Earth Odyssey

6/20/24

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Today's Agenda

- Earth Odyssey Overview - Emily
  - Broad Storyline
  - Mission Objectives
- Team & Task Overviews
  - BIO, GEO, COM, LS, MED - Emily
  - BOT, NAV, ROV, WX - Thaddeus
- Online Training - Thaddeus
- EO Rollout - Lauren
- Q & A

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Storyline & Objectives

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Storyline Overview

In Earth Odyssey, students explore Earth Systems while building a remote-sensing satellite that will continue monitoring critical climate data.

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Mission Objectives

1. Ensure the health and safety of both crews
2. Collect and analyze climate data to investigate global processes
3. Successfully launch a remote-sensing satellite

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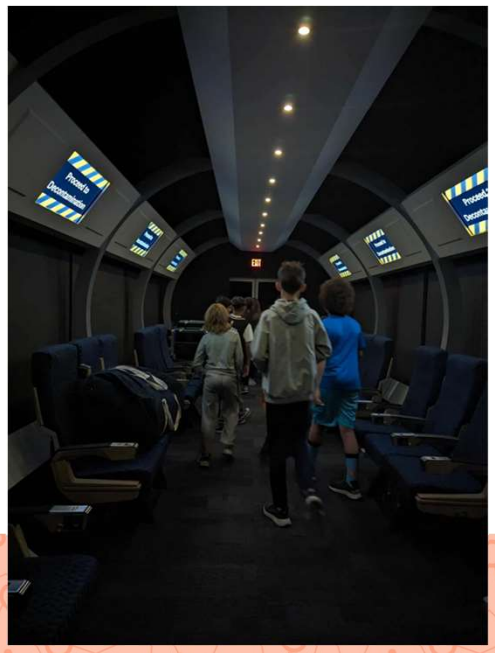
Capture & Redeployment Crew

- **The Satellite Capture Crew** will launch to space first to retrieve a non-functioning satellite and begin processing its data.
- **The Satellite Redeployment Crew** will launch to space second, to build and launch the new remote-sensing satellite.
- Each crew will also act as the **Mission Control team** while their counterparts are in Spacecraft.



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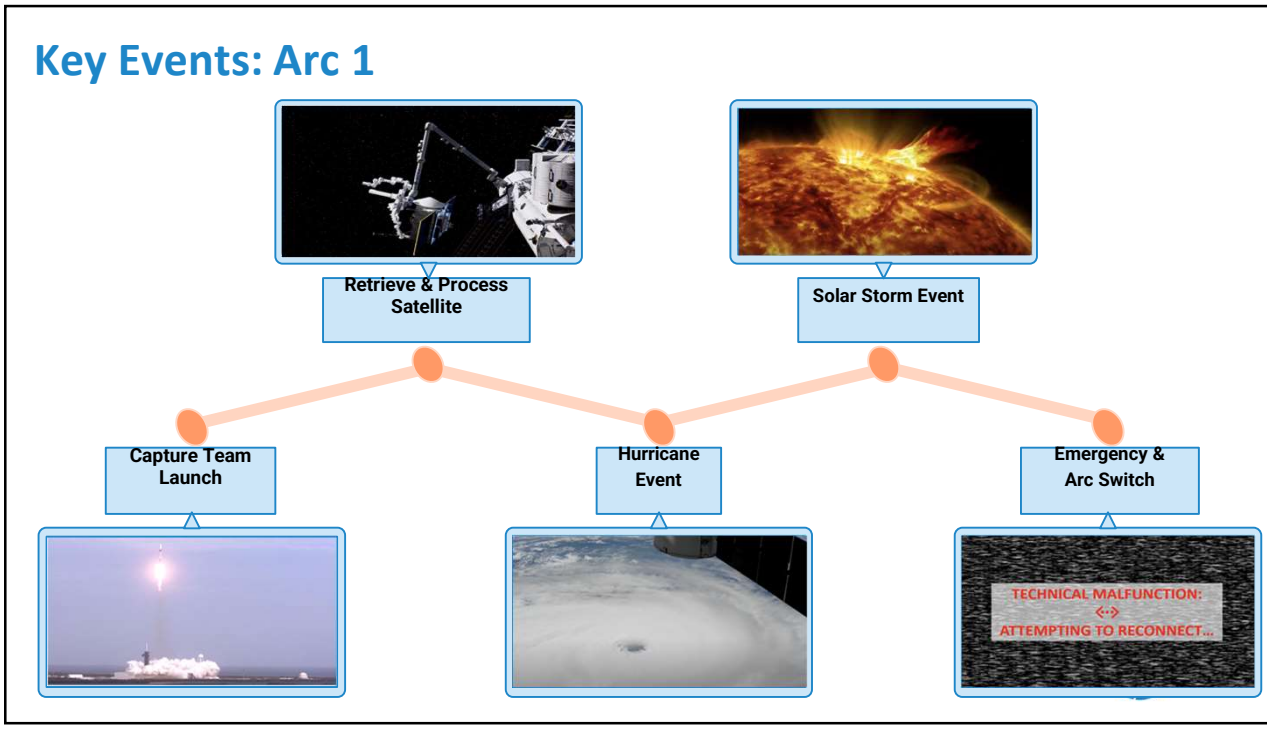
Key Events: Arc 1



