

NASA Exercise: *Survival on the Moon* Score Card

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.

Instructions:

1. Your task is to rank the 15 items in terms of their importance for your crew in allowing them to reach the rendezvous point.
2. 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.
3. Complete this individually then share your answers with your teammates.
4. Agree as a team on how you would rank all items and be ready to present.
5. After each team presents, we will then share with you the answers from NASA.
6. 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.

ITEMS	YOUR RANKING	TEAM RANKING	NASA TANKING	SCORES
Box of matches				
Food concentrate				
50 feet of nylon rope				
Parachute silk				
Portable heating unit				
Two .45 caliber pistols				
Once 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				
			ADD UP TOTAL SCORES HERE →	

NASA Exercise: *Survival on the Moon* Answer Sheet

Scoring: Where did you score? (*add it below*)

- ____ 0 - 25 Excellent
- ____ 26 - 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!

ITEMS	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 caliber pistols	11	Possible means of self-propulsion
Once 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	CO2 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)