

Science in the Making: comparing journeys

This resource was developed by teachers within the Royal Society Schools Network



'Ditto - just starting, 11 September 1902.

From The Royal Society, NAE/1/98

Curriculum key words

Compare
Different
Difference
Similarity

Curriculum links

Working Scientifically:

- Reporting and presenting findings from enquiries...in oral and written forms such as displays and other presentations.

History:

- Address and sometime devise historically valid questions about change, cause, similarity and difference, and significance.

English:

- Plan their writing by identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own.

Equipment needed

- Printed or digital copies of photographs

Upper KS2

Introduction

This lesson looks at the difference between present day scientific exploration and that which took place around 120 years ago. It uses primary sources of information from Robert Falcon Scott's 1902 expedition to Antarctica and encourages students to consider how the experiences of these explorers and scientists would differ from those embarking on research trips on the modern RSS *Sir David Attenborough*.

Depending on how these activities are approached, the research and reporting could take place over one or a series of lessons, and students' learning could be evidenced in a number of different ways to accommodate different learning objectives or ability levels.

Learning objectives:

To understand and clearly communicate the differences in the journeys and experiences of the explorers in the past and those in the present.

Success criteria (SC):

- SC1: I can decide what life was like in the past by carefully examining photos
- SC2: I can carry out research into some of the ways that a journey to Antarctica would have been different now and for an explorer 120 years ago
- SC3: I can present my findings either in written form or as an oral presentation to the rest of my class.

Science in the Making: comparing journeys

Starter activity: observation

(Approximately 5 – 10 mins)

Show students a photograph of Robert Falcon Scott's 1902 Antarctic expedition showing some of the crew ([Southern depot sledge party](https://makinsscience.royalsociety.org/s/rs/items/NAE_5_612) https://makinsscience.royalsociety.org/s/rs/items/NAE_5_612). Discuss what can be seen in the photo, letting the students' observations and interests guide the discussion. You could ask:

- Where do you think this picture was taken?
- When do you think the picture was taken?
- Who do you think these people are?
- What do you notice about the people in the picture?
- What do you think their job is?

Encourage students to ask their own questions about the picture, and to explain their reasoning when they answer a question, for example asking, "What clues are there to tell you this is a cold place?" or, "Why do you think this photo must have been taken long ago?"

Activity A: context

(Approximately 10 – 15 minutes) [SC1]

Tell students that this photo was taken in 1902 and it shows some of the crew on an expedition to the Antarctic led by Robert Falcon Scott. Explain that the mission was for research, which means finding out more, and the aims included finding out more about the land, the weather and the animals in the Antarctic.

Display a picture of a modern polar explorer team alongside the photo from 1902 and ask students to discuss the similarities and differences. It would be particularly beneficial if the photo included a more diverse range of scientists to highlight the changes in views about who should be a scientist over the past 100 years.

A number of pictures can be found easily online, and in particular the website for [the RSS Sir David Attenborough](https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/rrs-sir-david-attenborough/) (<https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/rrs-sir-david-attenborough/>) contains a number of images of the ship, its equipment and its scientists.

You could ask:

- What is present in this photo that isn't in the old one?

- What similarities can you see?
- What do you notice about the team in this photo compared to the old one?
- Do you think you'd like to be part of either of these teams?

As before, encourage students to explain their reasoning when answering questions.

Research Task

(Approximately 10 – 20 mins) [SC1 and SC2]

Tell students that we are going to use a series of photographs from the 'Discovery' mission to find out about the experience of these explorers around 120 years ago, and do some research to find out how it compares to modern exploration and research.

Students then research different aspects of the expeditions using the photographs from *Science in the Making* and pictures from [the RSS Sir David Attenborough](https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/rrs-sir-david-attenborough/) (<https://www.bas.ac.uk/polar-operations/sites-and-facilities/facility/rrs-sir-david-attenborough/>).

This could either be done with printed copies of pictures or by accessing the resources online using computers or tablets. Students could take notes in a simple table to allow them to make a direct comparison between different topics. They could compare:

- What the ship looks like.
- Leisure time.
- Food eaten by the explorers.
- Clothing.

A set of possible images and links from *Science in the Making* can be found in the resource appendix.

