Reality Check - Engineering Earth Analysis

Physics 11 - Mr. Gullo

Assignment

Watch the Melodysheep video "Engineering Earth" and write a **500-750 word reflection** analyzing one concept from the video.

Video Link

`https://youtu.be/rN5f72lhJz8?si=8cZIaBs3SZaWmmYb`

Your Reflection Must Include:

1. Concept Description (100 words)

What concept did you choose? What problem does it solve and how?

2. Physics Analysis (300 words)

- Identify **2+ physics formulas** from your formula sheet that apply
- State each formula clearly (e.g., $F = ma$, $E = mc^2$)
- Explain how each formula connects to your concept
- Discuss energy requirements, forces, materials, or scale

3. Reality Check (200 words)

- Is this concept realistic today? Why or why not?
- What physics challenges must be overcome?
- Reference specific formulas/principles from your sheet

4. Impact (100 words)

One positive and one negative consequence if this technology existed.

Proficiency Rubric

Emerging

Description: Students demonstrate beginning awareness of physics concepts and their applications to engineering solutions. Work shows limited understanding of fundamental principles and requires significant guidance to make connections between physics formulas and real-world scenarios.

Skills:

- Identifies basic physics concepts but struggles to explain their underlying principles
- Attempts to use physics formulas but shows minimal understanding of their meaning or relevance
- Provides superficial analysis of technological feasibility without incorporating specific physics principles

Developing

Description: Students show growing understanding of physics principles and can make simple connections to engineering applications with some support.

Skills:

- Describes chosen concept with basic accuracy but explanations may be incomplete
- Uses 1-2 physics formulas appropriately but connections may be unclear
- Evaluates technological realism using some physics principles but analysis lacks depth

Proficient

Description: Students demonstrate solid understanding of physics concepts and can independently apply them to analyze engineering solutions.

Skills:

- Clearly explains chosen concept and accurately describes how physics principles enable or constrain the proposed solution
- Correctly identifies and applies 2+ relevant physics formulas, explaining their significance
- Provides realistic assessment of technological challenges using specific physics principles

Extending

Description: Students demonstrate strong understanding of physics principles and can apply them thoughtfully to analyze engineering solutions.

Skills:

- Shows thorough understanding by making meaningful connections between the chosen concept and relevant physics principles
- Correctly applies 2+ physics formulas with clear explanations and includes additional physics considerations
- Provides well-reasoned assessment that incorporates multiple physics considerations