**ROYAL CANADIAN AIR CADETS**

**PROFICIENCY LEVEL TWO**

**INSTRUCTIONAL GUIDE**

**SECTION 3**

# EO M240.03 – PARTICIPATE IN A SPACE SURVIVAL SCENARIO

Total Time: 30 min

## PREPARATION

### PRE-LESSON INSTRUCTIONS

Resources needed for the delivery of this lesson are listed in the lesson specification located in A-CR-CCP-802/PG-001, Chapter 4. Specific uses for said resources are identified throughout the Instructional Guide within the TP for which they are required.

Review the lesson content and become familiar with the material prior to delivering the lesson.

Photocopy the survival scenario located at Annex A for each group.

### PRE-LESSON ASSIGNMENT

N/A.

### APPROACH

An in-class activity was chosen for TP1 as it is an interactive way to provoke thought and to stimulate an interest in space survival among cadets.

A group discussion was chosen for TP2 as it allows the cadets to interact with their peers and share their knowledge, experiences, opinions, and feelings about survival in space.

## INTRODUCTION

### REVIEW

N/A.

### OBJECTIVES

By the end of this lesson and in groups of no more than four, the cadets shall have participated in a space survival scenario.

### IMPORTANCE

It is important for cadets to participate in a space survival scenario to understand the challenges astronauts face while living in space. Cadets will be able to use their knowledge about space survival in future space activities in the Cadet Program.



Unofficial convenience copy of A-CR-CCP-802/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-802-PF-001/A-CR-CCP-802-PF-001.pdf.
Verify against the official publication.

**Teaching point 1** **Choose Five Survival Items to Survive in Space**

Time: 15 min Method: In-Class Activity

**Water on the Moon**

On March 5, 1998, NASA scientists announced the discovery of water on the Moon.

Ice exists because the shadows on the moon are very frigid. The temperature in the shadow is approximately minus 140 degrees Celsius. Anywhere else on the Moon, water would be vaporized by the intense sunlight and lost to space.

**Living in Space**

Astronauts must learn to manage everyday activities in space. Simple hygenic tasks like brushing your teeth can prove to be a challenge in space. Everything floats in space unless it is tied down. Even the consumption of food can be a challenge. Astronauts stay away from crackers and bread because the crumbs go up their nostrils.

Astronauts are kept very busy while in space. Aside from continuing to build the International Space Station (ISS), another very important part of their mission while living in space is to perform several experiments. These experiments focus on developing technologies to improve not only life in space but also life on Earth.

## ACTIVITY

### OBJECTIVE

The objective of this activity is to introduce and develop the cadets' interest and understanding of living in a space environment.

### RESOURCES

Survival scenario located at Annex A.

### ACTIVITY LAYOUT

N/A.

### ACTIVITY INSTRUCTIONS

1. Divide the cadets into groups of no more than four.
2. Provide each group with a copy of the scenario.
3. Commence the activity by reading the scenario to the cadets.
4. Inform the cadets that they have 15 minutes to complete the activity.

### SAFETY

N/A.



Unofficial convenience copy of A-CR-CCP-802/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-802-PF-001/A-CR-CCP-802-PF-001.pdf.
Verify against the official publication.

## CONFIRMATION OF TEACHING POINT 1

The cadets' participation in the activity will serve as the confirmation of this TP.

**Teaching point 2** **Have the Cadets Explain Why They Chose Their Items for Survival**

Time: 10 min Method: Group Discussion

## BACKGROUND KNOWLEDGE




The point of the group discussion is to discuss the groups' reason for choosing their items to complete the survival scenario using the tips for answering/facilitating discussion and the suggested questions provided.

## GROUP DISCUSSION




### TIPS FOR ANSWERING/FACILITATING DISCUSSION

Establish ground rules for discussion, e.g. everyone should listen respectfully; don't interrupt; only one person speaks at a time; no one's ideas should be made fun of; you can disagree with ideas but not with the person; try to understand others as much as you hope they understand you; etc.

