
The Beagle Voyage



Activity 4: Sending specimens home
Subject: Science
2 x 1 hour

Suggested preparation

Presentation:
[The Beagle Voyage](#)

What do I need?

- [Letter 238](#): Charles Darwin to John Stevens Henslow
- [Letter 196](#): John Stevens Henslow to Charles Darwin
- [Diary entries](#)
- [Letter questions](#)
- [Plant material form](#)
- [Megatherium skeleton image](#)
- [Pill box for specimens](#)
- [Dried *Sicyos villosa* plant](#)
- [Who's who?](#)

On the *Beagle* voyage Darwin searched for an elusive ostrich-like bird called a Rhea and eventually recognised it as the remains of his dinner! The ship's artist had shot it and only after eating it did Darwin realise what it was. He cleaned up the bones and sent them to Professor Henslow in Cambridge. Find out how Darwin searched for, collected and sent home other specimens from the voyage and imagine how you might do it today.

What do I do?

1. Read through the letter, diary extracts and look at the images of specimens that Darwin sent back. Answer the letter questions.
2. There would have been potential hazards to sending back plant samples on a sea voyage in Darwin's day. Use the form to list the pros and cons of sending back seeds, entire live plants and dried plant specimens. Which would you choose?
3. Imagine you are on an expedition today and have discovered a rare and endangered mammal.

Discuss the following questions:

- What might be the cause of its vulnerability?
 - How could you increase its chances of survival?
 - Would you attempt to bring it to Britain?
 - What issues might arise?
 - What other options could you consider?
4. Write a report describing the animal and outlining your actions with reasons.

Letter 238: Charles Darwin to John Stevens Henslow

March 1834 E Falkland Islands

My dear Henslow

...I am quite astonished that such miserable fragments of the Megatherium should have been worth all the trouble Mr Clift has bestowed on them. I have been alarmed by the expression cleaning all the bones, as I am afraid the printed numbers will be lost: the reason I am so anxious they should not be, is that a part were found in a gravel with recent shells, but others in a very different bed...My entire ignorance of comparative Anatomy makes me quite dependent on the numbers: so that you will see my geological notes will be useless without I am certain to what specimens I refer...



Shortly before I left M: Video I bought far up in the country for two shillings a head of a Megatherium which must have been when found quite perfect.— The Gauchos however broke the teeth & lost the lower jaw, but the lower & internal parts are tolerably perfect: It is now, I hope, on the high seas in pursuit of me.— It is a most flattering encouragement to find Men, like Mr Clift, who will take such interest, in what I send home.—

I am very glad the plants give you any pleasure; I do assure you I was so ashamed of them, I had a great mind to throw them away; but if they give you any pleasure I am indeed bound, & will pledge myself to collect whenever we are in parts not often visited by Ships & Collectors.— I collected all the plants, which were in flower on the coast of Patagonia at Port Desire & St. Julian; also on the Eastern parts of Tierra del Fuego, where the climate & features of T del Fuego & Patagonia are united. With them

Letter 238: Charles Darwin to John Stevens Henslow

there are as many seeds, as I could find (you had better plant all ye rubbish which I send, for some of the seeds were very small) ...

I have forgotten to mention, that for some time past & for the future I will put a pencil cross on the pill-boxes containing insects; as these alone will require being kept particularly dry, it may perhaps save you some trouble.—...

Farewell my dear Henslow—believe my your most obliged & affectionate friend.

Charles Darwin.—...

Charles Darwin



Letter 196: John Stevens Henslow to Charles Darwin

15 & 21 January, 1833

My dear Darwin,

...I have just been putting by the perishable divs in the way I said— Birds —several have no labels— the best way is to tie the label to their legs— One has its tail feathers crumpled by being bent from bad packing— the rest in good order- Quads. The large one capital, the 2 mice rather mouldy— Pack up an infinite quantity more of land & freshwater shells, they must be nearly all new— The minute Insects most excellent— what work you will have— You know better than I whether it is not dangerous to their antennæ & legs to pack them in cotton. I suppose if moistened by vapour they may be taken out quite safe.



