notation.	Most answers are written in scientific notation, but one is not written correctly in scientific notation.	The majority of the student's attempts to use scientific notation are incorrect.	No answers are expressed in scientific notation.
Attend to Precision: Calculates accurately and efficiently, expresses numerical answers with a degree of precision appropriate for the problem context.	Explicitly records and narrates calculations, including rounding and addresses any assumptions that might affect calculations. Uses units of measurement.	Records all calculations and narrates all computations using units of measurement.	Records all calculations and narrates more than half of all mathematical computations and uses units for the final comparison.	Records most calculations and narrates less than half of all mathematical computations.	Missing the majority of the calculations.
Visual Comparison	Illustration enhances understanding of comparison Includes question and statement	Illustration related to the comparison but does not communicate the scale of the statistic. Includes question and statement.	Illustration related to the comparison but does not communicate the scale of the statistic. Missing question OR statement. Or meets standards but shows lack of effort in quality of presentation.	Illustration related to the comparison. Missing the question and the statement.	Does not turn in an illustration.

Overall Grade: ____

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This project is comprised of three parts:

1 - The Calculations and Research Planning Guide

2 - A page of your calculations

- **Clear and organized calculations.**
- **Calculations should be fully labeled and explained so that other mathematicians can easily follow your thinking.**
- **Express key numbers in scientific notation.**

3 - A picture book page that includes:

- **Your original question**

(Such as “How many plastic bottles do humans buy in a day?)

- **Your comparison**

(If we line all of the bottles humans use in one day along the coast of California, there would be approximately 220 rows of bottles.)

- **An illustration that helps the reader understand your comparison and the scale of human impact.**

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