

On the trail of
*The Father
of Time*
In Pendle, Lancashire





The
Jonas
Moore
Trail
in the foothills of
Pendle Hill

Turning back the clock...



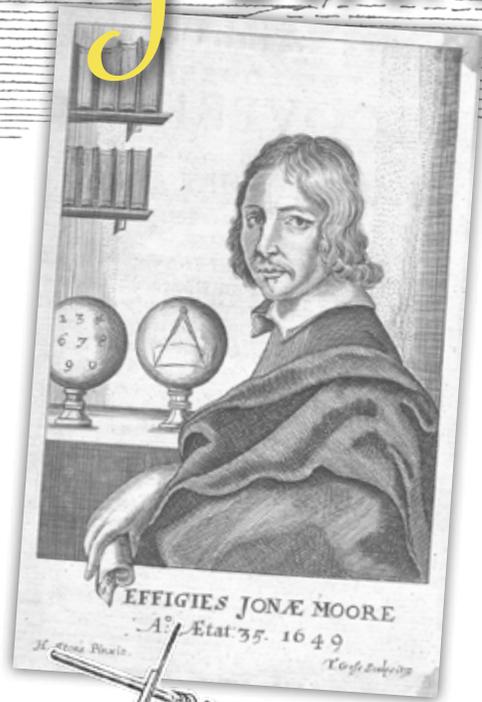
This fascinating four and a half mile trail goes back over 400 years of history in a little-known part of the Forest of Bowland, an Area of Outstanding Natural Beauty.

It explores a hidden valley where there are Elizabethan manor houses and evidence of the past going back to medieval times and earlier. The trail brings to light the story of Sir Jonas Moore, a remarkable mathematician and radical thinker that time has forgotten.

Born in 1617 on the edge of the tiny village of Higham in the Forest of Pendle, this trail tells his story.

This was once a royal hunting ground where stags and deer roamed for the sport of kings and lords of the manor. It's an area that has scarcely changed in 200 years and is woven with footpaths and old cobbled roads.

Walking in the foothills of Pendle Hill, there are glimpses of other histories too, including those which link Jonas Moore's family with the fate of the Pendle Witches of 1612.



The Pendle Witches

Jonas Moore was the son of a yeoman farmer called John Moore, who lived at Higher White Lee in Higham, close to Pendle Hill.

This was the early 17th century and John Moore and his wife lived close to Chattox, the most notorious of the so called Pendle Witches. The Moores became one of many families caught up in events which were documented in the world famous trial.

According to the testimony of eighteen year old Alizon Device, who was the granddaughter of the alleged Pendle witch Demdike, John Moore had quarrelled with Chattox, accusing her of turning his ale sour.

Also under interrogation for witchcraft, Alizon Device stated that Chattox, an arch enemy of her family, had used a familiar spirit to bite one of John Moore's cows which had then gone mad and died.

Alizon gave evidence that Chattox had threatened John Moore and she stated that around the year 1610 she'd seen Chattox with a clay image of a child. Alizon said this was a 'picture' of John Moore's child. Soon after, the little boy died.

The death of Jonas Moore's older brother as one of the first supposed victims of the Pendle Witches was part of damning evidence gathered ahead of the trial at Lancaster Castle in 1612.

Growing out of that long shadow, Jonas Moore was a boy of great promise, fiercely interested in science, not superstition.

He would walk the three miles to Burnley Grammar School down Foxendole Lane towards the river Calder, passing the area called West Close where Chattox had lived.

Charged for crimes committed using witchcraft, Chattox was hanged, alongside Alizon Device and other rival family members and neighbours, on the hill above Lancaster, called Golgotha. These were turbulent and dangerous times in Britain's history, including huge religious intolerance between Protestants and Catholics.

Civil War

In 1637, at the age of 20, Jonas Moore was proficient in legal Latin and was appointed clerk to the Vicar-General of the diocese of Durham. Here he married Eleanor Wren and they had a son and two daughters. But in 1642, during the Civil War, Parliament took possession of the church revenues. Moore lost his income and he and his young family had to return home to Lancashire.

