

NASA Moon Survival

For: Team Bonding Trainings

Duration: 15 minutes

Supplies needed: The following three pages (print enough copies of page one for each individual, plus one per team)

Purpose: This activity shows the importance of teamwork by first having individuals try to complete the task alone. They will learn that after they're able to get in groups, it will be a lot easier (and more fun) determining the most logical ranking system for survival items on the moon.

Directions:

1. Read the scenario out loud to the group. Give everyone 1-2 minutes to fill out their individual rankings.
2. Then, divide them into groups of 3-5 people and have them talk to each other and compare rankings. Have each team create a team ranking.
3. Then, read the real rankings out loud and give the explanation. Have each group calculate the absolute difference (positive or negative doesn't matter) between their ranking and the real ranking. Do the same for each team.
4. Then on the front whiteboard, have each team come up and write their average individual score, their team score, the difference between their individual average and their team score, and the number of people in their group who scored lower than the team score.

Debrief:

- How did you come to an agreement for your team rankings?
- Why do you think some people scored lower than the team score? (It's probably because they didn't speak up enough in the group, even though they knew better).
- What does this show you about working in a group? (Working as a team *usually* leads to a better result than you could produce individually)

NASA Exercise: Survival on the Moon

Scenario:

You are a member of a space crew originally scheduled to rendezvous with a mother ship on the lighted surface of the moon. However, due to mechanical difficulties, your ship was forced to land at a spot some 200 miles from the rendezvous point. During reentry and landing, much of the equipment aboard was damaged and, since survival depends on reaching the mother ship, the most critical items available must be chosen for the 200-mile trip. Below are listed the 15 items left intact and undamaged after landing. Your task is to rank order them in terms of their importance for your crew in allowing them to reach the rendezvous point. Place the number **1** by the most important item, the number **2** by the second most important, and so on through number **15** for the least important.

Your Ranking

NASA Ranking

- _____ Box of matches _____
- _____ Food concentrate _____
- _____ 50 feet of nylon rope _____
- _____ Parachute silk _____
- _____ Portable heating unit _____
- _____ Two .45 caliber pistols _____
- _____ One case of dehydrated milk _____
- _____ Two 100 lb. tanks of oxygen _____
- _____ Stellar map _____
- _____ Self-inflating life raft _____
- _____ Magnetic compass _____
- _____ 20 liters of water _____
- _____ Signal flares _____
- _____ First aid kit, including injection needle _____
- _____ Solar-powered FM receiver-transmitter _____

Answers

Item	Ranking	NASA's Reasoning
Box of matches	15	Virtually worthless -- there's no oxygen on the moon to sustain combustion
Food concentrate	4	Efficient means of supplying energy requirements
50 feet of nylon rope	6	Useful in scaling cliffs and tying injured together
Parachute silk	8	Protection from the sun's rays
Portable heating unit	13	Not needed unless on the dark side
Two .45 calibre pistols	11	Possible means of self-propulsion
One case of dehydrated milk	12	Bulkier duplication of food concentrate
Two 100 lb. tanks of oxygen	1	Most pressing survival need (weight is not a factor since gravity is one-sixth of the Earth's -- each tank would weigh only about 17 lbs. on the moon)
Stellar map	3	Primary means of navigation - star patterns appear essentially identical on the moon as on Earth
Self-inflating life raft	9	CO ₂ bottle in military raft may be used for propulsion
Magnetic compass	14	The magnetic field on the moon is not polarized, so it's worthless for navigation
20 liters of water	2	Needed for replacement of tremendous liquid loss on the light side
Signal flares	10	Use as distress signal when the mother ship is sighted
First aid kit, including injection needle	7	Needles connected to vials of vitamins, medicines, etc. will fit special aperture in NASA space suit
Solar-powered FM receiver-transmitter	5	For communication with mother ship (but FM requires line-of-sight transmission and can only be used over short ranges)

Scoring:

For each item, mark the number of points that your score differs from the NASA ranking, then add up all the points. Disregard plus or minus differences. The lower the total, the better your score.

0 - 25 excellent 2

6 - 32 good

33 - 45 average

46 - 55 fair

56 - 70 poor -- suggests use of Earth-bound logic

71 - 112 very poor – you're one of the casualties of the space program!