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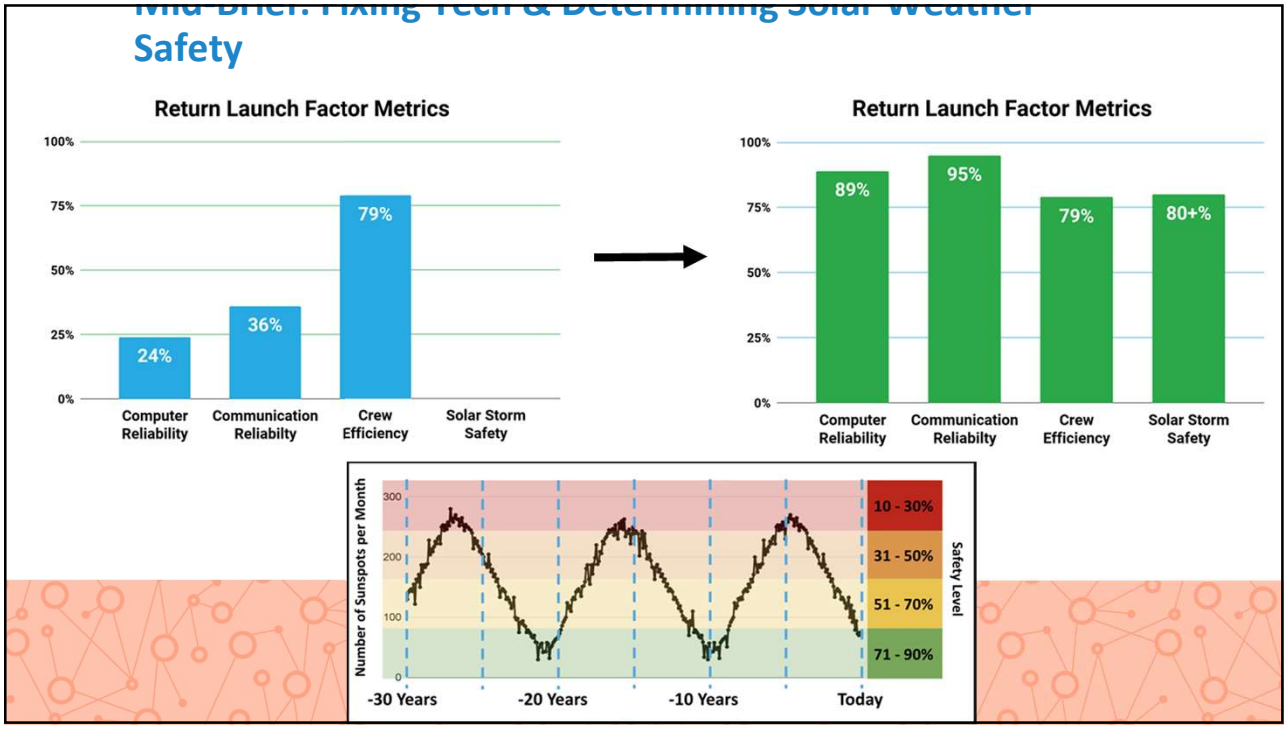
Safety



