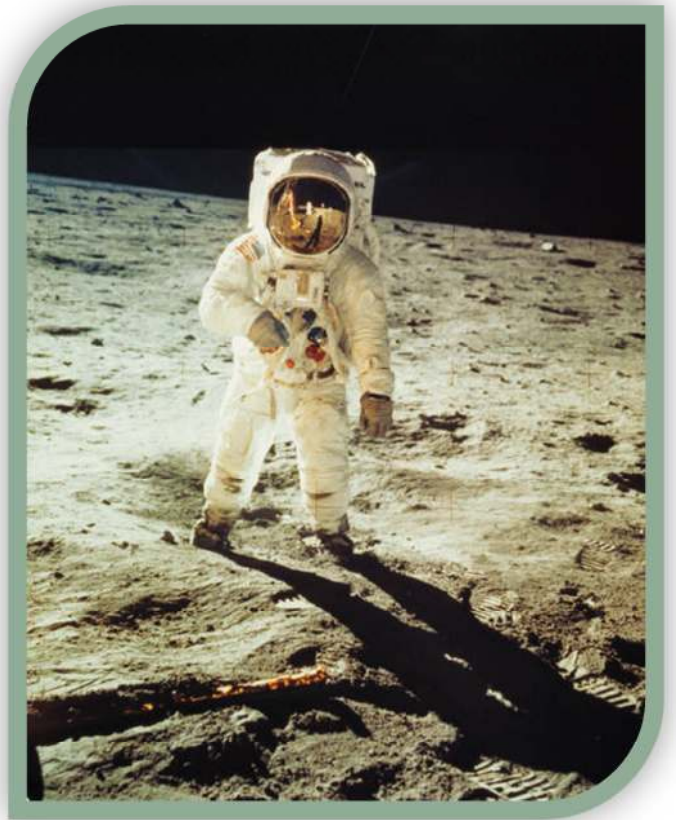


# Moon Landing



Grahame Knox

# Moon Landing

You are a member of a space crew scheduled to rendezvous with a mother ship on the lighted surface of the moon. However, due to mechanical difficulties, your own ship was forced to land at a spot 200 miles from the rendezvous point.

During re-entry 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.

15 items are listed as being intact and undamaged after landing. Your task is to rank them in terms of their importance for your crew, to allow 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 to number 15 for the least important.

## Instructions

1. Provide a 'moon landing ranking chart' for every member of your group.
2. Ask each young person to take 10 minutes to decide their own rankings, and record the choices in the left-hand column (my ranking).
3. Invite everyone to get into groups of 3-4. Discuss their individual choices and refine their rankings based on the collective thoughts of the team. Record the group rankings in the second column (team rankings).
4. The correct answers were compiled by a team of scientists and engineers at NASA. Display the NASA 'expert' rankings on a PowerPoint presentation, whiteboard or photocopy. Compare your individual and group answers with the correct answers and determine a score.
5. For each item, mark the number of points that your score differs from the NASA ranking and then add up all the points. Disregard plus or minus differences. The lower the total, the better your score.
6. As the young people work together in a team, sharing thoughts and ideas, this should produce an improved score over the individual results. But will this be enough to survive?



## Moon Landing Ranking Chart

<b>My ranking</b>	<b>Salvaged items</b>	<b>Team ranking</b>
	Box of matches	
	Food concentrate	
	50 feet of nylon rope	
	Parachute silk	
	Two .45 caliber pistols	
	One case of dehydrated milk	
	Two 100-pound tanks of oxygen	
	Stellar map	
	Self-inflating life raft	
	Magnetic compass	
	Five gallons of water	
	Signal flares	
	First aid kit containing injection needles	
	Solar powered FM receiver	
	Portable heating unit	
<b>Score</b>		<b>Score</b>