Activity B: reporting findings

(Approximately 15 – 40 mins) [SC3]

After researching the similarities and differences between scientific exploration now and in the past, there are a range of different ways students could formally present their findings. They could:

- Write letters home to family, imagining they are a crew member on each of the ships.
- Create a diary entry imagining they are a crew member on the *Discovery* ship.

- Produce postcards from a crew member on each journey, briefly detailing their experiences.
- Give an oral presentation on the differences they discovered (this could be an opportunity for students to practice their ICT skills if they included a PowerPoint or similar to enhance their presentation).

Taking it Further; an Authentic Experience!

Recipes for 'Ship's Biscuits' and pemmican, foods often taken on long journeys across the sea by explorers in the past, can easily be found online. To give your students a real feel for the diets of these researchers they could follow the recipes to create their own food fit for explorers!

Plenary (approximately 5 – 10 mins)

Class discussion. What do they think the most important change has been in the lives of explorers in the last 120 years and why?

Assessment

Students will have partially met the learning objective, 'Reporting and presenting findings from enquiries... in oral and written forms such as displays and other presentations' if they:

- Can clearly communicate the differences in the journeys of the explorers in the past and those in the present, either in writing or orally

Please note, to have fully met the requirements for this National Curriculum statement students will have also needed to present findings in a range of different ways and contexts, including results from investigations they have carried out themselves.

Resource: suggested images

Below are images and links for the same that would be appropriate for this lesson. Students could either be directed to these images, or allowed to browse the whole collection for those that they consider relevant.

Ditto - just starting https://makingscience.royalsociety.org/s/rs/items/NAE_1_98

Ditto - just starting, 11 September 1902. From The Royal Society, NAE/1/98



Southern depot sledge party https://makingscience.royalsociety.org/s/rs/items/NAE_5_612

Southern depot sledge party, 30 October 1902. From The Royal Society, NAE/5/612



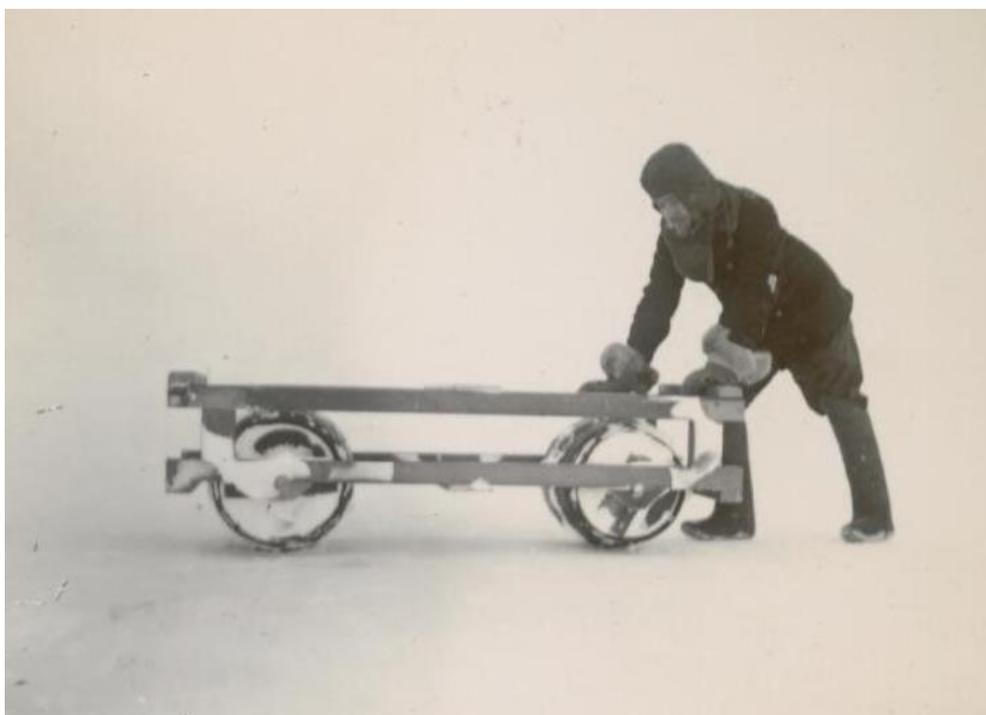
Skelton https://makingscience.royalsociety.org/s/rs/items/NAE_6_728