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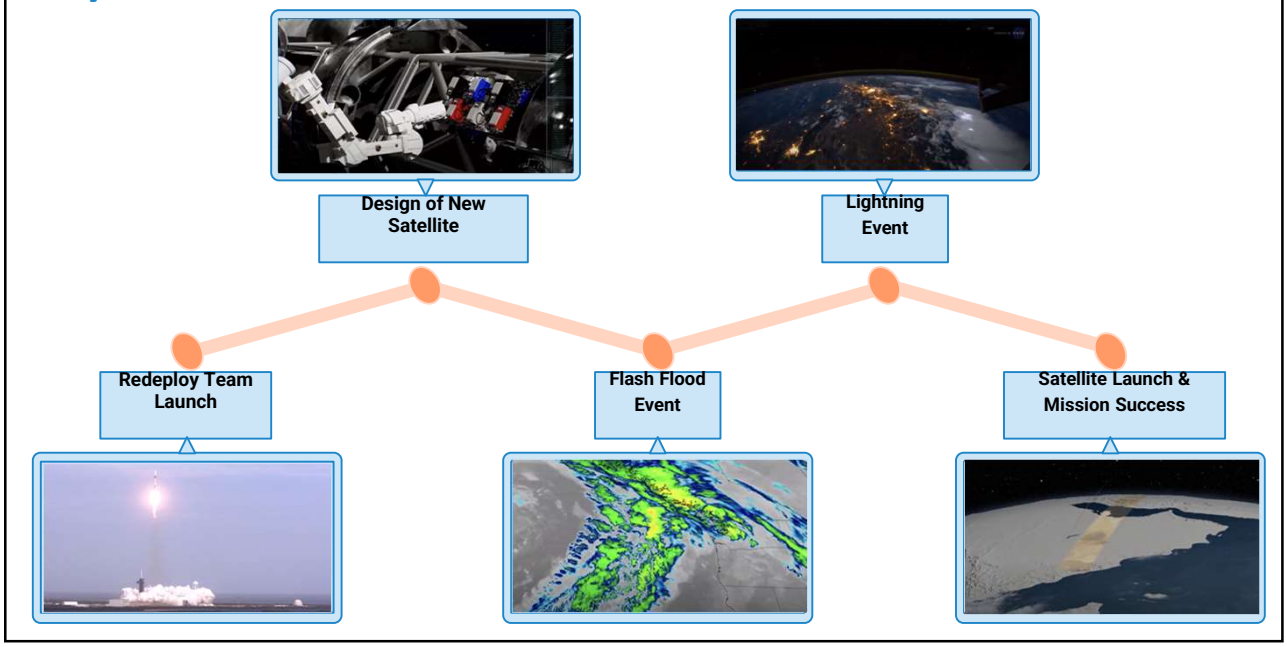
Key Events: Arc 2



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Teams & Tasks

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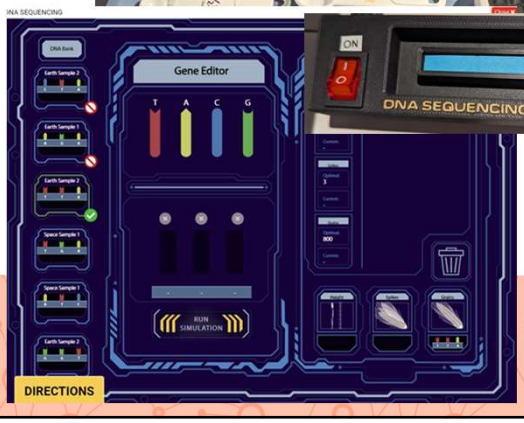
BIO TEAM

