



Crisis Management Team Instructions

Overview

Your team is responsible for:

- Taking an inventory of astronauts and equipment at each base.
- Deciding where and how to move people and equipment around, if needed.
- Tracking these movements and making critical decisions.

Team Tasks

Choose people to fill the following roles:

Member 1, Team Leader: Record information on the Crisis Management Team Organizer. If available, record this information on the classroom white board or chalk board for all to see. Update the Crisis Management Team Organizer with important information. The organizer should be available for all the team members and other teams. This allows each team to know what is going on with the other teams at a glance. Make team decisions. Work with Mission Control, the Communications Team, and the other teams. Get information from the other teams. Tell them your team's decisions.

Member 2, Resource Management: Use the inventory to note where to find astronauts and equipment. Work with members 3, 4, & 5 to make decisions and communicate with other teams. Be sure to inform other teams of your decisions.

Member 3, Movement Decisions: Work closely with member 5 to make decisions about moving astronauts and equipment. For each hourly reading ask the comet tracking team for estimated time of impact. Give the information to member 4.

Member 4, Worksheet: Complete columns A-G on the lunar bases worksheet. Copy the information onto the report form. Give it to the communications team.

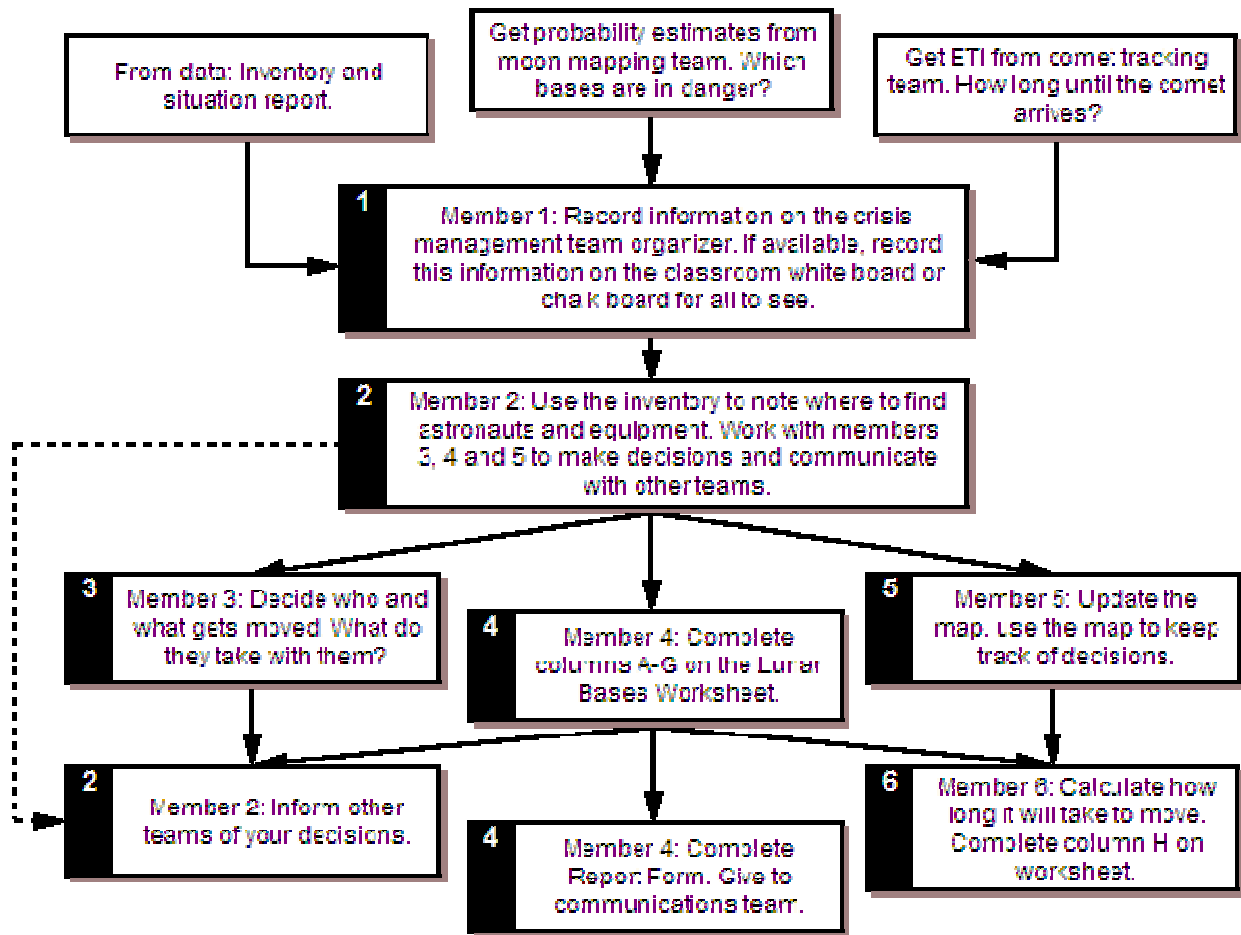
Member 5, Mapping: Record the movement of people and equipment on the lunar map. Record all decisions and work with member 4 to include these on report forms.

