

MAJOR IDEA(S)

- a. Decision making is an important process in engineering.
- b. It is easier to make individual decisions than group decisions.
- c. People can be trained to work well in groups.

BEHAVIORAL OBJECTIVE(S) – The student should be able to

- a. Follow the directions in completing the activity.
- b. Calculate his or her own score as well as the group's score for the activity.
- c. Draw conclusions based on group discussion.

STRATEGY

- a. Divide students into groups of four to seven persons.
- b. Discuss the survival problem carefully, checking to see that each person understands what he or she is supposed to do.
- c. Each group should complete the chart as follows:
 1. the first 10 minutes filling in the "Your Ranking" column.
 2. the second time interval will be much longer as students fill in the "Group Ranking" column.
 3. allow time for the score tallying and discussion.

d. Scoring Key

Listed below are the correct rankings for the Lost on The Moon items, along with the reasons for the rankings provided by the NASA's space-survival unit.

| | |
|---|---|
| (15) Matches | Little or no use on moon |
| (4) Food Concentrate | Supply daily food required |
| (6) Nylon Rope, 50 m. | Useful in tying injured, help in climbing |
| (8) Parachute Silk | Shelter against sun's ray |
| (13) Portable Heat Unit | Useful only on dark side of moon |
| (11) Two .45 Caliber Pistols | Self propulsion devices could be made from them |
| (12) Dehydrated Milk, 1 Case | Food with water for drinking |
| (1) Two 100-Pound Oxygen Tanks | Fills respiration requirements |
| (3) Star map, Moon's Constellations | One of principal means of finding direction |
| (9) Life Raft | CO ₂ bottle for self-propulsion across chasms, etc. |
| (14) Magnetic Compass | Probably useless – no magnetized poles |
| (2) 5 Gallons of Water | Replenishes loss by sweating, etc. |
| (10) Signal Flares | Distress call within line of sight |
| (7) First-Aid Kits, Injection Needles | Oral pills or injection medicine valuable |
| (5) Solar Powered FM Receiver-Transmitter | Distress signal transmitter, possible communication with mother ship "69 miles" |

- e. If you take time to work up some sound effects and have access to a cassette recorder, the results of a good recording session can be very satisfying. For example, an AM radio receiver turned between stations will produce a nice hissing sound to back up the class as they attempt to reach decisions. Try to dig up a recording of the 2001: A Space Odyssey sound track or other space music to use with the introduction to the problem. This can also be interspersed with the hissing of the radio during class.