

## Topic 7 Extra Resources

### An EXPANDED Survival in Antarctica Lesson. Choose to add or modify from the presented plan (70 Minutes)

Warm-up: Your plane has crashed at Antarctica. You have decided to start walking to look for the nearest base. You cannot carry all of your gear so you have to choose 10 things. ( see handout [Survival at Antarctica](#) ) Tick 10, rank them in order of importance at least the first five. You arrive safely at the base, and can request 10 food items to be dropped by helicopter into your base add to your survival kit before you have to go out onto the field again. Discuss what food you would need to add to the list with your partner and write a list with a total *fifteen* survival items, including food for your Antarctic Field Box. Finally look at the [Antarctic Field Box Food Contents](#) from the International Antarctic Centre. Have you included any of these foods? Are there any foods you would swap out into your list now?

- **Additional web links to access more info:**

<https://www.coolantarctica.com/Antarctica%20fact%20file/science/food.php>

<https://www.2foodtrippers.com/antarctica-food/>

#### Lesson description:

1. Read through the history, requirements and contents for food in Antarctica

<https://www.coolantarctica.com/Antarctica%20fact%20file/science/food.php>

2. Show the following powerpoint presentation on Making Sledging biscuits to your class:

[https://www.coolantarctica.com/schools/antarctic\\_sledging\\_biscuit\\_recipe.php](https://www.coolantarctica.com/schools/antarctic_sledging_biscuit_recipe.php)

**Observe, describe, and compare physical and chemical properties** of butter when it is frozen, at room temperature and then in a liquid form.

Note that the following recipe is dependent on butter, not other substitutes; but butter is a *rare item* in Antarctica. Do you think it should have been on your survival list? Was it?

Break the class into group A for cooking and group B.

Give one group frozen butter to cook over a primus and one group butter at room temperature to cook with an oven.

Time how long it takes to make your own sledging biscuits using the following recipe;

[https://www.coolantarctica.com/schools/antarctic\\_sledging\\_biscuit\\_recipe.php](https://www.coolantarctica.com/schools/antarctic_sledging_biscuit_recipe.php)

Which group took the longest, the group with frozen butter or the group with butter at room temperature? What does this mean for planning food preparation in cold Antarctica?

Which batch of biscuits looks and tastes the best? What does this mean for preparing food in freezing temperatures?

- **For Years 6-8** Now get creative with what else is possible to cook in Antarctica by reading these examples;

<https://www.2foodtrippers.com/antarctica-food/>

Design a menu to a Midwinter Dinner in Antarctica, remembering that you would have been in Antarctica for 3 months already and everything that you eat would have to come from the limited supplies in your Antarctic Base pantry. Explain your menu to the class and think of a windwint Dinner toast that you would say to your guests before you start the meal that acknowledges the Treaty Countries, Past Explorers and current Antarctic missions!

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### How much Food do we waste? (Years 6-8)

Understand that a lot of food and resources are wasted along the food supply chain, which should be prevented

<https://lovefoodhatewaste.co.nz/wp-content/uploads/2017/08/Activity-1-How-much-food-do-we-waste-lesson-plan.pdf>

#### Lesson description:

- Equipment needed: large tarpaulin, scales, newspapers, gloves and boxes
- Students empty lunchboxes onto the tarpaulin (after lunch)
- Appoint photographer(s) and videographer(s)
- Choose learners to act as sorters to separate out the food and rubbish
- Then separate out again into the following categories: avoidable food waste; unavoidable food waste; potentially avoidable food waste; containers which hold things; paper & cardboard; things you can scrunch; rubbish (cannot recycle).
- Weigh each pile: (put in box and minus box from measurement)
  - Rank from heaviest to lightest.
  - Multiply the daily food waste to find out volumes for each month and year.
- Ask learners what they are thinking about the amount of food in front of them.
- What is the harm in wasting food? A global issue! [SDG 12.3](#) - halve food waste by 2030
  - **Socially**, 1 in 9 people in the world are undernourished
  - **Environmentally**, food waste is responsible for 8% of global greenhouse gas emissions
  - **Economically**, average New Zealand family spends over \$500 in wasted food
- Tips and tricks for reducing food waste: see poster below and ask students to make their own "food waste poster" for their fridge at home, or a video to share online.