The Lichens are good things as scarcely any one troubles himself to send them home –

For goodness sake what is No. 223 it looks like the remains of an electric explosion, a mere mass of soot—something very curious I daresay – Wd. it not be a good precautionary measure to transmit to England a copy of your memo- randa, with your next packet? I know it is a dull job to copy out such matters – but it is highly expedient to avoid the chance of losing your notes by sending home a duplicate –

Every individual specimen once arrived here becomes an object of great interest, & tho' you were to send home 10 times as much as you do, yet when you arrive you will often think & wish how you might & had have sent home 100 times as much!...

Downes and other friends have begged me to remember them to you most kindly and affectionately & Mrs Henslow adds her best wishes – Mine you well know are ever with you & I need not add that you sd believe me



Most affectly. & sincerely yrs.

Darwin's Diary on board HMS Beagle

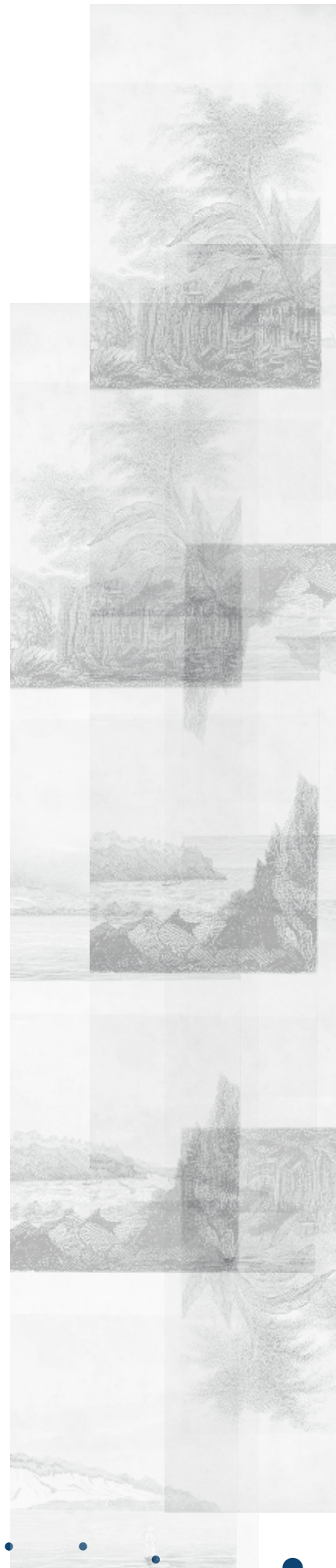
Port St Julian, Patagonia,
3 Jan 1834

3rd During these days I have had some very long & pleasant walks. — The Geology is interesting. I have obtained some new birds & animals. — I also measured barometrically the height of the plain which must so lately have been beneath the sea; it has an altitude of 247 feet. — Yesterday I shot a large Guanaco, which must, when alive, have weighed more than 200 pounds. — Two males were fighting furiously & galloping like race horses with their ears down & necks low; they did not see me & passed within 30 yards; & then I settled the contest by shooting the Persecutor.

—

11 Jan 1834

Again I started with the Captain to the head of the harbor. — it suddenly came on to blow hard. — so the Captain ran the boat on shore & we & four of the boats crew all armed proceeded on foot. — It turned out to [be] a very long walk; in the evening two of the party could not walk any further & we were all excessively tired. — It was caused by a most painful degree of thirst; & as we were only 11 hours without water, I am convinced it must be from the extreme dryness of the atmosphere. Earlier in the day we experienced a great mortification; a fine lake was seen from a hill; I & one of the men volunteered to walk there, & not till quite close did we discover that it was a field solid of snow-white salt. — the whole party left their arms with the two who were knocked up & returned to the boat. Fresh men were then sent off with some water, & we made a signal fire, so that by 11 o'clock we were all collected & returned to the Ship. —