Sit the group in a circle, making sure all cadets can be seen by everyone else.

Ask questions that will provoke thought; in other words avoid questions with yes or no answers.

Manage time by ensuring the cadets stay on topic.

Listen and respond in a way that indicates you have heard and understood the cadet. This can be done by paraphrasing their ideas.

Give the cadets time to respond to your questions.

Ensure every cadet has an opportunity to participate. One option is to go around the group and have each cadet answer the question with a short answer. Cadets must also have the option to pass if they wish.

Additional questions should be prepared ahead of time.

### SUGGESTED QUESTIONS

Q1. What were the items that your group selected to survive in space?

Q2. Why did your group select these survival items?

Q3. What was the most important item on your list and why?



Unofficial convenience copy of A-CR-CCP-802/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-802-PF-001/A-CR-CCP-802-PF-001.pdf.
Verify against the official publication.



Other questions and answers will develop throughout the group discussion. The group discussion should not be limited to only those suggested.



Reinforce those answers given and comments made during the group discussion, ensuring the teaching point has been covered.

**SAFETY**

N/A.

## CONFIRMATION OF TEACHING POINT 2

The cadets' participation in the group discussion will serve as the confirmation of this TP.

## END OF LESSON CONFIRMATION

The cadets' participation in the space survival scenario will serve as the confirmation of this lesson.

## CONCLUSION

**HOMEWORK/READING/PRACTICE**

N/A.

**METHOD OF EVALUATION**

N/A.

**CLOSING STATEMENT**

Participating in a space survival scenario may develop the cadets' interest in space by introducing elements of survival in space. Understanding the challenges astronauts face while living in space may be of use in future space activities in the Cadet Program.

**INSTRUCTOR NOTES/REMARKS**

N/A.

## REFERENCES

C3-111 Lakeland Central School District. (2007). *Space Survival Challenge.* Retrieved 27 February 2007, from http://www.lakelandschools.org/EDTECH/leslie/space.htm.



Unofficial convenience copy of A-CR-CCP-802/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-802-PF-001/A-CR-CCP-802-PF-001.pdf.
Verify against the official publication.

# SPACE SURVIVAL SCENARIO

## Situation

You are a member of a shuttle crew scheduled to meet with the International Space Station (ISS). Due to a systems failure, you and three astronauts had to crash-land on the Moon. During the landing, much of the equipment aboard was damaged. Only eight items of equipment were left undamaged. Since survival depends on waiting for the arrival of a rescue shuttle from the ISS, the most critical items must be chosen to help you survive while waiting for the arrival of the shuttle.

## Mission

You will be working in groups of four as a team of astronauts. Your survival depends on selecting a maximum of five items that you will need while waiting for the rescue shuttle to arrive. Your challenge is to rank, in order (most to least important), those items that have been left undamaged on your shuttle. Base your decisions on what you already know about conditions in space and on the Moon.

## Items that Survived the Crash Landing

- a box of matches,
- 2 x 50 kg tanks of oxygen,
- 20 litre of water,
- 15 m of nylon rope,
- a magnetic compass,
- a stellar map of the Moon’s constellations,
- a solar-powered receiver-transmitter, and
- a reconstituted food package.

## Instructions

1. Select five items from the list that your team will need to survive until the arrival of the rescue shuttle.
2. Rank your objects in order from most to least important.
3. Justify your choices within your group.
4. Prepare to present your findings to the class in a group discussion.



Unofficial convenience copy of A-CR-CCP-802/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-802-PF-001/A-CR-CCP-802-PF-001.pdf.
Verify against the official publication.

THIS PAGE INTENTIONALLY LEFT BLANK



Unofficial convenience copy of A-CR-CCP-802/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-802-PF-001/A-CR-CCP-802-PF-001.pdf.
Verify against the official publication.