

Ideas and Evidence at the Sedgwick Museum of Earth Sciences



Pupil's Booklet



The Sedgwick Museum
of Earth Sciences

Introduction

The Sedgwick Museum of Earth Sciences is a part of the Department of Earth Sciences at the University of Cambridge. The Museum is open to the public and is a popular place for families, tourists and learning groups to visit. When visiting you will see:

- An amazing array of fossils which record the history of life on Earth.
- Rocks which help us to understand the formation and structure of our planet.
- Minerals which form rocks and are the basis of many of the materials and products that we use every day.

The collections and the Museum are used for research by scientists from all over the world and for teaching undergraduate students.

Our Visit to the Sedgwick Museum of Earth Sciences



Add your own notes here about what you need to remember for your visit to the museum.

When you are at the Museum you should:

- Be aware that the Museum is open to the public and is a working environment for University staff; too much noise will disturb other people.
- Behave in a safe and sensible way.
- Remember that you should not eat while you are in the Museum.
- Follow the instruction of the adults in your group or the Museum Education Officer at all times.
- All mobile phones should be turned off to avoid disturbing other people.

Activity 1

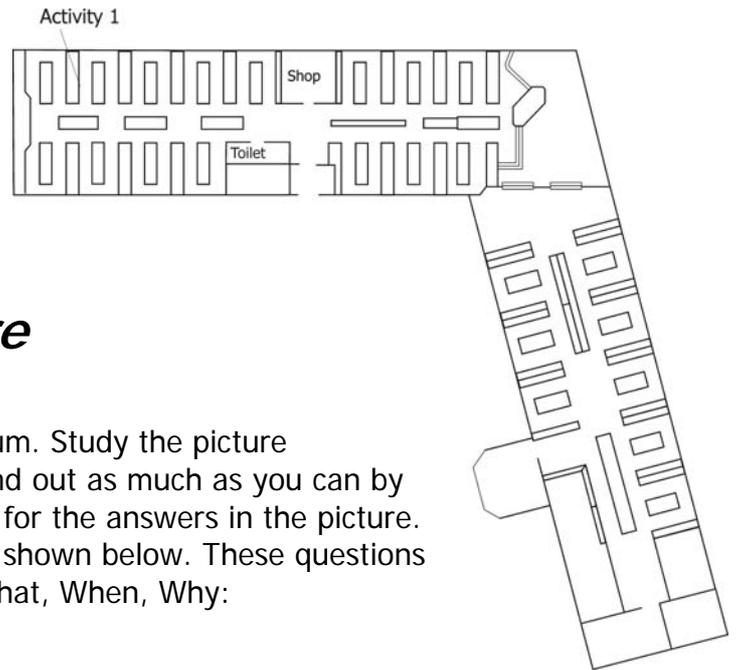
Palaeontologists *Picture*



Find this picture in the Museum. Study the picture carefully. You are going to find out as much as you can by asking questions and looking for the answers in the picture. Some example questions are shown below. These questions all start with Who, Where, What, When, Why:

- Who are these people?
- Where have they come from?
- What are they doing?
- When is this happening?
- Why are they doing this?

Can you think of any other questions to ask? Why was the picture taken? This is an example of another Why question. Annotate the picture on the following page to explain your thinking about the picture. An example is shown to help you. Try to work out as much as you can about what is happening in the picture and ***always*** explain or justify your thinking. When you think you have as much information as possible come up with a title for the picture. Be prepared to explain your choice of title.



 Title:



This man is a worker. He has been digging.

Activity 2

Iguanodon!