Letter questions: Sending specimens home

Using letters 238 and 196 and the diary entries for 3 and 11 January 1834, answer the following questions:

1. In letter 238 to Henslow, Darwin is keen for the numbers not to be lost from the megatherium bones that he has sent back. Why is this?
2. In letter 196, what does Henslow recommend that Darwin send back with his next collection of specimens and why?
3. From the evidence of these sources, how would you describe Darwin's scientific method at this stage? Why do you think that is?
4. From the letter and diary entries describe how Darwin: collects, conserves and sends back his specimens.
5. What issues does he face? How might this be different from modern expeditions?

Plant material form

What would you send back?

Plant Material	For	Against
Seeds		
Entire live plant		
Dried plant specimen		
<p>Conclusion: I would send back... Because...</p>		

Megatherium skeleton image



Image courtesy of University Museum of Zoology, Cambridge

Pill box for specimens



Image courtesy of Sedgwick Museum of Earth Sciences, Cambridge

Dried *Sicyos villosa* plant



Image courtesy of Cambridge University Herbarium

The Beagle Voyage

Who's who?

Charles Darwin

Charles Darwin (1809-1882) was a naturalist who established natural selection as the mechanism for the process of evolution. He joined the voyage of HMS *Beagle* when he was 22, a journey he described as the 'most fortunate circumstance in my life'. He wrote to around 2000 correspondents all over the world as a means to inform his research. Most famously he published *On the Origin of Species* in 1859, but he researched and wrote extensively on natural history throughout his life.



Susan Darwin

Susan Darwin (1803-66) was Darwin's sister. They wrote regularly to each other during the *Beagle* voyage. She conveyed much family news to him and referred to herself as 'Granny' in her letters as she was always giving him advice. She also corrected his grammar and spelling.

Robert FitzRoy

Robert FitzRoy (1805-65) was Vice-Admiral to the Navy, a pioneering meteorologist and hydrographer. He was made the commander of HMS *Beagle* at the age of 23. He was appointed Governor of New Zealand in 1843. He is credited with inventing several barometers and devising sea charts to forecast the weather. Despite FitzRoy's explosive temper, he and Darwin were close friends during the voyage and he supported Darwin's work. FitzRoy subsequently distanced himself from Darwin's ideas and turned increasingly to religion.



Image of Robert FitzRoy: ©National Portrait Gallery, London. NPG x128426. CC BY-NC-ND 3.0

The Beagle Voyage: Who's who?

Robert Waring Darwin

Robert Waring Darwin (1766-1848) was Charles Darwin's father and a physician. He had a large practice in Shrewsbury and resided at The Mount. He was the son of Dr Erasmus Darwin who took a great interest in botany. Robert Waring Darwin married Susannah, daughter of Josiah Wedgwood I.

Image of Robert Waring Darwin ©Shrewsbury Museums Service (SHYMS: FA/1991/033/2)



William Darwin Fox

William Darwin Fox (1805–80) was a clergyman and Charles Darwin's second cousin. He was a good friend of Darwin's at Cambridge and shared his enthusiasm for studying insects. He maintained an active interest in natural history throughout his life and provided Darwin with much information. He was the Rector of Delamere, Cheshire (1838–73) but spent the last years of his life at Sandown, Isle of Wight.



John Stevens Henslow

John Stevens Henslow (1796–1861) was a clergyman, botanist and mineralogist. He was Charles Darwin's teacher and friend. He was Professor of Mineralogy at Cambridge University from 1822 to 1827 and Professor of Botany from 1825 to 1861. He also extended and remodelled the Cambridge Botanic Garden as well as being firstly curate of Little St Mary's Church in Cambridge, then vicar of Cholsey-cum-Moulsford, Berkshire, and finally rector of Hitcham, Suffolk. Henslow recommended Darwin as an ideal candidate for the *Beagle* voyage.

Image of John Stevens Henslow courtesy of the National Library of Medicine

