



# Moon Landing Scenario

- **Who it's for:** Graduate/apprentice Cohorts, Project Teams, Leadership Teams (groups of 4-12 people)
- **When to run it:** As part of a session to improve collaboration, communication & group decision-making skills.
- **Purpose:** Reveals how teams handle disagreements balance strong personalities and make collective resolutions.
- **Running Time:** 15-30 minutes (including debrief)



## CREATED BY:

**EML Team Building**

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# Executive Summary

## Overview:

This Moon Landing scenario is designed to use when you want to:

- Run a team-building session
- Improve collaboration and communication
- Develop group decision-making skills
- Break the ice at the start of a workshop
- Energize a training day with an interactive activity
- Highlight challenges of consensus and problem-solving

## Purpose:

This activity is designed to help teams develop collaborative decision-making skills while strengthening their ability to solve problems under pressure.

It encourages participants to practise negotiation and consensus-building, improve their listening and influencing skills, and learn how to manage differing opinions effectively.

The exercise also promotes logical reasoning by challenging assumptions and helps participants build a deeper understanding of team dynamics.

In addition, the activity reveals how teams share information, handle disagreements, balance strong personalities, and make collective decisions together.

## Materials:

- Printed Moon Landing Ranking Chart (1 per group) and pens.
- A timer visible to the facilitator (phone is fine).
- Printed Answer sheet (NASA Expert Analysis) for the facilitator.

## Facilitator Tone:

The facilitator should maintain a calm, neutral, and encouraging tone throughout the activity. The facilitator's role is to guide the process rather than to lead the group or evaluate its decisions. Responsibilities include keeping the discussion focused and productive, ensuring balanced participation from all team members, maintaining a safe environment for sharing ideas, and refraining from influencing the group's decisions.

Time	Activity	Purpose	Facilitator notes
0-3 mins	Welcome & rules	Set a safe, energetic tone	Explain: be curious, keep it light, everyone gets a 'pass'.
3- 23 mins	Activity: Moon Landing Scenario	Discuss problems, negotiate disagreements and make decisions as a team	Aim: talk about each item in depth and decide on a final ranking score by the end of the time limit.
23- 30 mins	Answer Reveal & Debrief	Reflect on how they worked together rather than focusing only on the final score	Identify key takeaways, summarise key lessons learned and close positively.



# Moon Landing: Making Decisions Together

## The Scenario:

Your team is part of a space crew that needs to reach a mother ship on the sunlit surface of the Moon.

Due to a technical failure, your spacecraft has made an emergency landing 200 miles away from the rendezvous point. The ship can no longer travel, and some equipment has been damaged during landing.

To survive, the crew must travel together across the Moon's surface to reach the mother ship. This will mean travelling across both the dark side and light sides of the Moon.

## The Task:

There are 15 items that survived the landing and are still usable.

As a team, your job is to:

- Discuss each item
- Agree how useful it will be for surviving the 200-mile journey
- Rank the items from 1 to 15, where:
  - 1 = most important for the team's survival
  - 15 = least important

## The Rules:

- You must agree collectively - no voting
- Every team member must contribute
- You cannot look up answers
- Focus on logic, not assumptions



# Moon Landing: Ranking Chart

Team Rank	Salvaged items	NASA Rank	Point Difference
	Box of matches		
	Food concentrate		
	50 feet of nylon rope		
	Parachute silk		
	Two .45 calibre pistols		
	One case dehydrated milk		
	Two 100-pound tanks of O2		
	Stellar Map		
	Self-inflating life raft		
	Magnetic compass		
	Five gallons of water		
	Signal flares		
	First Aid Kit + needles		
	Solar powered FM receiver		
	Portable heating unit		
<b>TOTAL SCORE:</b>			



# Moon Landing: NASA Expert Analysis

Item	Rank	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 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 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 1/6th of the Earth's - each tank would weigh only about 17 lbs./7.7kg on the moon.)
Stellar Map	3	Primary means of navigation – star patterns appear identical on the moon as on Earth.
Self-inflating 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.
5 gallons 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 (inc injection needle)	7	Needles connected to vials of vitamins, medicines, etc. will fit special aperture in NASA space suit.
Solar Powered FM receiver	5	For communication with mother ship (but FM requires line-of-sight transmission and can only be used over short ranges.)

# Moon Landing: Scoring

## How to Score:

Once all 15 items have been given a ranking, compare the team's ranking for each item with the official expert ranking from NASA.

