

# Inventors Wanted

This activity is from *Inventors Wanted* Summer Camp. For more information on how your Challenger Learning Center can obtain a copy of this camp curriculum, contact the Challenger Learning Center of Greater Washington at (703) 837-5640.

To find out how to attend a Challenger Learning Center summer camp, contact your local Learning Center. To find a Learning Center near you, visit [www.challenger.org](http://www.challenger.org).





# Mission Survival

## GRADE LEVEL

Summer Camp, rising 5<sup>th</sup>-7<sup>th</sup> graders.

## DURATION

30 minutes

## SCHEDULED TIME

Friday, 11:30 a.m.

## CONTENT OVERVIEW

To survive in a hostile environment, basic human requirements must be met. Earth's atmosphere provides the air we need to breathe, atmospheric pressure that the human body requires to function, and protection from much of the harmful radiation from the Sun. On Earth, some basic human needs include food, water, shelter, and clothing. The body can go without food longer than it can go without water. Shelter provides protection from the elements such as extreme temperatures and inclement weather. Likewise, proper clothing allows humans to live and function in comfort. Usually, these needs are easily met. However, in extreme situations, humans must prioritize their needs in order to survive. Tools, resources, and skills may be necessary to obtain food and water or to construct proper shelter and make clothing. Communication can be key to survival as well. In a hostile environment, successful teamwork may be all that stands between the life and death of individuals.

## ESSENTIAL QUESTION

Why is reaching consensus and prioritizing essential to making team decisions?

## OBJECTIVE

Campers will be able to:

- ◆ Discuss and reach consensus on items to include in a survival kit in an emergency situation.
- ◆ Decide, evaluate, and formulate problem solving skills to plan a course of action.

- ◆ Establish criteria for the contents of a survival kit.
- ◆ Identify hostile environmental elements to be overcome in Antarctica.
- ◆ Compare and contrast the hostile environment of Antarctica to other places on Earth or in the Solar System.

## MATERIALS

Per student:

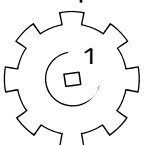
- ◆ Journal page
- ◆ One pencil

## PREPARATION & MANAGEMENT

1. Based on the scenario, students will plan what they would do. Each group must reach consensus. Should they stay put near the plane or head for the base camp?
2. Student/teams will need to come to consensus on their answers (i.e., complete agreement).
3. Have students put a star next to the essential items for their survival kit.
4. As a class or in groups of six, have students answer the questions on the student worksheet.

## EXTENSION

1. Encourage the students to create their own list of items to rank order.
2. Plan and create a first aid kit for home use.
3. Find out the skills needed for wilderness survival training, where a person spends several days alone living off the land.
4. What contingency plans are in place for the Space Shuttle, the International Space Station, or a space suit?
5. What can your class do to help those that survive a natural disaster?



# Mission Survival

Life in a hostile environment requires careful thinking and planning to meet human survival requirements. In many respects, Antarctica is an excellent training ground for a long duration, human mission on Mars. Like Mars, Antarctica is barren and typically very cold. Unlike Mars, Antarctica has air, atmospheric conditions fit for humans, and access to water.

You are part of a six-person crew on its way to Antarctica to collect meteorites, which are easily found in the white snow. Just short of base camp, the plane develops electrical problems and crashes. Miraculously nobody is seriously injured, but all radio communication has been permanently damaged.

The pilot estimates that the team is approximately a five-day walk from base camp. Another plane with a second crew will be flying out to camp in two weeks.

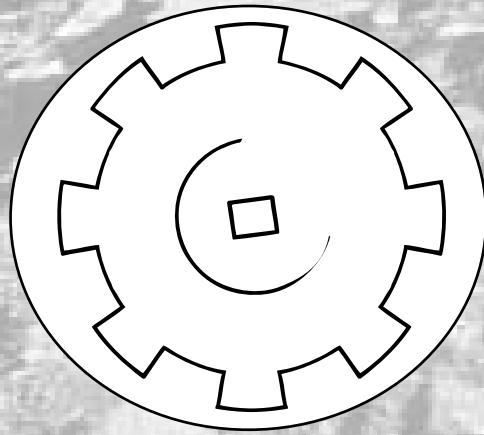
1. As a class or in groups of six, answer the questions below. You will need to come to consensus on your answers (i.e., complete agreement).

Based on the scenario above, plan what you would do. Your group must reach consensus. Should you stay near the plane or head for the base camp?

2. The items below survived the crash. If you decide to head for base camp, you can only take what you can carry with you to survive until you can get help or be rescued. What items are essential for your survival kit?

