

## A Hard Journey

Earnest Shackleton was an explorer. He explored the Antarctic. Can you find the Antarctic in your atlas? Earnest Shackleton was leading an expedition in the Antarctic in January 1909. On 6<sup>th</sup> January three members of his South Polar Expedition reached the Magnetic South Pole – at least that is what they thought at the time!



The men were Douglas Mawson, Alistair MacKay and Edgeworth David. It had been a hard journey. They look tired in the picture. It was hard because it was very cold. It was hard because they had to pull all their food and gear on sledges. It was hard because there were big cracks in the ice called crevasses. The sledges had to be dragged over them. It was hard because they ran short of food. It was hard because when they reached the Polar Plateau they were high up and the air was thin. This made it hard to breathe. No wonder they are not smiling in the picture.

Where were Shackleton's men when that photo was taken on 16<sup>th</sup> January 1909 and where did they *think* they were?

If you have a globe which is fixed on a stand it will help you here. The earth goes round on its axis. This passes through the Geographic North and South Poles. Turn your globe round now and you will see it happening. Do you have a compass? Look at it now if you do. The needle points North. You can move the compass round so that the compass card is correct using the needle. Then you know where all four points of the compass are. But the North needle in your magnetic compass does not point *exactly* at the Geographic North Pole. The South end of the needle does not point *exactly* at the Geographic South Pole. They point near but not at the poles. The compass needle points to the Magnetic North Pole and the Magnetic South Pole. These are not the same as the Geographic Poles. They also *move about* as well. They can be several thousand kilometres from the Geographic Poles.

So how would you know if you were at the Magnetic South Pole? Where would your compass point?

At the Magnetic South Pole your compass needle would not be reliable. It would be trying to point *down* at the ground where the Pole is! What is worse, the magnetic field lines *start* to bend downwards as you *get near* the Pole. The compass would be unreliable for quite a long way.

Mawson had worked out where they needed to be. It was at a point  $72^{\circ} 25'$  south latitude,  $155^{\circ} 16'$  east longitude. These numbers mark places by lines that criss-cross the globe. That is where you see them in the photograph above – they had made it!

It was only later that Mawson realised that he had made a mistake. Their journey was a great thing to have done but they had not been at the Magnetic South Pole at all!