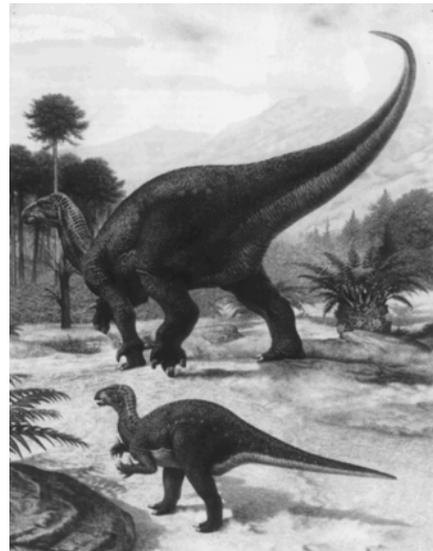
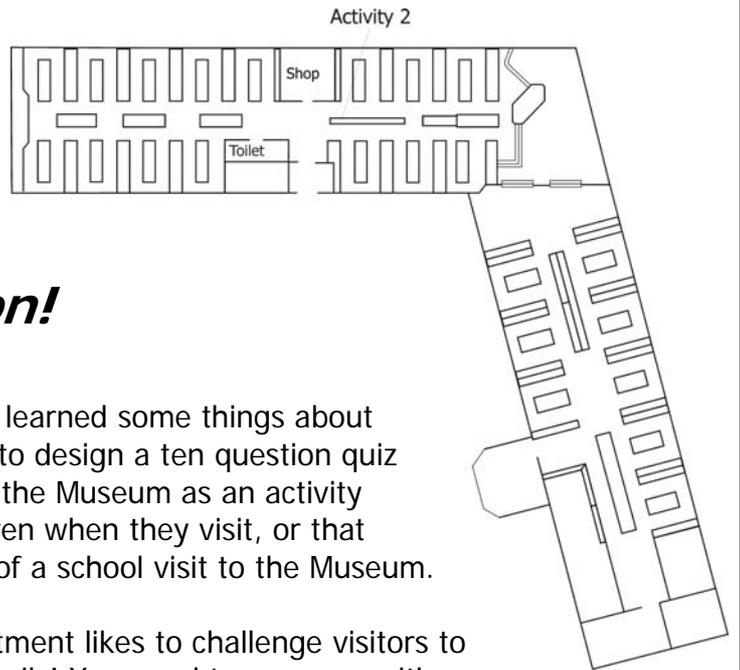
During your pre-visit work you will have learned some things about the dinosaur *Iguanodon*. You are going to design a ten question quiz about *Iguanodon* that could be used by the Museum as an activity sheet for parents to use with their children when they visit, or that children in Year 4 or 5 could do as part of a school visit to the Museum.

The Sedgwick Museum education department likes to challenge visitors to look closely and think carefully about fossils! You need to come up with questions that will do this. Remember to ask questions that require the children and parents to look at both Primary evidence (the fossils on display) and Secondary evidence (displays and labels that have been put together by experts from the Museum).

Example question using primary evidence:
How many pairs of rib bones does *Iguanodon* have?

Example question using secondary evidence:
In which country was this *Iguanodon* skeleton found?

Don't forget to include the answers!



Write down your Questions and Answers here:



1. Q

A.

2. Q

A.

3. Q

A.

4. Q

A.

5. Q

A.

6. Q

A.

7. Q

A.

8. Q

A.

9. Q

A.

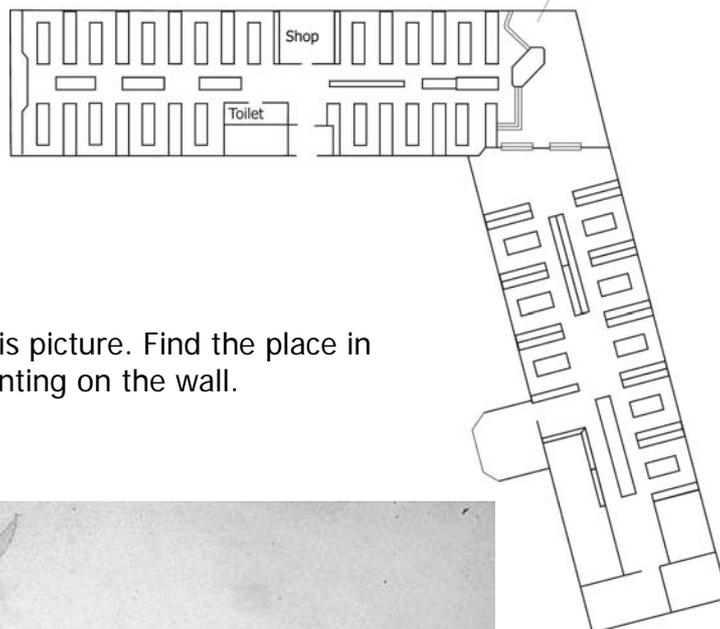
10. Q

A.

Activity 3

Duria Antiquior

You will be given a laminated copy of this picture. Find the place in the Museum where there is a similar painting on the wall.



1. Look carefully at the two pictures. Write down as many differences as you can find between the picture on the wall and the version on this sheet. You can add labels to this picture if this helps.



2. The painting in the Museum is a copy of the original picture (the version on your sheet). The painting was commissioned by Adam Sedgwick for use in his teaching.

Why do you think that Sedgwick's version of the painting is different from the original?



3. Look around the displays in this part of the Museum. These include all of the creatures which are shown in the painting.