- Perform maintenance and compose health reports on Spacecraft vegetation systems
- Conduct DNA extraction lab and perform DNA sequencing
- Monitor ocean temperatures and ecological impacts



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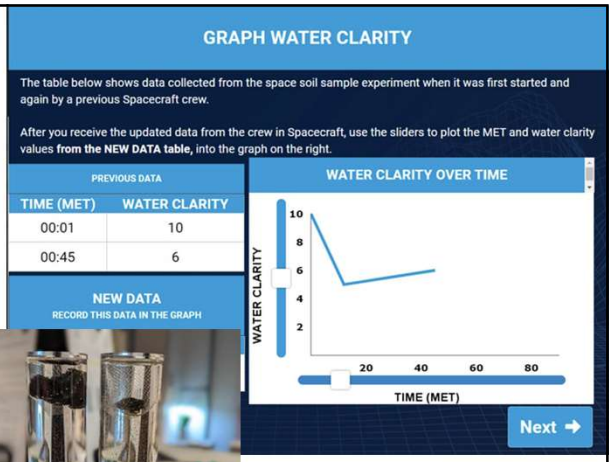
GEO TEAM

- Determine what data collected by the retrieved satellite is corrupted
- Perform experiments to determine the impact of microgravity on soil health
- Respond to extreme weather events and determine their ecological impacts



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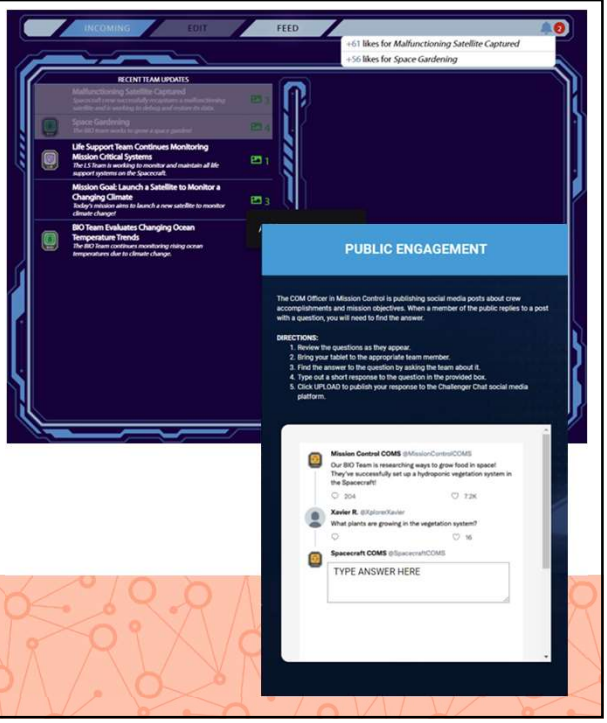
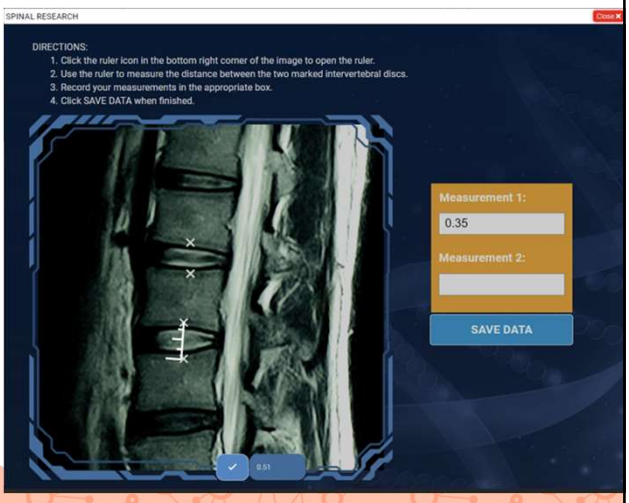
COM TEAM

- Manage all communications between Spacecraft and Mission Control
- Gather images and information to create and publish social media content
- Manage public reception and response to mission objectives