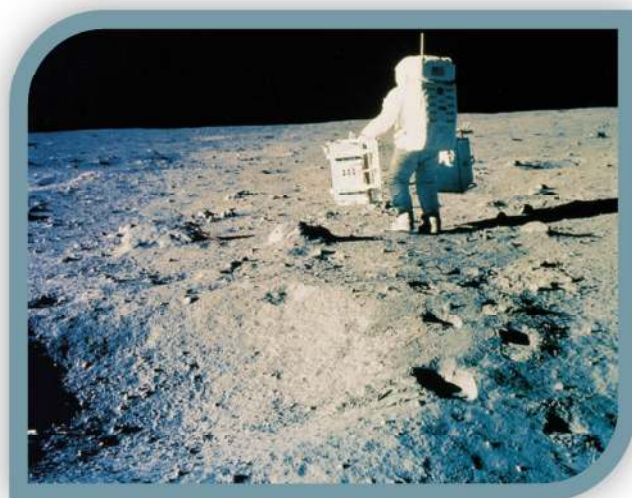


## NASA Expert Analysis

Item	NASA 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.
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 <sub>2</sub> bottle in military raft may be used for propulsion.



Magnetic compass	<b>14</b>	The magnetic field on the moon is not polarized, so it's worthless for navigation.
5 gallons of water	<b>2</b>	Needed for replacement of tremendous liquid loss on the light side.
Signal flares	<b>10</b>	Use as distress signal when the mother ship is sighted.
First aid kit, including injection needle	<b>7</b>	Needles connected to vials of vitamins, medicines, etc. will fit special aperture in NASA space suit.
Solar-powered FM receiver-transmitter	<b>5</b>	For communication with mother ship (but FM requires line-of-sight transmission and can only be used over short ranges.)



## Scores

<b>00 - 25</b>	<b>Excellent.</b>	You and your crew demonstrate great survival skills!
<b>26 - 32</b>	<b>Good.</b>	Above average results. Yes, you made it!
<b>33 - 45</b>	<b>Average.</b>	It was a struggle, but you made it in the end!
<b>46 - 55</b>	<b>Fair.</b>	At least you're still alive, but only just!
<b>56 - 70</b>	<b>Poor.</b>	Sadly not everyone made it back to the mother ship!
<b>71 +</b>	<b>Very poor</b>	Oh dear, your bodies lie lifeless on the surface of the moon!

## Copyright

Insight by Grahame Knox is licensed under a Creative Commons Attribution-Non-Commercial-No Derivative Works 3.0 Unported License.

[Attribution-NonCommercial-NoDerivs 3.0 Unported \(CC BY-NC-ND 3.0\)](https://creativecommons.org/licenses/by-nc-nd/3.0/)



## Notes on decision by consensus

After everyone has finished the individual ranking, work together with the rest of the team to produce a TEAM CONSENSUS RANKING. The time allowed is 30 minutes.

### **DECISION BY CONSENSUS**

This is an exercise in team decision-making. Your group is to employ the method of TEAM CONSENSUS in reaching its decision.

This means that the prediction for each of the 15 survival items MUST be agreed upon to some extent by each group member before it becomes part of the group decision.

Consensus is difficult to reach. Therefore, not every ranking will meet with everyone's complete approval. Try, as a team, to make each ranking one in which all team members can at least partially agree.

### **Here are some guides to use in reaching consensus:**

1. Avoid arguing for your own individual judgments. Approach the task on the basis of logic.
2. Use your own and others' logic.
3. Avoid changing your mind only in order to reach agreement or avoid conflict. Support only solutions with which you are able to somewhat agree.
4. Avoid conflict-reducing techniques such as majority vote, averaging or trading votes in reaching decisions.
5. Stick to your point of view even if the going is rough and the group disapproves.
6. Let conflict come out.
7. View differences of opinion as helpful rather than as a hindrance in decision-making.
8. Use a win-win approach.
9. View your initial agreement as suspect.

### **Debrief Questions (choose a few to discuss):**

- How were decisions made?
- Who influenced the decisions and how?
- What behaviors helped/hindered the consensus-seeking process?
- What patterns of decision-making occurred?
- How could better decisions have been made?
- Did people listen to each other, if not – why?
- What roles did group members adopt?
- Who were the influential group members and how were they influential?
- How was conflict managed?
- How did people feel about the final decisions? Rank satisfaction level among group and discuss.
- What have you learned about the functioning of this group?
- How would you do the activity differently if you were asked to do it again?
- What situations at work do you think are like this exercise?

**Using in a workshop:** This exercise can be used at the beginning, middle, or end of a workshop. It can be the practical application related to team function, collaboration, cooperation, conflict resolution, consensus, group function, etc. This is a great exercise to help facilitate positive group function and professional collaboration.