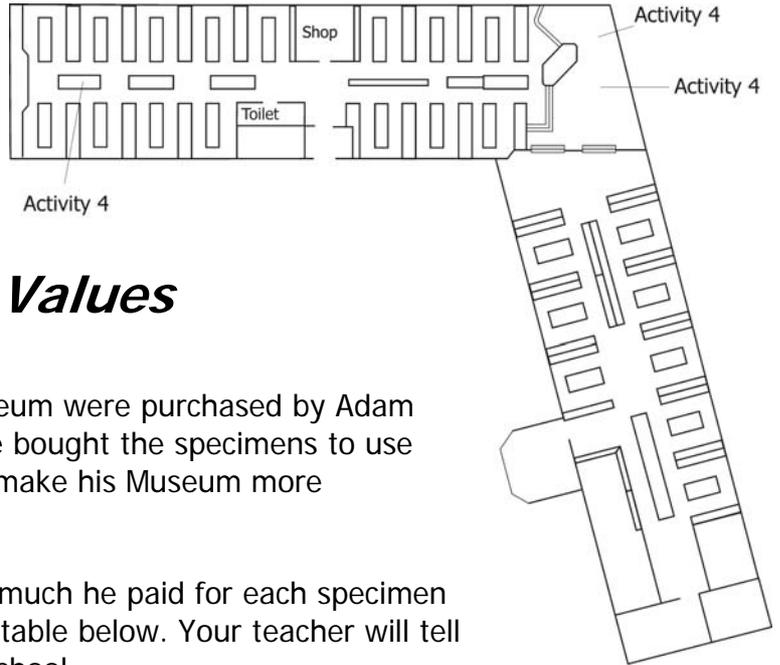
Try to name and identify as many of the animals shown in the picture as you can.



4. What does your version of the picture tell you about what the Victorians thought about animals living in the Jurassic period? Look at what all the animals are doing.



Activity 4



Changing Values

Many of the specimens in the Museum were purchased by Adam Sedgwick from other collectors. He bought the specimens to use for teaching and research, and to make his Museum more informative.

Look at the labels to find out how much he paid for each specimen and record the information on the table below. Your teacher will tell you the equivalent value back at school.



Specimen Name	Date purchased	Price paid	Value today
<i>Megaloceros</i> ("Irish Elk")			
Ichthyosaur			
Plesiosaur			

1. Which of these specimens do you think was most valuable to Adam Sedgwick? Explain your answer?



2. Imagine that one of the specimens which Sedgwick bought was lost or so badly damaged it could not be repaired. Would it be possible to replace it? Why?



3. Which of the specimens do you think is most valuable? Why did you choose this answer?



4. Lots of people today still collect fossils, but not all of these collections are in museums. Many of them are just for the owner to see and cannot be visited by scientists or school groups. Do you think that people should be allowed to build up private collections of fossils? Fill in the table below to show some advantages and disadvantages of private collectors purchasing fossils

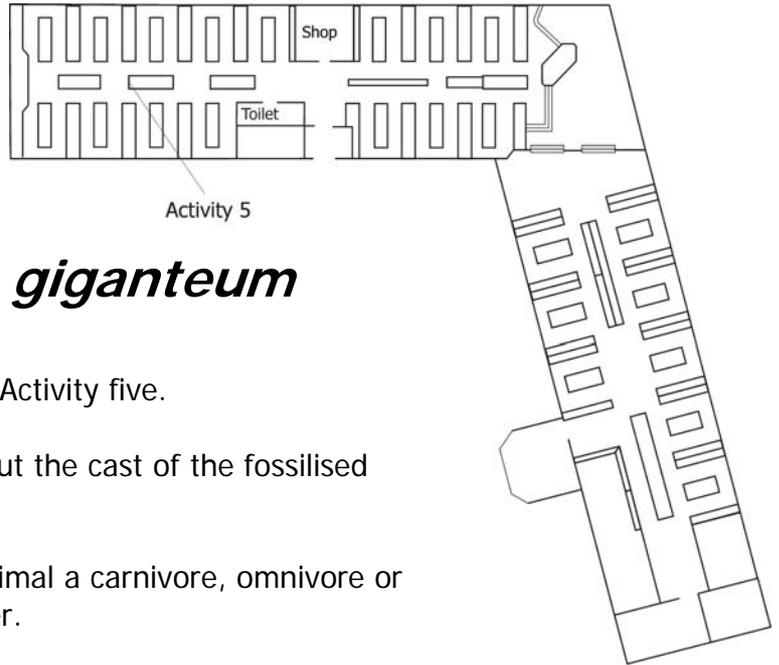


Advantages	Disadvantages



Activity 5

Deinotherium giganteum



Find the section of the Museum for Activity five.

Answer the following questions about the cast of the fossilised skull.

