

## Week 1: Teamwork

### Moon Landing Exercise

#### What is it?

A team-building game to reinforce the concept of using critical thinking in prioritisation activities. It was originally developed by NASA.

#### Why do it?

The Moon landing exercise helps teams practice collaborating effectively in determining priorities.

#### Time Needed

35 minutes

#### Number of Participants

This can be done in a small group or a large group that will break up into smaller groups of 3 to 4.

#### Supplies Needed

- ranking worksheet (or paper)
- pen

#### Process Steps

All the items are provided below.

1. Read The Scenario to the team(s).
2. Provide everyone with The Ranking Worksheet or display the list of items and ask everyone write them down on their own piece of paper.
3. Ask everyone to rank the items individually first (allow about 10 minutes).
4. Ask everyone to get together in a group(s) and rank the items together (allow 20 minutes).
5. Read or display the answers and explanations to the group and ask them score themselves. Their score will be a calculation of:
  1. For each time, find the difference in their ranking and the actual ranking (the positives and negatives don't matter).
  2. Add those.
6. The lower the total the better The Score.

## **The Scenario**

You are a member of a space crew scheduled to rendezvous with a mother ship on the near side 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.

There are 15 items listed as being intact and undamaged after landing. Your task is to rank them in terms of their importance for your crew, to enable 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.

## **The Ranking Worksheet**

*See PDF*

## The Answers

The correct answers were determined by a group of scientists and engineers at NASA.

## NASA Expert Answers

| Item                                       | Correct Rank | Explanation                                                                                                                                             |
|--------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.                                                                                                                         |
| 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            | 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.                                                                      |
| Five 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 containing injection needles | 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.)                                 |
| Portable heating unit                      | 13           | Not needed unless on the dark side.                                                                                                                     |

## The Scores

- 0 – 25: Excellent! You and your crew demonstrate great survival skills!
- 26-32: Good. Above average results. You made it!
- 33-45: Average. It was a struggle, but you made it in the end!
- 46-55: Fair. You are still alive, but barely.
- 56-70: Poor. Unfortunately, not everyone made it back.
- 71+: Very Poor. It's a grim reality. Your team will spend eternity on the moon.

## Debrief

When human life is at stake, we should prioritise what to use to keep us alive!

When organisations are at stake, teams need to use critical thinking skills to determine what is truly important and delivers value.

This game is a fun way to show that we need to understand true needs, not wants.

Bonus insight: most people who play this game will score higher on the group ranking than on their individual ranking... an indicator that communication and sharing knowledge is key to team success (and survival for that matter).