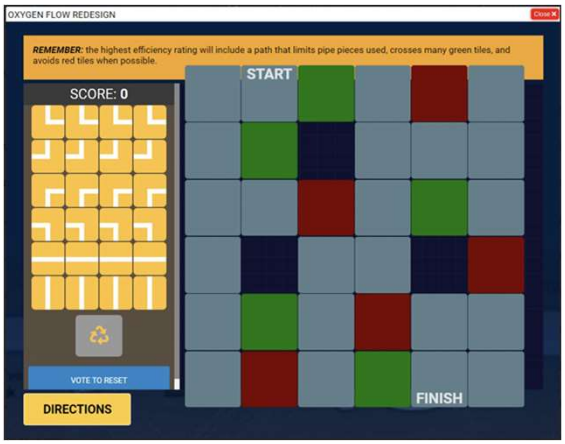
MED TEAM

- Monitor crew health and crew radiation levels throughout entire mission
- Conduct investigation on the impact of microgravity on crew spinal decompression



LS TEAM

- Manage all Spacecraft Life Support Systems
- Monitor Spacecraft air quality, water quality, and oxygen levels
- Respond quickly to potential emergencies



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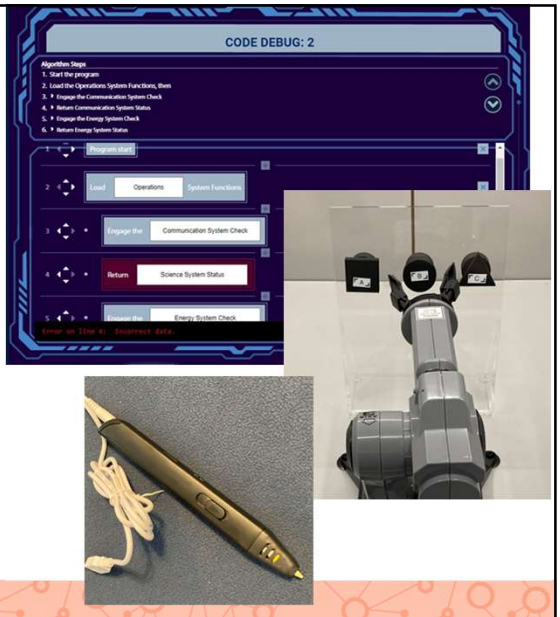
BOT TEAM

- Debug code from the satellite using and assess new code.
- Test prototypes for three robotic arm tasks.
- Uses 3D pen to recreate lattice structures.



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NAV TEAM

- Capture requested images with required scan
- Investigate orbit options that meet team goals
- Avoid orbiting debris and train for undocking maneuvers

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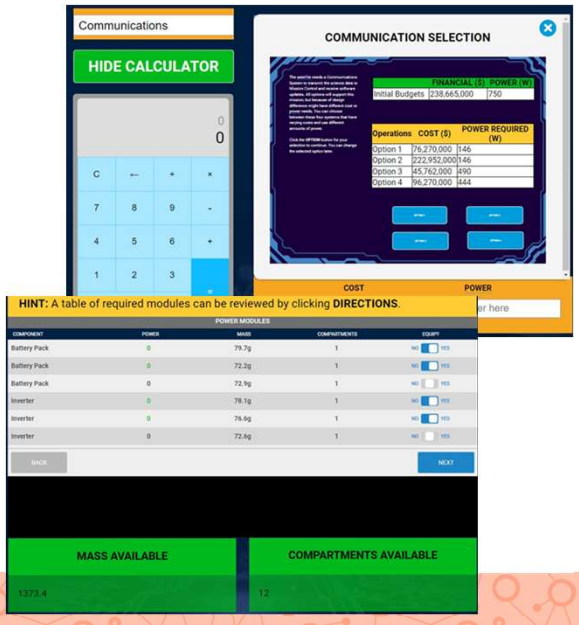
ROV TEAM

- Dismantle satellite bus while testing part functionality then reassemble
- Plan for systems based on a budget
- Select modules for updated design
- Target code updates to best modules



