

[Questions and Answers](#) [1]

During the field trip, students posted questions on the [Ask-an-Expert](#) [2] Web Board. The answers were provided by [Antarctica Experts](#) [3] and by [Shelley the LEARNZ Field Trip Teacher](#) [4].

All field trips have an Ask-an-Expert web discussion board for this purpose. When the web board closed one month after the field trip, a selection of questions and answers were moved to this page.

Does your heart beat slower in Antarctica because of the cold temperatures?

Hi Ella, interesting question. No your heart does not beat slower, unless you get hypothermia and your whole body starts to shut down from the cold - but this is really uncommon as we all have been given very warm clothing and are trained on how to stay warm enough while working and travelling around outside.

From Shelley the LEARNZ field trip teacher.

Have you come across anything unusual or unexpected while carrying out your scientific research in Antarctica?

Hi George, the scientists have worked here quite a few times so have lots of stories of unusual things. Sal told me yesterday about how they were walking on the Ross Ice Shelf (a glacier that flows down the hill into McMurdo Sound where it meets the sea ice) and they found a shell. They thought that the shell had been pushed up from the sea floor by anchor ice that forms on the bottom of the sea and then it met the ice shelf where over thousands of years it was pushed up through the ice and as the ice melted and moved downwards it eventually appeared on the top of the ice (a journey of about 300m) - pretty amazing eh!

From Shelley the LEARNZ field trip teacher.

How do they drill the holes in the sea ice and get them big enough to dive in? Do they use special diving suits to keep the divers warm in the freezing water?

Hi there, the holes which are drilled in the sea ice for diving are drilled by a very large machine drill which can be moved around to drill in different places. Yes the divers have to wear special dry suits rather than wetsuits with lots of layers underneath to keep them warm. They also wear two pairs of gloves and then rubber gloves over the top as well as two to three hoods to keep themselves warm.

From Shelley the LEARNZ field trip teacher.

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How deep into the ocean can scientists go?

Hi Eleanor, divers cannot go very deep in the ocean at all but with the help of machines they can go deeper. The scientists in Antarctica have been diving to a depth of about 30 metres. The safest way for scientists to get information about the ocean is through remote sensors such as Argo Floats that can go down to 6,000 metres. Take a look at the Argo Floats field trip from June this year to learn more about this at <http://www.learnz.org.nz/argofloats> [5]

From Shelley the LEARNZ field trip teacher.

What happens if you don't get enough of the information you need from your research?

Hi Braydon, good question. I talked to the scientists about this and basically if they don't get enough information through the samples they collect and take home to analyse then they cannot come to any useful conclusion - in other words they haven't got enough evidence and may have to change their experiments, methods of collection, ask different questions or repeat their sampling at a later date. The more samples a scientist can collect the more accurate their work is, but of course this takes a lot of time and effort.

From Shelley the LEARNZ field trip teacher.

How strong is the sea ice?

Hi Jasper, good question. The strength of sea ice depends on its thickness - the thicker the sea ice the stronger it is, so it is strongest in winter when there is more sea ice and it has not started to melt. In McMurdo Sound at the moment the sea ice is quite thick in places and is strong enough to land huge C17 aircraft on.

In areas where there are cracks the sea ice is weaker and when you are out driving on sea ice you have to follow the safe routes marked by flags and you might even have to measure the thickness of ice to see if it is safe to cross. Even when there are cracks in the sea ice as long as they are no more than 75cm wide and the ice is 75cm thick you can still drive a big Hagglund or Piston Bully across them, which gives you an idea of how strong ice is.

From Shelley the LEARNZ field trip teacher.

What happens if the ice on Antarctica melts?

Hi William, the ice covering Antarctica and surrounding the land as sea ice includes 90 percent of the world's ice (and 70 percent of its fresh water). Antarctica is covered with ice which is an average of 2,133 meters thick - so that's a lot of ice!

If all of the Antarctic ice melted, sea levels around the world would rise about 61 meters. But the average temperature in Antarctica is -37°C , so the ice there is in no danger of melting completely. The amount of ice however is changing and

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especially in West Antarctica more ice is melting each year causing sea levels to rise a little bit each year. With the loss of ice some animals will also suffer as they may have less food.

From Shelley the LEARNZ field trip teacher.

Source URL: <http://www.learnz.org.nz/scienceonice144/questions-answers>

Links

[1] <http://www.learnz.org.nz/scienceonice144/questions-answers>

[2] <http://ask-an-expert.learnz.org.nz>

[3] <http://www.learnz.org.nz/scienceonice144/experts-careers>

[4]

<http://www.learnz.org.nz/scienceonice144/meet-shelley-the-learnz-field-trip-teacher>

[5] <http://www.learnz.org.nz/argofloats>