- For each item, calculate the difference between the two rankings by subtracting one from the other and ignoring positive or negative signs. (For example, if the team ranks an item as 6 and the expert rank is 2, the difference is 4 points.)
- Repeat this process for all fifteen items.
- Add all the individual differences together to calculate a total score.

Once the total score is calculated, it can be matched to the scoring scale to determine the team's overall rating, ranging from Excellent to Very Poor.

The total score shows how closely the team's decisions matched the expert analysis.

- A lower total score indicates better team performance because it shows the group's decisions were closer to the expert recommendations
- A higher score indicates that the team's choices were less accurate.

Points	Ranking	What this means:
0 - 25	<b>EXCELLENT</b>	Outstanding teamwork - You and your crew demonstrated great survival skills!
26 - 32	<b>GOOD</b>	Strong performance - Above average results!
33 - 45	<b>AVERAGE</b>	Adequate decision making - It was a struggle but you made it in the end...
46 - 55	<b>FAIR</b>	At least you're still alive, but only just!
56 - 70	<b>POOR</b>	Sadly not everyone made it back.
71 +	<b>VERY POOR</b>	Mission failed - Your bodies are currently floating around the surface of the moon.

# Facilitator Notes

## Purpose of the Activity:

- Encourage team communication, problem-solving, and consensus-building.
- Highlight how groups handle uncertainty, differing opinions, and prioritization.
- Practice negotiation and reasoning under pressure.

## Before the Activity:

1. Prepare Materials (documents, pens, paper etc)
2. Set the Scene (emphasise that the scenario is high stakes and their survival depends entirely on their subsequent decisions)
3. Explain the Rules Clearly (everyone must contribute and no item can remain unranked)

## During the Activity:

The Facilitator role is to observe group dynamics, encourage quieter members to share their thoughts, and to ask guiding questions such as:

- “Why do you think this item is more important than that one?”
- “Does anyone see a potential danger we haven’t discussed?”
- “How would this item help everyone survive the dark side of the Moon?”

Sometimes it might be necessary to clarify the items to make sure everyone understands what each item is and its function. Some items may have multiple uses to it is important to encourage discussion on primary *and* secondary utility.

## After the Activity:

Once the activity has been scored, it is essential to wrap up the activity by identifying key takeaways and discussing the situation with a proper debrief.

1. **Set the tone:** Emphasise that the discussion is about learning, not judging performance. Avoid focusing too heavily on the score; instead, frame the conversation around teamwork and group process.
2. **Start with initial reactions:** How did the task feel?, What part was the most challenging?, What part was the most enjoyable?
3. **Explore team decision-making:** Were decisions made logically or based on assumptions? Were decisions made quickly or did they over-analyse?
4. **Examine communication patterns:** Did they listen to all the voices in the team? Did everyone have the opportunity to contribute? Were ideas built upon or dismissed?
5. **Discuss handling of disagreements:** Were disagreements constructive or avoided? How were differing opinions resolved? Did any tension affect decision quality?
6. **Highlight team dynamics:** Did any natural leaders emerge? Were there any other roles that participants took on? Who spoke the most and least?
7. **Connect to workplace reality:** What they will take from this activity into the workplace? How are they affected by time pressure and uncertainty?
8. **Summarise key lessons learned:** What they would do differently next time? What helped the team succeed?
9. **End the discussion on a positive note:** Thank the group for their participation and emphasise that strong teamwork is about process improvement, not perfect answers.

# Additional Notes:

## Scaling, Variations & Troubleshooting

Use these adjustments to keep the session smooth, whatever the group size/format.

### Group size:

- **4-7:** Easier discussion, less need to mediate.
- **8-12:** May need subgroups to discuss items first, then consolidate.

### Hybrid or remote:

Use breakout rooms for larger group sizes so different sub-groups can discuss the items and each prepare a suggested ranking to share with the whole group when back in the main room. To obtain a whole group consensus, make use of shared whiteboards or use a polling tool. Note that discussions and decision making could take longer online.

### Common issues:

**Dominant voices:** Some participants may try to control the group. Invite quieter members to share first or ask for justification of dominant opinions.

**Confusion about item use:** Some items may seem irrelevant but could be critical in combination. Encourage creative thinking and problem-solving as a team.

**Groupthink:** Teams may converge too quickly without critical evaluation. Encourage debate and alternative perspectives.

## Want to make this part of a wider team building experience?

You can add this session into a facilitated Team Unity workshop focusing on communication and behaviours under pressure, or by turning it into a competitive format with fun, inclusive team challenges linked to company values.

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