

# NASA Exercise: Ranking Survival Objects for the Moon

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## NASA Exercise Instructions

Group members should be instructed to rank the objects individually (–10 min) and then in groups (15 min.). In the group part of the exercise, all groups should be instructed to employ the method of group consensus, which requires each group member to agree upon the rankings for each of the 15 survival items before the item becomes a part of the group decision (e.g., Hall and Watson, 1970). Instructors should ensure that students interact only within groups and no cross-talking occurs between groups.

After revealing the correct answers and allowing teams to calculate their scores, record the team score and the lowest individual score from each team. Subtract the team score from the individual score; this provides the “synergy” score. Ask the students in the teams with negative synergy scores why they think their team performed as it did. Then ask the teams with positive synergy scores why they think their teams performed well. Listen for evidence of good collaboration in the teams with positive synergy.

## NASA Exercise Handout

You are a member of a space crew originally scheduled to rendezvous with a mother ship on the lighted surface of the moon. Due to mechanical difficulties, however, your ship was forced to land at a spot some 200 miles from the rendezvous point. During the crash 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 trip. Below are listed the 15 items left intact and undamaged after landing. Your task is to rank them in terms of their importance in allowing your crew to reach the rendezvous point.

**Step 1:** Without communicating with team members, rank each item in order of importance. Place the number 1 by the most important item, the number 2 by the second-most important, and so on through number 15, the least important. Record these in the column labelled “Step 1.”

**Step 2:** Now, as a team, reconsider the items and come up with a new set of rankings. Record these in the column labelled “Step 2.”

Items	Step 1 Your Ranking	Step 2 Team Ranking	Step 3 Expert's Ranking	Step 4 Difference* between Step 1&3	Step 5 Difference* between Step 2&3
Box of matches					
Food concentrate					
50 feet of nylon rope					
Parachute silk					

Portable heating unit  
 Two .45 caliber pistols  
 1 case dehydrated Pet milk  
 2 hundred-pound tanks of oxygen  
 Stellar map (of the moon's  
 constellation)  
 Life raft  
 Magnetic compass  
 5 gallons of water  
 Signal flares  
 First aid kit containing injection  
 needles  
 Solar-powered FM receiver  
 transmitter

### TOTALS

Individual Score	Team Score
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\*take the absolute values of the difference between your rankings and the expert rankings.

## NASA Exercise Answer Key

From Hall & Watson, 1970

Correct answers	Items
15	Box of matches
4	Food concentrate
6	50 feet of nylon rope
8	Parachute silk
13	Portable heating unit
11	Two .45 caliber pistols
12	1 case dehydrated Pet milk
1	2 hundred-pound tanks of oxygen
3	Stellar map (of the moon's constellation)
9	Life raft
14	Magnetic compass
2	5 gallons of water
10	Signal flares
7	First aid kit containing injection needles
5	Solar-powered FM receiver transmitter

For the original individual task (instructions and answer key), see:

Hall, J., & Watson, W. H. (1970). The effects of a normative intervention on group decision-making performance. *Human Relations*, 23, 299–317.

For use of task as a group synergy task, see:

Meslec, N., & Cur?eu, P. L. (2013). Too close or too far hurts cognitive distance and group cognitive synergy. *Small Group Research*, 44, 471–497.