

## Ice man


The Polar Ice Cap Expedition made a gruesome discovery yesterday on its return leg of a five week ice-core collection trip. Team leader, Dr Fiona Allen, sent a message to police that her team had come across some human remains while drilling an ice core. "The remains seemed old but well preserved" Dr Allen said. Scientists have been flown into the site to examine the remains. The expedition will continue to collect ice cores to provide the team with more information about past climates.

When Dr Fiona Allen returns to Australia she employs you to study the ice core she and her team extracted from the "Ice Man" site. Your job is to find out about the age of the remains and try to find out why a person would be so far north on the ice cap. She also tells you that she spoke with some of the native people of the area who said that it is common practice for hunters to journey onto the polar ice cap, but not as far as where the remains were found.


You notice that the core contains nine layers of volcanic ash from which you remove a small sample and send away for radiometric dating. The dating team returns you a range of dates for each sample - the youngest age and the oldest age of each volcanic layer. You assume that there is always a error of 10 years in their dating, so that a range of less than ten years is probably one volcanic eruption of an age between the two dates (ie. VE1 was an eruption 3 705 years ago).

The information they provided is :

Volcanic Event number	Youngest age (years ago)	Oldest age (years ago)
VE1	3 700	3 710
VE2	4 702	4 710
VE3	5 295	5 300
VE4	8 715	8 722
VE5	8 932	8 935
VE6	13 885	13 891
VE7	19 420	19 427
VE8	19 610	20 343
VE9	20 717	20 726

 On the ice core log provided, write the ages of each volcanic event on the right-hand side of the core.

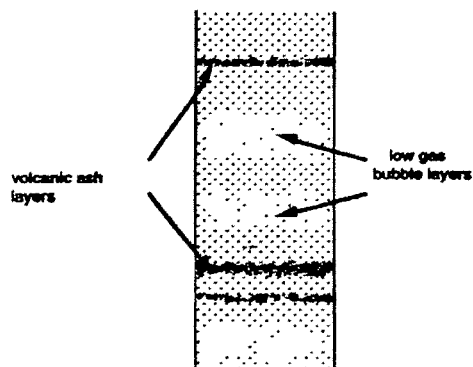
? How many years does this core represent? \_\_\_\_\_

 Calculate the time scale of the ice core by measuring its length and dividing it by the total amount of years it represents.

1mm= \_\_\_\_\_ years

? What is the approximate age of the ice in which the Ice Man was found? \_\_\_\_\_

You also know that areas in ice cores which are low in gas bubbles represent periods of time when the climate was slightly warmer and the ice melted releasing the gases.



These zones are marked a to e on the left-hand side of the ice core.



# ICE MAN LOCATION ICE CORE

Ice core log

