Lesson 13: Pre-Mission Preparation 1
Lesson 14: Pre-Mission Preparation 2

Materials

Articles

Pre-Mission Preparation:

- Overview of Teams
- Mission Directives
- Classroom Setup
- STORM Team Overview
- Radiation Team Overview
- Power Team Overview
- Life Support Team Overview
- Communications Team Overview

See Materials Preparation (Below)

Teacher Materials:

- Completed "Practice" Graphs, Tables, and Data.

Storyline

- The students will prepare for their duties during the e-Mission.
- The students will learn how to manage the raw data they will receive during the e-Mission.
- The students will have a chance to review the important materials and information they studied during Mission Specialist training that is directly relevant to their e-Mission team assignment.

Main Topics

- Scientists generate tables to record raw data.
- Scientists generate tables to prepare data to observe trends, interpret results and make projections.
- Scientists generate graphs to record data, observe trends, interpret results, and make projections.
- Graphs and tables are valuable scientific tools.
- Simulations help people prepare for unforeseen events.

Learning Outcomes

- The students will generate tables to convert raw data into meaningful information.
- The students will generate graphs to convert raw data into meaningful information.
- The students will compare the use of tables and graphs.
- The students will predict outcomes based upon trends revealed by both tables and graphs.

Important: Make sure that all students have received permission to participate in the two-period e-Mission from the appropriate teachers.

Materials Preparation

1. Make final plans for the e-Mission with school tech personnel. Invite VIP's.
2. For Lesson 13: Prior to entering into this phase of the Mission Specialist training, *all* the students should have been assigned to one of the four e-Mission teams and to a specific data set, ie. Power Team: Proton Production or X-ray Production; Life Support Team: Oxygen or CO2; Radiation Team: TEPC 1 or TEPC 2; Power Team: Battery Reserve or Solar Array.

All students, regardless of their final role on a team, should be assigned to one of the aforementioned sets of data—*including the Communications Team members (Please see Looking Ahead.)*

To begin Lesson 13: Each student should have on his/her desk:

- calculator
- Pencil with eraser
- One set of raw data
- One table
- One graph
- One Report Form

3. For Lesson 14: Set up the classroom as suggested by the article, "Classroom Setup." The student will benefit from practicing in an environment similar to that of the e-Mission.

Prepare all materials for the "Data Processing Race" which begins the class.

Find small, fun prizes or some form of recognition to be awarded to the winner of the "Data Processing Race."

Vocabulary

Table
Column
Row
Graph
x-axis
y-axis
Raw data
Slope
Lable
Computation

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Teaching Approaches

During the e-Mission the students will be working "under pressure." Questions that arise over the simplest tasks and definitions endanger the quality of the e-Mission for the entire class. Students and teams that are frustrated can affect the mission. The teaching approach suggested for the first part of the Pre-Mission Preparation is a step-by-step walk-through for all students of the creation of tables and graphs. It begins with the receipt of raw data and proceeds to the filling-out of the report forms. This will be followed, in the second lesson, by a "competition" which permits all students to work at top speed through this process. The teams will then assign individual tasks and discuss both the team's overall assignment and one "What if…" scenario. This will sharpen their appreciation for the upcoming e-Mission simulation.

Connections to Other Units

If any students have created Mission Patches, it is time to display them. The class may wish to select one patch to designate their mission. Please reward all students involved in this extra effort. Forward the selected patch(es) to the Challenger Learning Center for display in our Mission Control booth during your e-Mission. Field test experience has shown that careful two-day preparation leads to a successful e-Mission.

Internet Resources:

Recommended search engines:
http://vivisimo.com
http://www.google.com
http://www.kartoo.com

Looking Ahead:

The outcomes of Pre-Mission Preparation should be strong class and team spirit, identification of team leaders, and assignment of team roles. The formation of the Communications Team and a review of the e-Mission communication process at the end of the second period is suggested.

Recommendation: After selecting your Communications Team members and during the initial part of the Pre-Mission Preparation, do not identify the members of the Communications Team. They will gain valuable insights by working through the creation of tables, graphs, and report forms. Assign the team to two different teams, Power and Life Support, to gain an idea of what might happen during the e-Mission itself.