

Topics covered: History of the Royal Observatory Greenwich, the longitude problem.

Introduction

This resource aims to support the teaching or revision of the history of the Royal Observatory, including:

- The function, location and importance of the Royal Observatory
- The people associated with the Observatory throughout history and their influence
- The longitude problem
- Key events in the history of the Observatory

This relates to the 2025 AQA GCSE History specification, as the historic environment site for Paper 2 Section B (Restoration England, 1660-1685). However, anyone wanting to learn more about the history of the Royal Observatory may find this useful. The resource has been designed to check understanding of the following animated video, where further information on the subject can be found:

[The History of the Royal Observatory Greenwich \(youtube.com\)](https://www.youtube.com/watch?v=...)

The Activities

This resource is split into three activities, which can follow on from one another, or be done individually.

Activity 1: Question sheet

This activity can be completed while, or after, watching this video ([The History of the Royal Observatory Greenwich \(youtube.com\)](https://www.youtube.com/watch?v=...)), which gives a brief overview of the history of the Royal Observatory from its creation to the present day. The answer to each question is given in the video script, and answers are found in the separate document, '*Activity 1- Question Sheet Answers.pdf*'. Each question will link to either the function, importance, or location of the Royal Observatory. There is a final, bonus question relating to the design of the Royal Observatory, but the answer to this is not included in the video.

Activity 2: Category cards

The aim of this activity is to create a deck of cards featuring some key figures, buildings, or concepts throughout the history of the Royal Observatory. The process of doing the research to complete the deck should help familiarise students with some facts, and playing the finished game will help consolidate this knowledge.

The blank cards can be found on a separate document- '*Activity 2- Category Cards Blank.pdf*'. Each card can be filled in by the students using the instructions on the activity page. There are 32 category cards. Some categories can be completed by watching this video: ([The History of the Royal Observatory Greenwich \(youtube.com\)](https://www.youtube.com/watch?v=...)), whereas some will require students to conduct their own research.

There is an additional document, '*Activity 2 – Category Cards with Dates.pdf*', which has the *dates* and *years active* sections completed for each card, but with blank *summary* and *impact* sections. These cards can be used if the focus of the activity is to have students summarise the events and consider their impact, rather than on dates.

Activity 3: Timeline board game

The aim of this activity is to create a timeline of notable events throughout the history of the Royal Observatory. The timeline becomes a board game, as students travel through time learning about the key events that made the Royal Observatory what it is today.

You will need to print a blank version of the timeline from the document '*Activity 3- Timeline Blank.pdf*'. Students are given the events, out of order, on the activity page and can either cut and stick them onto the timeline or write them out. We recommend printing the timeline on A3 paper. For reference, a complete timeline with solutions can be found in the document '*Activity 3- Timeline with Solutions.pdf*'.

Further Information

Further information on the history of the Royal Observatory Greenwich can be found using these links:

- The founding of the Royal Observatory: [The founding of the Royal Observatory | Royal Museums Greenwich \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-1-the-founding-of-the-royal-observatory)
- Harrison's clocks: [Longitude found - the story of Harrison's Clocks | Royal Museums Greenwich \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-2-harrison-s-clocks)
- Shepherd Gate Clock: [The Shepherd Gate Clock | Royal Museums Greenwich \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-3-shepherd-gate-clock)
- The Octagon Room: [Christopher Wren's Octagon Room | Royal Observatory Greenwich \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-4-christopher-wren-s-octagon-room)
- Flamsteed House: [Flamsteed House | Royal Museums Greenwich \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-5-flamsteed-house)
- The Astronomer Royal: [The Astronomer Royal | Royal Museums Greenwich \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-6-the-astronomer-royal)
- Prime meridian: [What is the Prime Meridian, and why is it in Greenwich? \(rmg.co.uk\)](https://www.rmg.co.uk/learn/primary/1-7-what-is-the-prime-meridian)

Activity 1: Question sheet

Student Activity

Function



Charles II commissioned the Royal Observatory to solve a problem that had been plaguing navigators at the time- the longitude problem.