Skelton, October 1902. From The Royal Society, NAE/6/728



Shackleton's motor car https://makingscience.royalsociety.org/s/rs/items/NAE_6_819

Shackleton's motor car, 22 October 1902. From The Royal Society, NAE/6/819



Captain's first sledge party to The Bluff https://makingscience.royalsociety.org/s/rs/items/NAE_1_100

Captain's first sledge party to The Bluff, 17 September 1902. From The Royal Society, NAE/1/100



Stab. Mess https://makingscience.royalsociety.org/s/rs/items/NAE_1_89

Stab. mess, 23 June 1902. From The Royal Society, NAE/1/89



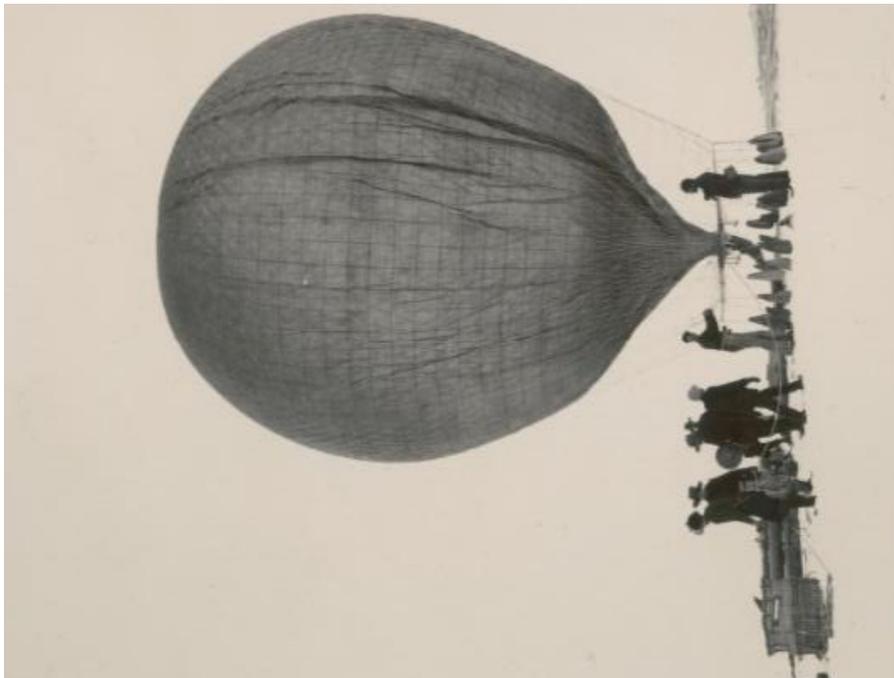
Sounding sledge https://makingscience.royalsociety.org/s/rs/items/NAE_2_227

Sounding sledge, 1901-1904. From The Royal Society, NAE/2/227



Inflating balloon on barrier https://makingscience.royalsociety.org/s/rs/items/NAE_4_388

Inflating balloon on barrier, 04 February 1902. From The Royal Society, NAE/4/388



Digging away snowdrift https://makingscience.royalsociety.org/s/rs/items/NAE_3_272

Digging away snowdrift, February 1904. From The Royal Society, NAE/3/272



Camp of Mount Ferrar sledge party https://makingscience.royalsociety.org/s/rs/items/NAE_5_498

Camp of Mount Ferrar sledge party, 07 March 1902. From The Royal Society, NAE/5/498



The biologist with sledge and tools https://makingsscience.royalsociety.org/s/rs/items/NAE_5_604

The biologist with sledge and tools, 03 October 1902. From The Royal Society, NAE/5/604



Football https://makingsscience.royalsociety.org/s/rs/items/NAE_6_825

Football, 30 October 1902. From The Royal Society, NAE/6/825



Food for Western sledge party https://makingscience.royalsociety.org/s/rs/items/NAE_6_840

Food for Western sledge party, 24 November 1902. From The Royal Society, NAE/6/840



Loading ship with ice. Seal meat in rigging https://makingscience.royalsociety.org/s/rs/items/NAE_1_75

Loading ship with ice. Seal meat in rigging, 12 February 1902. From The Royal Society, NAE/1/75