Put a star next to the essential items for your survival kit.

- |   |  |
|---|--|
| <input type="checkbox"/> Parachutes (2)             | <input type="checkbox"/> Campstove                                     |
| <input type="checkbox"/> Matches (1 book)           | <input type="checkbox"/> Dehydrated food (2 boxes of 4 dozen packages) |
| <input type="checkbox"/> Sleeping bags (2)          | <input type="checkbox"/> Scissors                                      |
| <input type="checkbox"/> Long underwear             | <input type="checkbox"/> Twine   |
| <input type="checkbox"/> Water (12 gallons)         | <input type="checkbox"/> Canned chili (2 boxes of 48 cans)             |
| <input type="checkbox"/> Pick axe                   | <input type="checkbox"/> Mess kits (6)                                 |
| <input type="checkbox"/> Flashlight                 | <input type="checkbox"/> Make-up compact with mirror                   |
| <input type="checkbox"/> Candy bars (1 box of 24)   | <input type="checkbox"/> Flare gun                                     |
| <input type="checkbox"/> Fruit (1 crate of bananas) | <input type="checkbox"/> Portable radio                                |
| <input type="checkbox"/> Hammer                     | <input type="checkbox"/> Thermal boots                                 |
| <input type="checkbox"/> Screwdriver                | <input type="checkbox"/> Duct tape                                     |
| <input type="checkbox"/> Nails & screws             | <input type="checkbox"/> Collection bags                               |
| <input type="checkbox"/> Shovel                     |  |



## Mission Survival

### Student Task Card

You are part of a six-person crew on its way to Antarctica to collect meteorites, which are easily found in the white snow. Just short of base camp, the plane develops electrical problems and crashes. Miraculously nobody is seriously injured, but all radio communication has been permanently damaged.

The pilot estimates that the team is approximately a five-day walk from base camp. Another plane with a second crew will be flying out to camp in two weeks.

1. As a class or in groups of six, answer the questions below. You will need to come to consensus on your answers (i.e., complete agreement).

Based on the scenario above, plan what you would do. Your group must reach consensus. Should you stay near the plane or head for the base camp?

2. The items on your journal sheet survived the crash. If you decide to head for base camp, you can only take what you can carry with you to survive until you can get help or be rescued. What items are essential for your survival kit?

# Challenger Center Programs



The internationally acclaimed **Challenger Learning Center** Network currently consists of state-of-the-art, innovative educational simulators located at 49 sites across 29 states, Canada, and the United Kingdom. Staffed by master teachers, the core of each Center is a two-room simulator consisting of a space station, complete with communications, medical, life, and computer science equipment, and a mission control room patterned after NASA's Johnson Space Center. See [www.challenger.org](http://www.challenger.org) for information.

A joint initiative of Challenger Center for Space Science Education, the Smithsonian Institution, and NASA, *Voyage — A Journey through our Solar System* is a space science exhibition project that includes permanent placement of a scale model solar system on the National Mall in Washington, DC, and at locations all over the world. See [www.voyageonline.org](http://www.voyageonline.org) for information.



**Space Day<sup>SM</sup>** launches new *Design Challenges* created by Challenger Center each school year. The inquiry-based challenges are designed to inspire students in grades 4-8 to create innovative solutions that could aid future exploration of our solar system. See [www.spaceday.org](http://www.spaceday.org) for information.

Challenger Center's *Journey through the Universe* program provides under-served communities with diverse national resources, including K-12 curriculum materials, teacher workshops, classroom visits by scientists from all over the country, and Family Science Nights. See [www.challenger.org/journey](http://www.challenger.org/journey) for information.



The **MESSENGER** spacecraft (MErcury Surface, Space ENvironment, GEOchemistry and Ranging) is to be launched in 2004 and go into Mercurian orbit in 2009. Challenger Center is one of the partner organizations charged with MESSENGER education and public outreach activities. See [www.messenger.jhuapl.edu](http://www.messenger.jhuapl.edu) for information.

Through the Challenger Center **Speakers Bureau, Voyages Across the Universe**, staff members speak to student audiences of 30-1,000, conduct workshops for 100-300 educators, give keynote and featured presentations at conferences, as well as conduct Family Science Nights at the National Air and Space Museum, and other facilities across the nation, for audiences of 300-1,000 parents, students, and teachers. See [www.challenger.org/speakers](http://www.challenger.org/speakers) for information.

For information about other Challenger Center programs, or to purchase our classroom resources, visit [www.challenger.org/store](http://www.challenger.org/store).