How did early sailors calculate their latitude and longitude?

Why was it important to Charles II that the longitude problem was solved?

Location

Christopher Wren suggested that the site of the old Greenwich castle would be suitable for the observatory.

The image below, *The East Prospect of Dr Flamsteeds [Flamsteed's] House in Greenwich Park, c. 1720*, shows a view of Flamsteed House overlooking the Thames. On the image, label some of the features of the site that suggest it was suitable for an observatory.



People



The first Astronomer Royal resided in Greenwich for 44 years, during which time he accurately mapped over 3000 stars.

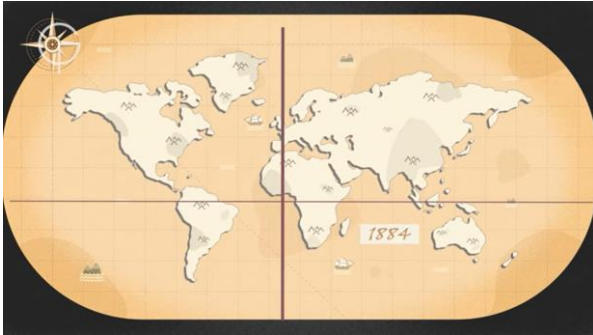
What was the name of the first Astronomer Royal and in what year was he appointed?

Why were his works unused by sailors?

In the late 18th century, the Observatory was under the leadership of fifth Astronomer Royal, Nevil Maskelyne. In 1767, the first *Nautical Almanac* was published.

Name another invention that helped sailors determine their longitude

Importance



In 1884, the meridian line at the Royal Observatory Greenwich was chosen to be the Prime Meridian of the world.

What is the Prime Meridian?

List three reasons Greenwich was considered an important place for time and longitude:

1.

2.

3.

Beyond Time and Longitude



Many other astronomers have watched the skies from the Royal Observatory, including Annie and Edward Maunder who took daily photographs of the sun, and Thomas Lewis who observed double stars.

What is the Royal Observatory used for today?

Is the Royal Observatory as influential today as it was during the restoration period?

Bonus Question- Design and Structure

To the right is a 17th century engraving of the Royal Observatory's star chamber (now called the Octagon Room).

What features of this room make it suitable or unsuitable for observing the night sky?



Activity 2: Category Cards

The aim of this activity is to create a deck of cards featuring some key figures, buildings, or concepts throughout the history of the Royal Observatory. The process of doing the research to complete the deck should help to familiarise you with some facts, and playing the finished game will help consolidate your knowledge.

You will be given Category Cards with titles and images, but the summaries and stats are left blank. Do some research and fill in the stats for each of the cards!

Filling in the cards

The following is an example card with the descriptions of the different categories for you to fill in:

Historic Prime Meridian

<i>Summary:</i>	
Date began	Time active
Date end	Impact

Summary: Write a short summary of the card, such as a simple description, or the part it played in the history of the Royal

Time active: The difference between *date end* and *date began*.

Date began/end: Can be interpreted differently depending on the type of card. For example the pre-filled cards include the dates the cards were in use, unless the card is an Astronomer Royal for which we have used the dates they were

Impact: The impact you think the card had on the history of the Royal Observatory as a score out of ten.

How to play

Once you have a complete set of cards, you're ready to play!

The game can be played between two to six players.