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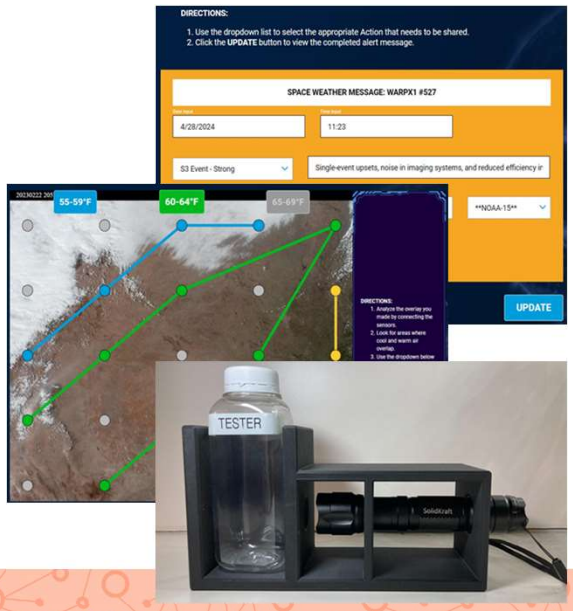
WX TEAM

- Use laser to observe aerosolized materials in SC lab
- Monitor solar and lightning storms that trigger warning reports
- Analyse atmospheric data for developing storms and air quality



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Online Training

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Training

- Similar format to EM, LQ, and OC
- Four main modules:
  - Introduction
  - Team Overviews
  - Labs
  - Flying the Mission
- Interactives reviews with feedback

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Training

- Introduction
  - Mission Elements
  - Timelines
- Team Overviews
  - Synopsis and Stress points
  - Tools
- Labs
  - Materials, Setup/Arc Reset, Strategies for Success
- Flying the Mission
  - Flight Director and Mission Commander task sections
  - Emergencies, Events, Data Spoofing

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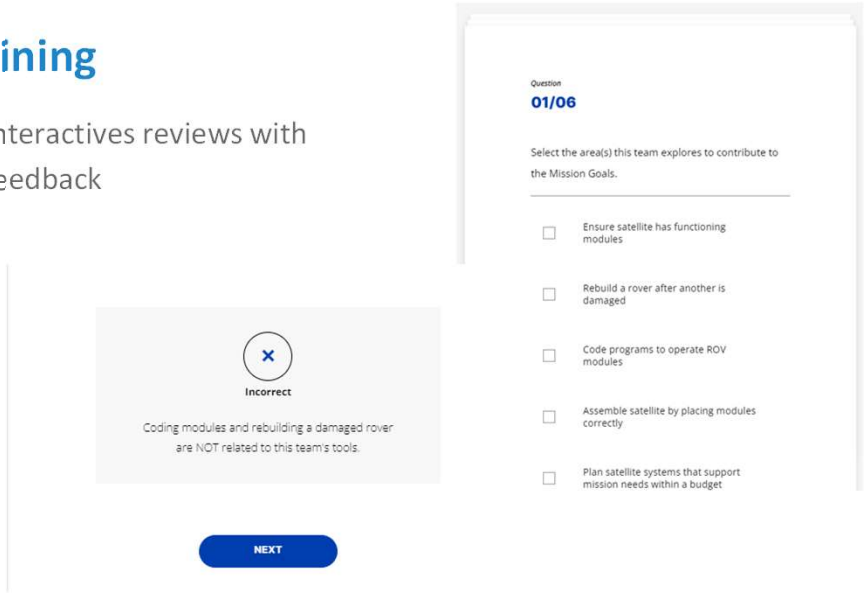
Training

- Interactives reviews with feedback



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Mission Rollout

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Mission Rollout

- Earth Odyssey mission will begin rollout mid-summer.
- Supply shipments will begin in early July through the remainder of the summer.
- If you are interested in flying Earth Odyssey in the fall, please contact Lauren Goff or Michela Taylor. We want to ensure you get your mission supplies in time!
- In addition to Earth Odyssey, Centers will also receive mission updates to all existing SIM3+ programs.
- Our newest virtual mission, Observation Earth, will also be made available at this time.

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Questions?

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