

This document gives you further information on the workshop, curriculum links, and information for the day of your visit.

Investigate for Secondary (KS3)



Overview

Investigate is a free hands-on science centre where students can take charge of their own learning.

Investigate for Secondary focuses specifically on using scientific skills. Students are empowered to conduct their own investigation, choosing from hundreds of real, hands on specimens. They will be encouraged to make detailed observations, to generate interesting hypotheses and crucially, present evidence from their observations to support their ideas.

Students are then encouraged to discuss and debate their ideas, challenge each other's evidence, and consider how we could go on to test certain hypotheses. Importantly, students are asked to consider why these skills are valuable to them: in science, in their other studies and in their daily lives.

Our team of science educators facilitate the session. Microscopes, scales, magnifying glasses, rulers, pencils and paper are available for students to use in their enquiries.

Workshop Description

This workshop is divided into three sections:

1. The session begins with an introduction to Investigate from one of our Science Educators. They introduce the terms 'observation', 'hypothesis' and 'evidence' to the class and structure a group investigation, using these skills, focusing on a single specimen.
2. The class are then invited to explore the room and conduct their own investigation, choosing what and how to investigate. The space contains hundreds of real, hands on specimens and scientific equipment to help complete the task. Teachers and accompanying adults are encouraged to get involved and together with the Science Educators, help to prompt, but also challenge, the students' ideas; asking for evidence and enabling discussions between students. They are also encouraged to make comparisons between specimens and consult the books available for additional information.
3. Towards the end of the session the class is called back together and the educator initiates a mini-debate regarding some of the hypotheses and ideas that have been generated. The students are encouraged to agree or disagree with each other based on the available evidence. Further themes such as testing hypotheses, peer review and source reliability can also be discussed. Lastly, the educator prompts the students to consider why these skills are important not only in science, but crucially in society and beyond.

Learning Outcomes

Students will:

- Develop skills in building detailed descriptions of real specimens
- Develop skills in using observations to investigate hypotheses or questions
- Feel more confident in collecting and evaluating evidence regarding scientific ideas
- Understand the relevance of these skills to other areas of life

Resources

All resources are provided.

Please note, the Investigate Centre is a collections space and no food or drink is allowed during the session.

Curriculum links

The activity content falls within the following statements, but does not necessarily support the breadth of content to which the statement refers.

KS3: Science

Working scientifically

- pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility
- understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas, together with the importance of publishing results and peer review

Experimental skills and investigations

- ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience
- make predictions using scientific knowledge and understanding
- use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety
- make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements

Analysis and evaluation

- interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions
- present reasoned explanations, including explaining data in relation to predictions and hypotheses
- identify further questions arising from their results

Measurement

- understand and use SI units and IUPAC (International Union of Pure and Applied Chemistry) chemical nomenclature

Your booking – Essential information

Investigate for Secondary Schools (KS3)

Meeting point When you arrive go to the **School Reception**, Green Zone, Lower Ground Floor, to check in.

Your activity meeting point is the **Investigate Centre**, please arrive here **five minutes** before your session is due to start. See map overleaf for details.

Contact

Pre-visit: If you have any queries regarding your visit contact Schools Booking on **+44 (0)20 7942 5555**.

On the day: If you think you may arrive late, please call the Learning Engagement Manager on **+44 (0)7887 995953**.

Preparation

Central London and South Kensington tube station can be very busy so please ensure you leave plenty of time to get to the Museum. Additionally, the Museum often has long entry queues. Missing the start of your session may lead to your session being cancelled.

Before your visit be sure to read and understand our payment and cancellation conditions: **www.nhm.ac.uk/school-payment-cancellations**

For more information on school group visits to the Museum visit: **www.nhm.ac.uk/schools-essential-info**

Duration

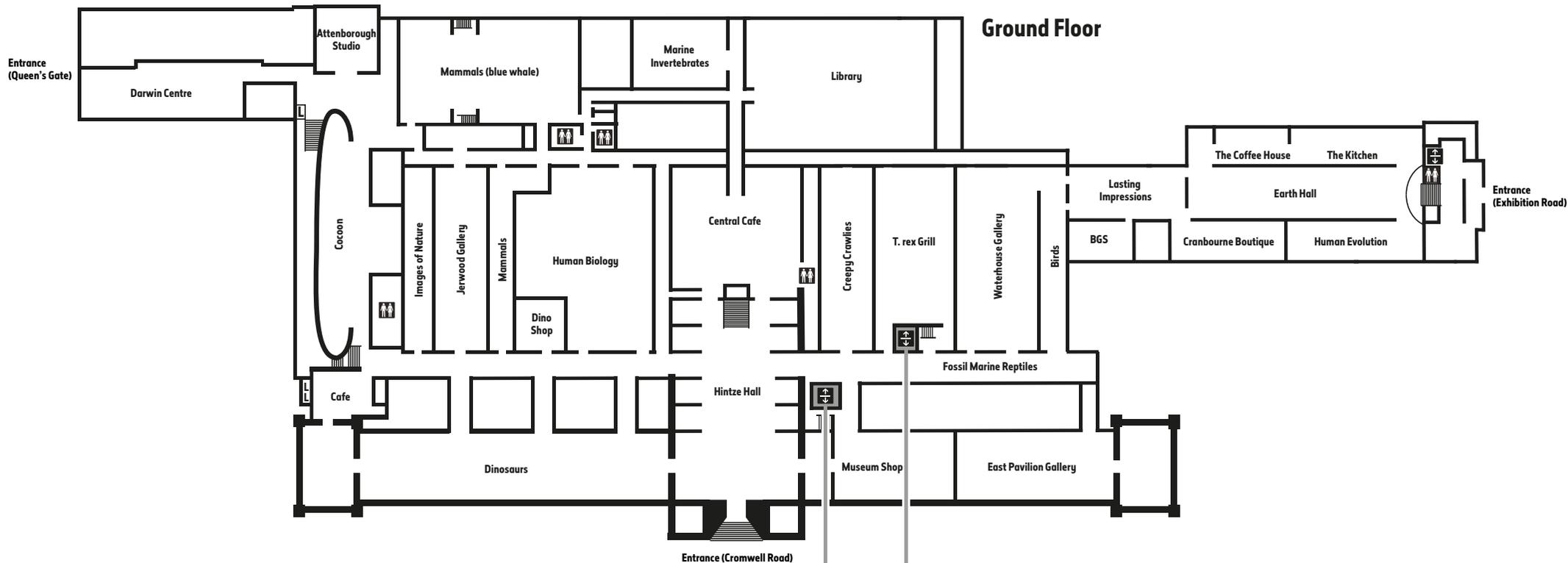
50 minutes

Ratios

For health and safety purposes, please ensure you have the following ratio of adults to children:

1 adult : 10 students

35 students maximum



Check in point at **Schools Reception** when you arrive at the Museum.

Activity meeting point for **Investigate for Secondary (KS3)**

