

These are your Mars open-ended quiz questions. Choose any 5 of these, answer them and turn them in by Wed. Dec. 4 for 50 points. Each of your answers should result in you making at least 4 main points or arguments that I can clearly identify to award you 2.5 points for each! Number your short essay answers with the same numbers of each question here. Your quiz must be submitted as a Word or Google doc in order for me to manually run it through "TurnItIn!"

Share it with me at scott.sweeten@chtps.info!

1. What potential scientific, logistic and societal issues may arise in the future as human beings inhabit a terraformed Mars in growing numbers? (Hint: You are on your way with this question if you successfully draw some analogies between the American colonies and Mars of the future.)
2. Describe *in detail* at least 4 strategies and technological methods being proposed to turn Mars into a second Earth through the process of terraforming.
3. Describe *in detail* 2 arguments for past life having been likely on Mars and 2 arguments why life might never have formed on Mars (being sure with the 2nd case to include explanations for why none of our probes have found life or its fossils on the planet yet).
4. Describe in detail at least 3 major physical, psychological or social challenges the *first astronauts going to Mars* will have to face. (Assume they are using the "Mars Semi-Direct" or NASA's "Mars Design Reference Mission" approach for their travel and the duration of their stay).
5. Explain 2 reasons why the finding of ALH84001 led some scientists to propose that we are all Martians and then explain how others argued with at least 2 reasons why this conclusion was incorrect.
6. Describe at least 3 ways in which the first Mars *colonists* will make the planet a place that can sustain human life, despite its current, harsh conditions. Also, discuss here physiological changes that will happen to the first humans *born* on Mars.
7. Explain 2 arguments why we should go to Mars and 2 why we should not. Citing the thoughts on this topic from "the Big 3" (Zubrin/NdT/Musk) would be a good idea.
8. Describe in detail at least 4 ways in which places like northern Canada, Devon Island, Utah and Antarctica are being used to simulate the conditions future astronauts and scientists will have to face on Mars.
9. Compare and contrast the geology of Mars (also more appropriately called "*areology*") with that of Earth. Be sure to include 2 main similarities and 2 main differences.
10. Explain why Robert Zubrin's "Mars Direct" strategy for getting to Mars was far more inexpensive than NASA's initial plans in its "90 Day Report" but why it is also far riskier in some ways.
11. Discuss in detail the instrumentation and mission goals of the Spirit, Opportunity and Curiosity MERs and how Curiosity has very recently made significant findings.