1. Look at the teeth. Was this animal a carnivore, omnivore or herbivore? Explain your answer.



2. Look at the tusks on the lower jaw. How might the animal have used these?



3. Look at the skull carefully. What evidence is missing from this fossil that would help us to understand what the animal looked like when it was alive?



4. Feel your own jaw. Think about what is between your bones and your skin. Now look at the back of the skull. What would have attached the lower jaw to the main part of the skull?



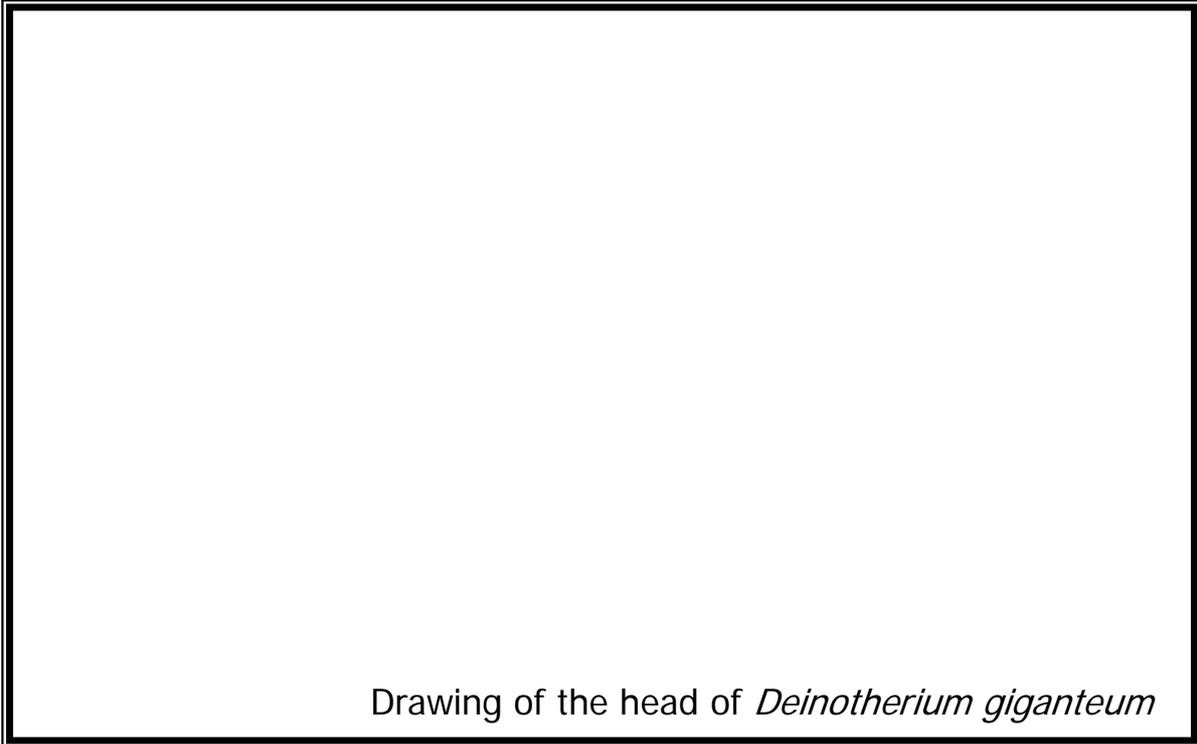
5. Are the teeth of this skull similar to any on display in nearby cases? Can you name an animal alive today that this animal might be related to? Why?



