

Lunar and Martian regolith simulant toxicity on
Escherichia coli

Name: _____ Section: _____

Purpose

Hypothesis

Results

Simulant	Cell count (CFU/mL)		Biofilm (550 nm)	
	Exposed	Unexposed	Exposed	Unexposed
Lunar				
Martian				

Compare the cell count and biofilm biomass, separately, between exposed and unexposed cells in both types of simulant using a bar graph.

Conclusions

1. Do your results support one or more of your hypotheses?
2. How can you explain *E. coli*'s response, if any, to Lunar and Martian simulants? (Hint: Review tables 1 and 2 from reading materials)

Questions

1. Why do you think we used buffer, instead of media, on this experiment?
2. What is the effect of metals like Fe or Al, at concentrations above physiological limits, on bacterial growth. Make sure you cite your sources.

3. Discuss two effects of lunar regolith on human physiology. Cite your sources.

4. Discuss one way that research on Lunar and Martian regolith support planning for space exploration.