## A whole SUITE of compost activity options: Do the Rot Thing!

See link below for expanded versions of compost activities.

You could set up your own compost, go school-wide, teach students how to do so at home, and more!

[http://www.cvsmd.org/uploads/6/1/2/6/6126179/do\\_the\\_rot\\_thing\\_cvsmd1.pdf](http://www.cvsmd.org/uploads/6/1/2/6/6126179/do_the_rot_thing_cvsmd1.pdf)

## Visualise how food gets to your plate (10 Minutes)

All students stand up, and paper signs around the room denote, "Kumara, Pineapples, Wheat (Bread!), Milk, Chicken, Pork, Beef" Teacher asks what region this food comes from. When students see that a lot of food comes from outside of the country to supermarkets, ask students to name foods that they've had at farmers markets or grow at their homes!

*most of our beef is grown right here in Aotearoa, Kumara is also local. A major portion of chicken is from Australia. Pineapple from Central America, Milk is from NZ (not 100% of milk, of course). Grains like wheat are some of our biggest imports from the United States. . Pork is from Belgium and China primarily (choose which one tells a better story for your kids.) It comes from over 20 countries in total!*

Prompt class discussion: Ask them to think back two weeks to Trick Transport, and how they learned about active transport.

- "Do you think it requires more transport to eat farmers market food, or wheat from the United States?"
- "Can we enjoy food more if we see where it's growing?"

## I Can Compost (15-20 Minutes)

First: **Watch this clip on compost:** <https://www.youtube.com/watch?v=dRXNo7leky8>



Then: **“I Can Compost” Activity**

*Teacher Information: Anything that can decompose is biodegradable material.*

*Biodegradable materials include wood chips, twigs, straw, paper, leaves, manure, fruits, and vegetables. Some less common materials are kelp and old cotton clothes. All of these materials can be composted at home.*

*In order for students to enjoy the game, they need a thorough knowledge of what kinds of materials can be composted. The game is best played outdoors, but can be played sitting down in a confined or indoor setting. The game can be played in two parts. The first part is designed to let students get the hang of it, and the second is the actual game. Make sure students know to walk, not run, and to tag the person, not the ball.*

**1. Remind participants that some of the things we throw away, like aluminum cans and plastic bottles, do not decay.** They are called non-biodegradable because the material they were made from does not decay easily. Banana peels, leaves, wood, and paper are all examples of biodegradable matter. Biodegradable matter can decay, or break down, and eventually becomes compost. Composting is a way of recycling the organic materials that the participants otherwise might throw away.

**2. [Optional]** On the board or on individual papers, give participants three minutes to list as many biodegradable items as possible that could be composted. You may also want to list materials that cannot be composted.

3. To start the game everyone stands (or sits) in a circle. The first part of the game is to give students a taste of the game. It is not Tag at first.
4. Call out a participant's name and something that can be composted: "Sarah, Banana Peel!" Toss the ball to the participant named and then sit down. The participants continue in this fashion, calling out compostable material and tossing the ball to the named participant, until everyone is sitting.
5. Now the tag part can begin! One participant is placed in the middle of the circle and becomes "it." The person in the middle must tag the person with the ball before the ball is tossed. The person throwing the ball names something that can be composted and then throws it to someone else before being tagged. If the student with the ball doesn't name something before s/he throws the ball, s/he will be tagged, become "it," and will change places with the one in the middle.



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*If you have more than one classroom participating in Squawk Squad, or are just loving the dirt, implement a small compost bin outside the classroom door, and make signs about what can and cannot go into it. And plenty more variations at [Do the Rot Thing!](#)*