6. Why is there a large hole at the front of the skull?

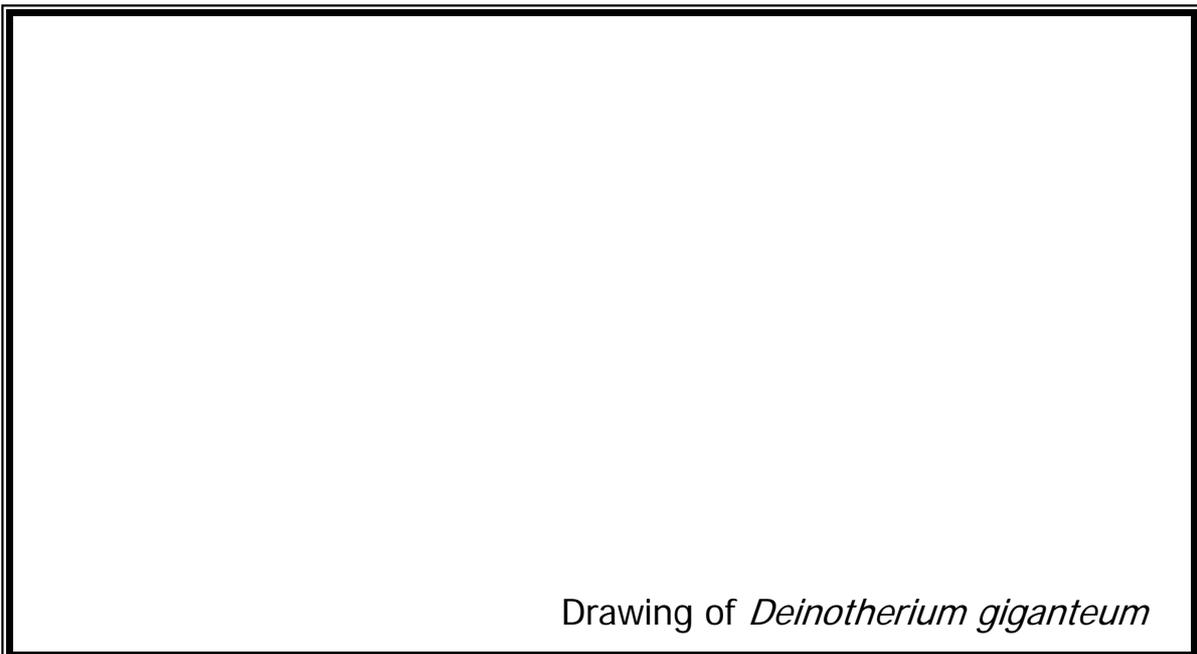


Predict how *Deinotherium* looked when it was alive. Use evidence from the skull to help you draw the whole head of the animal.



Drawing of the head of *Deinotherium giganteum*

Now predict what the whole animal might have looked like.

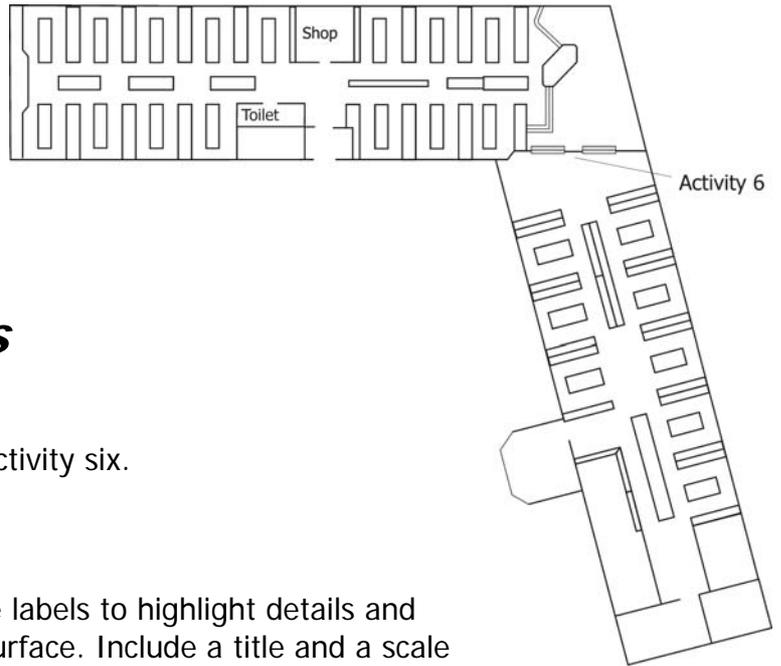


Drawing of *Deinotherium giganteum*



Activity 6

Tricky Tracks



Find the area of the museum for Activity six.

Look at the large slab of red rock.

1. Draw a diagram of the rock. Use labels to highlight details and features that you can see on the surface. Include a title and a scale bar.



Scale

2. What type of rock is the slab made of? Which group of rocks does it belong to- sedimentary, igneous or metamorphic? What evidence did you use to reach your answers? For some clues, look at the displays in the nearby bay called 'Building Rocks'.



Group	Rock type	Evidence

3. This type of rock is also forming today all over the world. Suggest three environments in which this type of rock might form.



1. _____

2. _____

3. _____

4. The surface of the rock slab is patterned by two different sorts of markings. Look closely at each type of marking in turn and make a detailed, labelled sketch of each.



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Marking one

Marking two

5. Look nearby at the exhibitions in the bay called 'Deserts, Evolution and Extinction'. Can you find any other rocks on display which will help you to identify the two sets of markings? What do you think they are?



Marking 1 is:

Marking 2 is:

6. The two sets of markings were formed at different times by different processes. Which set of markings do you think was formed first? Explain your answer- what evidence have you found?



7. Draw a story board to show the sequence of events that led to the formation of this piece of rock.



1.	2.
3.	4.
5.	6.
7.	8.