Mitosis in Space

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Summer Research

What is it?: Our research focused on using different polymers to create a surface that cells can be grown on.

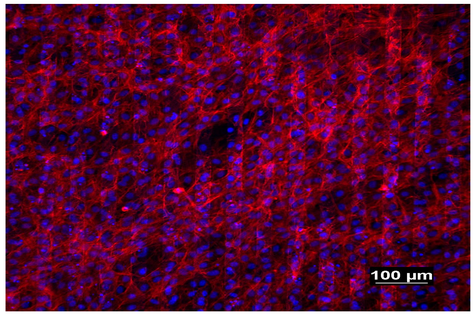


Figure 1: Example of a surface with where cells can grow with alignment.

Significance: Creating a surface that allows for cells to properly align will help repair peripheral nerve injury and other degenerative nerve disorders.

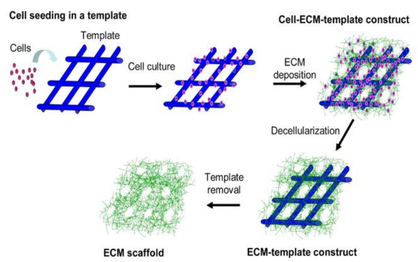


Figure 2: The process for creating a cell scaffold that will allow cells to grow in an aligned fashion to maintain the tissue properties.

Contribution: We tested the alignment of cells in different conditions in order to determine the best method for creating aligned tissues.

Classroom Implementation

How will we learn our content?

Hook: Students will be shown a video about Henrietta Lacks and Cancer.

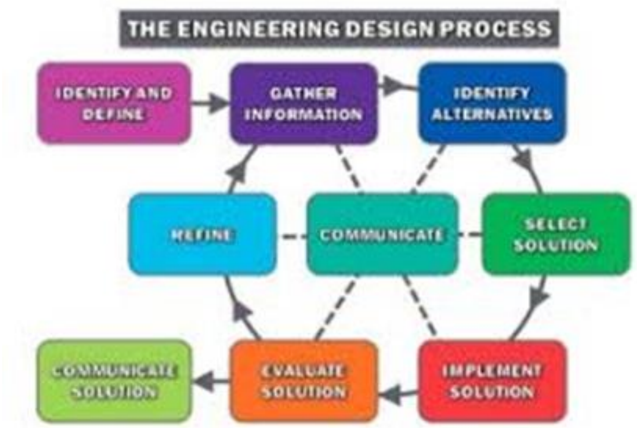
Big Idea: Students will relate the process of mitosis to how space can interrupt this process.

Essential Question: "What happens to your body in space?"

Challenge: Students will create a product that can protect an astronaut's cells and their processes from radiation exposure.

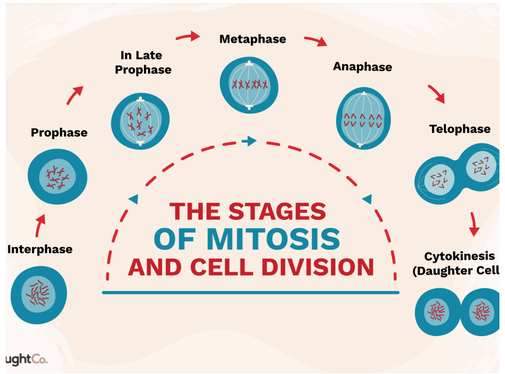
Guiding Questions:
- How to cells repair themselves?
- How can living in space impact our cells?
- How can we create a solution for long-term space travel?

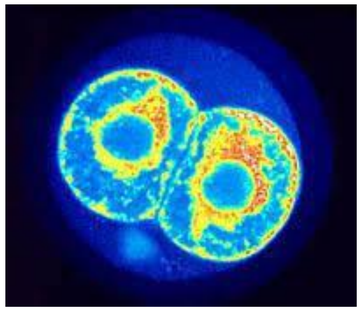
How will we create a solution for our challenge?



Big Idea

How is protecting this process…





….crucial to success in long term space travel?