Aged 30, in 1647, Jonas Moore, who was fascinated with mathematics and astronomy, became tutor to the Duke of York, the brother of the future King Charles II.

But he lost this post too, due to political intrigues during the Civil War where Moore's loyalties were on the Royalist side. He returned to Lancashire, where his family were Parliamentarians. Many families had divided loyalties during the Civil War.



Dutch attack on the Medway by Van Soest 1667.

Map Maker and Surveyor from the Fens to the Fire of London

Finding it hard to make a living teaching mathematics, Jonas Moore went to London and became a surveyor.

He worked on two of the most ambitious English civil engineering projects of the 17th century. The first was a seven year project to drain the Great Level of the Fens. Appointed in 1649, he designed curved tidal defences through long observation of wave movements along the coast. Jonas Moore gained a reputation for 'keeping the sea out of Norfolk' as described by Seller in his book on navigation, *The English Pilot*. At the same time, Moore published a textbook called *Arithmetick* in 1650.

The building of the mole at Tangier, which started in 1663, involved Jonas Moore in map making and surveying for the construction of a huge breakwater to keep out the roughest seas. The mole was designed to fortify the harbour in what was an important strategic position for the Royal Navy.

In London, he associated with the great thinkers of his day. The diarist Samuel Pepys, who was then an administrator for the navy, describes a meeting in a wine house in 1661:

"... and there came Jonas Moore, the mathematician, to us, and there he did by discourse make us fully believe that England and France were once the same continent, by very good arguments."

Moore was commissioned to map the river Thames from Westminster to the sea and in 1666 was appointed to survey London, after the Great Fire.

Guns and ammunition for the Anglo-Dutch War

Thanks to the patronage of the Charles II's brother, the Duke of York, Moore rose to become Surveyor General of the Ordnance. This involved providing guns and ammunition during the Third Anglo-Dutch War which was fought mostly at sea, over trade and overseas colonies.

During the war, Jonas Moore met Prince Rupert, an English naval commander and nephew to King Charles 1 at The Nore. This is a sandbank at the mouth of the Thames Estuary where the river meets the North Sea. Here Moore had 16 vessels ready, loaded with gunpowder and shot. Charles II rewarded him with a knighthood for his efforts in 1673.

A Royal Society

At the end of the Anglo-Dutch war in 1674, Moore was able to focus on astronomy.

In 1674 he was elected to the new Royal Society with the aim of getting support to build an observatory at Chelsea College, but this came to nothing.

He continued as an active Fellow of the Royal Society, which Christopher Wren had helped to establish in 1660 as an 'invisible college' of natural philosophers and physicians.

This learned society had been given royal approval in 1663 as 'The Royal Society of London for Improving Natural Knowledge'. Their motto, 'Nullius in verba' meaning 'take nobody's word for it', showed the determination of the Fellows to verify all statements by facts proven by experiment.



A New
SYSTEM of MATHEMATICKS
Composed by the Eminent Worthy
S^r JONAS MOORE Knight
Late Surveyor Gen^l of his Ma^{ty}
Ordnance and Fellow of the
Royall Society &c.

London Printed for Robert Scott Bookfeller in Little Brittain

Page from Moore's New System of the Mathematicks. 1681.



Dean Farm



Left to right: Bridleway to Lower Houses Farm. Datestone on Lower Houses Farm and Stainscomb manor house.

In May 1676 Jonas Moore was appointed Vice-President of the Royal Society which is now the world's oldest scientific academy in continuous existence.

Charles II appointed the astronomer John Flamsteed as his 'astronomical observator'. Moore had been Flamsteed's patron since 1670 and had presented him with a Towneley Micrometer. This pioneering instrument for measuring the diameter of planets had been adapted by Richard Towneley, of Towneley Hall, Burnley near Moore's home village of Higham.

Towneley was a contemporary of Jonas Moore and he too was a mathematician and

astronomer. His uncle, Christopher Towneley, was part of a pioneering group of astronomers in the north of England who laid the foundations for research into astronomy in this country. The group included Jeremiah Horrocks, born in 1618, who was the first person to demonstrate that the Moon moved around the Earth in an elliptical orbit.