Member 6, Movement Calculations: To move astronauts and equipment around, you need to know what kind of transportation you have and its speed. Get this information from the Crisis Management Reference Guide, or from the inventory given online at the start of the mission. Write down the measure of distance from one point to another. By dividing the distance by the speed, you can calculate how long it will take (also called the estimated time of arrival). Record this in column H.

Member 7, Inventory: (Optional) At the start of the mission, record the inventory of the astronauts and resources at each base. Keep this inventory updated throughout the mission noting where each resource is moved.

Note: You can combine these tasks if you have fewer than seven members on your team

- For a four-member team combine the tasks of members 1 and 5, 3 and 6, skip member 7.
- For a five-member team combine the tasks of members 1 and 5; skip member 7.
- For a six-member team skip member 7.



Detailed Instructions

Member 1

Your team needs one computer. It will transmit data and an inventory.

- a) Open your Internet web browser and go to <http://www.e-missions.net/flashcom/targetmoon> if the computer is not already on the correct web site.
 - At the start of the mission, the Flight Director will provide the Communications Team the password for this site.
- b) Select “Crisis Management Team” from the options. You should see a message that says, “Connecting to Satellite.” Now you should wait for about 10 minutes after the mission begins until the Flight Director signals your team to examine the data.
- c) Member 1 must update the Crisis Management Team organizer with very important information. This allows each team member or other team to know what is going on with the

other teams at a glance. On the board, record the UTC time on the Column A, the percentage probability of base destruction from the moon mapping team on Columns B, C, and D; and the estimated time of impact coming from the comet tracking team on Column E.

Member 2

- a) Read the inventory and take note of where to find the astronauts and equipment.
- b) Work with members 3, 4, and 5 to make decisions and communicate with other teams.
- c) Keep track of where resources are being moved.

Member 3

- a) Get the estimated time of impact from the Comet Tracking Team.
- b) Get the percentage probability of base destruction from the Moon Mapping Team.
- c) Decide which bases, if any, are at risk.
- d) Decide whether you can move the people and equipment from those bases to a safer place.

- e) Decide if and when the astronauts should move. Estimate how long it will take.
- f) Give this information to Member 4.

Member 4

Complete columns A-G on the Crisis Management Team Worksheet.

Constantly update the worksheet with:

- a) The time the evacuation started (column A). This is recorded in UTC time.
- b) The base from which the astronauts are departing (column B).
- c) The place to which the astronauts are going (column C). You can record as the name of another base. Or you can record the compass direction and distance of the move. For example “base A” or “50 km northwest.”
- d) The number of astronauts being evacuated and the equipment they are taking with them (column D). For example “Four astronauts, each with an extra Helium³ container.”
- e) The form of transportation (column E). For example, “Jet Pack -- wear one and carry one.”
- f) The maximum speed of the transportation (column F). This value may be found in the online inventory in the real-time data or in the Crisis Management Reference Guide.
- g) The distance from where the astronaut or equipment is now to where it needs to go (column G).

For each update copy the information from the worksheet onto a report form. Give the report to the Communications Team.

Member 5

- a) Read the latitude and longitude coordinates on the inventory from the data. On the lunar map, draw a large dot at the intersection of these coordinates for base A. Repeat this for bases B and C. Label each base.
- b) Use a ruler and a pencil to lightly draw lines connecting each of the bases.
- c) Measure each line.
 - Option 1: Use a ruler and note the number of millimeters between bases. Use the scale on the map to determine how many kilometers this is.
 - Option 2: Use a compass as a measuring tool. Extend the two ends of the compass from one base to another. Now hold the compass up to the scale to determine how many kilometers this is.
- d) Record the number of kilometers on the lines between the bases.
- e) Below each base record the number of astronauts and the equipment that is located there.

Member 6

Calculate the estimated time of arrival (Column H).

Get the speed of each mode of transportation from the online inventory or from the Crisis Management Reference Guide and the distance data from Member 4.

Use this information to calculate the estimated times of arrival (ETA) from base to base.

$$\text{ETA} = \frac{\text{distance to travel}}{\text{speed}}$$

or

$$\text{column H} = \frac{\text{column G}}{\text{column F}}$$

Example: Four astronauts from Base A will be traveling to Base B in the Pressurized Rover. How far is it from Base A to B? What is the ETA to travel to Base B? The distance reached by ejecta is 150 km. Will the astronauts be affected?

Member 7

Complete an inventory of the astronauts and resources at each base.