Intro. to Environmental Earth Science

Study Outline – for Test 1 – Approx. 80 points, 1st week of March (1st or 3rd)

Part 1 approx. 40 points
Format = Closed 'book': Multiple choice, matching, short answer

Part 2 approx. 40 points
Format = Open 'book', Teamwork encouraged: Multiple choice, matching, short answer

Things that could show up on the test appear below, but to fully prepare - review all class notes, handouts, podcasts, discussions etc.

1. Be able to discuss your environmental alter ego AND match common characteristics of your classmate's alter egos to the real people. E.g. Edward Abbey = writer of the desert southwest USA e.g. Desert Solitaire, social anarchist but also a champion of nature. Continue to research and learn from your alter egos.

2. Similarities and differences between environmental science and studies… Be able back up your discussion with information from the www.understandingscience.org website that I provided. *E.g. Hypotheses vs Theories*, *Linear vs Non-linear scientific methods*

3. Be familiar with the Geology's and Climate's Big Ideas, found in your syllabus.

4. Think through and discuss concepts related to changes in energy.
    A. Change vs time
    B. Equilibrium (types)
    C. Residence Time
    D. Carrying capacity
    E. Box models / models in general
    F. Feedbacks (positive and negative)

5. Climate
    A. The different components/systems within climate change
    B. Feedback roles based on the interaction of solar energy on Earth systems
    C. Potential impacts on U.S.A. and Global infrastructure systems
    D. Be able to explain the basic processes that lead up to surficial and deep ocean currents.
    E. Know the differences between the three Miliankovitch Cycles and why they are important.
    F. How does the Tragedy of the Commons relate to Climate Change, how can it be used to help move us forward?

6. Mineral and rock as resources
    A. Know the basic rock types, and their potential uses.
    B. The basic types of mining
    C. Regulation and oversight of mining activities
    D. Iowa's primary rock and mineral resources
    E. Benefits and hazards of using the Earth's mineral and rock resources
    F. Role of energy throughout the development, production, use and disposal of mineral and rock resources.

Be able apply developing knowledge of the following 'current' events toward all content within Test 1. The readings and podcasts we have covered….

1. NPR Arctic Vortex Feb. 2021 Texas

2. Minnesota and Ocean mining readings

3. Tragedy of Commons

4. Bill Gates engages Climate change NPR Marketplace Podcast

5. NPR Marketplace 'Black Rock' podcast