

Name: _____ Date: _____

Surviving Mars Using Science Performance Task Prep

Preliminary Questions - *Due MONDAY JAN. 13th AT END OF PERIOD*

Answer the following background questions prior to watching The Martian. As you watch the movie, think about how the following concepts learned throughout the grade 9 science course were important in your understanding of the movie.

Chemistry

1. What is biofertilizer? How does it promote plant growth success?

2. Write a word equation for each of these chemical reactions, and explain the purpose of each of these reactions: Electrolysis of Water, Complete Combustion

3. Identify several physical and chemical properties for each of these elements: Plutonium, Pt, Hydrogen gas, H₂, and Oxygen gas, O₂,

Electricity

4. Compare the advantages and disadvantages of solar energy, wind energy, and nuclear energy and locations that would benefit from each type of energy production.

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Space

5. Create a chart to compare Earth and Mars in terms of: size, distance to the Sun, rotation, revolution, temperature ranges, composition, atmosphere, weather, gravity.

Ecology

6. What are the necessities of life?
7. Define biotic and abiotic factors and give several examples for each.
8. Define Sustainability. Identify several things that can be done to create a sustainable environment.
9. What does "Terraforming" mean? How could humans and technology "terraform" a planet?