

ESTIMATING SURVIVAL

· ESTIMATING & CALCULATING ·



CURRICULUM AREA: Mathematics

TARGET YEAR LEVEL/S: Years 6 – 7 (Possibly Higher)

CLASS TIME: 3 lessons of 40 minutes

LESSON BACKGROUND

Chris & Clark will be traveling across a virtually uninhabited land mass in what they estimate to be a 100 day journey. This lesson takes a look at some of the Mathematics involved in carrying out and surviving that journey. Considering food and water intake, distance traveled, time taken, etc.

OUTCOMES

- Poses mathematical questions prompted by a specific stimulus or familiar context and uses problem-solving strategies that include those based on representing key information in models, diagrams and lists.
- Students choose and use a repertoire of mental, paper and calculator computational strategies for each operations, meeting needed degrees of accuracy and judging the reasonableness of results.

PREPARATION

- Some blank paper for problem solving.
- Food and Calories/[Kilojoules chart](#)
- Chris & Clark's 'Food' [information](#)

STUDENT ACTIVITY

A number of mathematical issues encompass 'making the distance' in C&C's expedition, but begin this lesson with these two PROBLEM SOLVING examples:

How much water would YOU need to make a 100 day journey?

- 1) Students should first consider how much water they drink in a day (say one glass is equivalent to 250mL)
- 2) How much would they need over 100 days? How many Litres is that? How many glasses is that? Does that sound like a reasonable amount to carry? What makes you think more? What makes you think less?
- 3) How much water would C&C carry with them? Is there is a better option? Is there is a source of local water?

How much of what foods would you need to maintain a DAILY requirement of 4500 calories?

- 1) Consider what amounts of food they would need to eat in ONE day in order maintain that requirement.
- 2) What combinations of food would they need over 100 days?

Finally, after considering and calculating those two problem solvers, students should be given C&C's FOOD information (the planned food arrangements that they had made prior to the trip).

Will Chris and Clark survive a 100 day journey with what those food arrangements?

Students will realise that the planned food is not enough to maintain their required diet, as they plan to fish for extra food along the journey.

EXTENSION

More advanced year levels can investigate and calculate the energy intakes needed for men of different weights.

With a plentiful supply of snow and ice available, discuss the options of recovering water from the environment, without using artificial heat sources.

Research the availability of liquid water on Victoria Island and how it might be accessed.