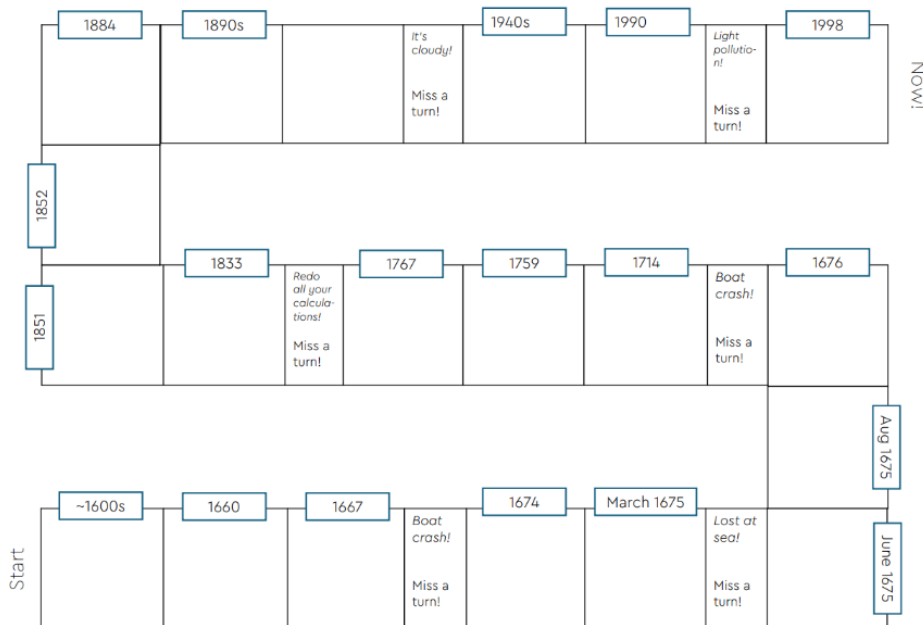
1. Split the cards equally between yourself and your opponents. Players can only look at their top card, but they must keep it to themselves.
2. Player 1 chooses a category from their top card, and reads aloud the category and its value
3. Other players take turn saying the value their top card has in the same category
4. The player whose card has the highest value is the winner. The winner gets to collect the played cards from that round and keep them.
5. The winner of the round can then choose the next category from their next card, repeating steps 2-4.
6. If two cards with the same value for a category is played in a round, (a draw) each player discards their card from that round in a pile, and another round is played. The winner of this collects all the cards from both rounds.
7. The game ends when one person ends up with all the cards, or after a predetermined number of rounds. The winner is the person with all/most cards!

There are no pre-filled values for the *Impact* category as it is entirely up to you to determine. Can you justify why you have chosen your score? Your scores will probably be different to your classmates; you could discuss why you chose your numbers.

Activity 3: Timeline Game

Student Activity

In order to complete this activity, make sure you've got a copy of the timeline board. You can see what it looks like below.



Filling in the timeline

The timeline already includes the dates, but the boxes are empty! Fill in the gaps using the events given in the muddled-up table on the next page. You can choose whether to print out the answers and cut and stick them onto the board, or hand-write them in yourself. Not all the events are mentioned in the video, so some independent research will need to be done.

How to play

1. Before you start, make sure you have everything. You will need: complete timeline board, dice and counters (which can be anything, even a scrap of paper with your initials on)
2. Every player begins at the 'Start' point at the bottom left of the game.
3. Take it in turns to roll the dice and move the number of squares along the board given on the dice.
4. Some sections on the board have instructions, such as 'Miss a turn!'. If you land one of these sections, you must obey it.
5. Feel free to add any extra rules to the game if you would like to (For example, if your counter lands on the same spot as another counter, you have to go back to the start)
6. The winner is whoever makes it off the board, to the 'Now!' section first. Congratulations, you have travelled through the history of the Royal Observatory and made it to the present day!

Royal warrant allows the founding of the Royal Greenwich Observatory	Royal Society established	John Flamsteed appointed as 'King's Astronomical Observator'	Meridian line defined by Airy's transit circle named Prime Meridian of the world	South Building, Altazimuth Pavilion and Great Equatorial Telescope are built
John Flamsteed moves into the Observatory and gets to work	Royal Observatory relocates to Herstmonceux	Airy's transit circle first used	King Louis XIV commissions Paris Observatory	John Flamsteed lays the Observatory's foundation stone
Board of longitude established	Shepherd Gate clock installed. The Observatory sends time signals around the country	Britain is a seafaring nation, but there's no good way of finding longitude at sea!	Royal Observatory opens as a museum	First Nautical Almanac published. Chronometers are being used by sailors
	Royal Commission set up	John Harrison completes H4, the prize-winning chronometer	Time ball starts being used	Royal Observatory relocates to Cambridge