A Royal Observatory and Greenwich Mean Time

In the end, it was the Ordnance Office which supported the building of an observatory, not the Royal Society.



Caption:

Jonas Moore's thirst for exploration, growing wealth and influence made him a driving force behind the new Royal Observatory. It was designed by his friend, Sir Christopher Wren and was completed in June 1676 in the royal park at Greenwich.

It was established to help astronomers, scientists and mathematicians make observations of astronomical and meteorological phenomena by watching the planets, stars and weather. Moore paid for much of the new Observatory's equipment, including two enormous clocks made by Thomas Tompion, who was known as 'the father of English clock making'.

Jonas Moore played a pivotal role in establishing Greenwich Mean Time and the Greenwich Meridian to aid naval navigation. British map makers began to set Longitude from Greenwich and the time of every location on earth could be worked out by how many degrees east or west of Greenwich it was. He became known as 'the father of time'.

A Royal Mathematical School

Also in 1676, Jonas Moore became a governor of the Royal Mathematical School at Christ's Hospital in London with the diarist Samuel Pepys who described him as "my Worthy Friend".

The school trained boys in navigation so they could serve their King at sea. In 1677, Moore began to write a book called *A New System of Mathematicks* which included arithmetic, geometry, trigonometry and cosmography.

It was designed as a mathematical course for the school where he was also a teacher, but it was unfinished when Moore died in 1679.

The Man That Time Forgot

This remarkable mathematician, astronomer, cartographer and royal courtier died in 1679 and was buried at the Chapel Royal of St Peter ad Vincula in the Tower of London with full military honours, including a gun salute for each of his 62 years.

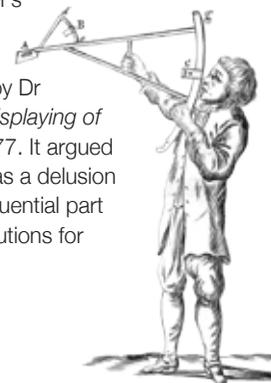
The Chapel, built by Henry VIII in 1520, is best known as the burial place of many important prisoners who were executed at the Tower. They include Anne Boleyn, Catherine Howard, Lady Jane Grey and the Catholic martyrs, Thomas More and John Fisher.

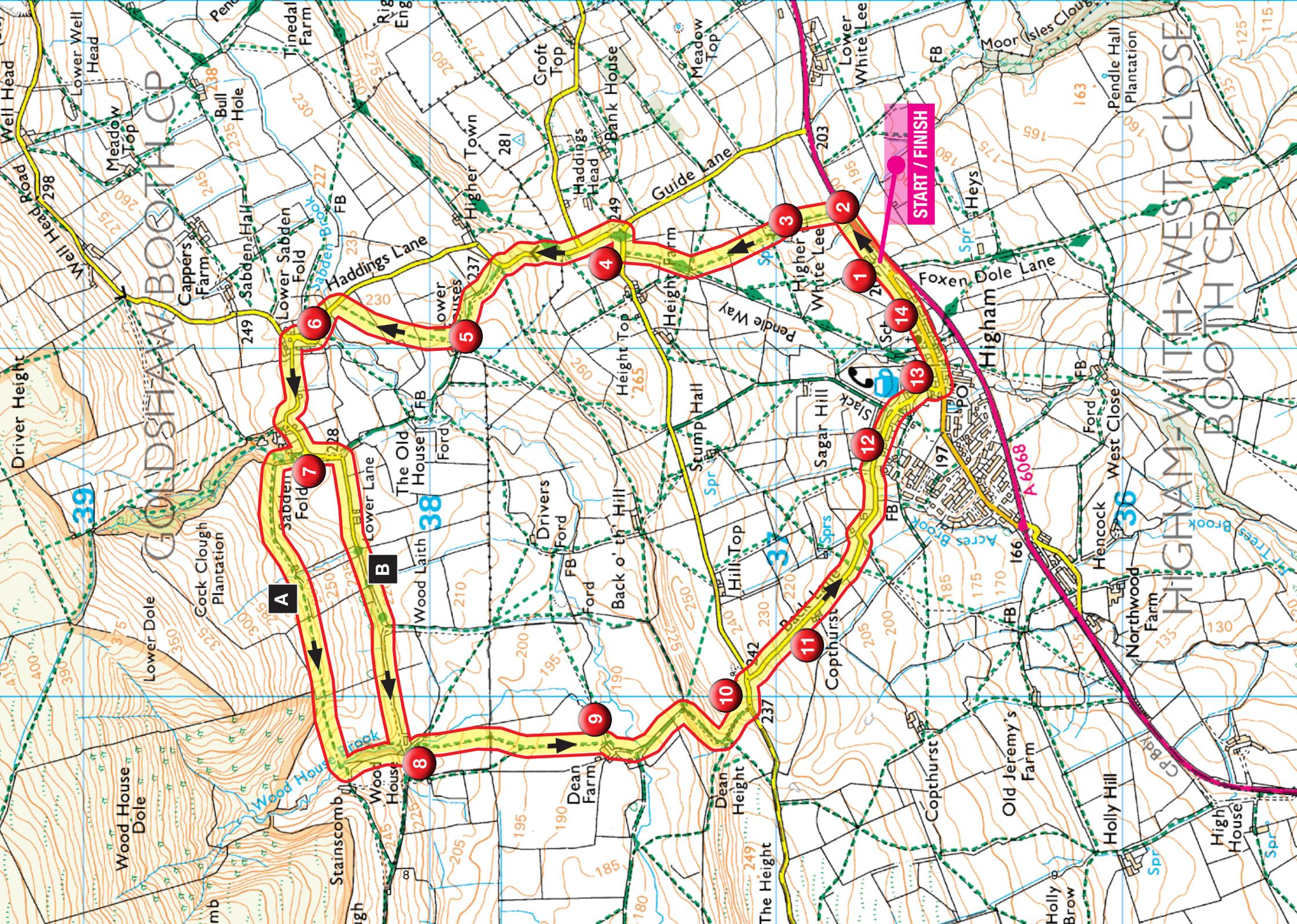
His pioneering book: *A New System of Mathematicks* was completed and published after his death thanks to the mathematician and astronomer Edmond Halley who calculated the orbit of Halley's Comet. Halley was the second Astronomer Royal in Britain, succeeding Jonas Moore's protégé, John Flamsteed.

Over a century later, John Aubrey in his *Lives of Eminent Men* published in 1813 describes Moore as "one of the most accomplished gentlemen of his time." But unlike his influential friends, Jonas Moore became the man that time forgot.

Yet he left a long legacy, and not only in mathematics and time. His only son, also called Jonas, succeeded him as the Surveyor General of the Ordnance and was knighted in 1680.

His son followed in his footsteps as an enlightened man and pioneering thinker. Despite the loss of his father's older brother, allegedly due to the Pendle Witches, he helped to sponsor a book by Dr John Webster called *The Displaying of Supposed Witchcraft* in 1677. It argued that a belief in witchcraft was a delusion and this book played an influential part in halting the tide of prosecutions for witchcraft in this country.





START / FINISH

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Follow the trail

Starting point

Park in the layby on the edge of Higham Village BB12 9EU just off the A6068 Barrowford Road and to the right of Higham Hall Road. The layby is behind a grassed area where there is a stone with a Jonas Moore dedication. The layby can be found behind a stone wall.

1. From the layby walk towards the bollards and past The Parsonage and down to the **A6068 Barrowford Road**. Continue along the tarmac footpath alongside the main road, away from Higham village.
2. Take the first left up the tree-lined farm track (by the Farm Eggs sign) towards **Higher White Lee Farm (A)** where Jonas Moore was born in 1617.
Go through the metal gate to the left of the farmhouse and follow the track on the left to the back of the farm where you can see the 1594 date stone on the wall (between two downspouts).
Retrace your steps to the corner of the farmhouse and bear left through a small wooden gate in the fence and go down the steps and turn right to climb up the field to the fence.

Look back to enjoy the view of Hameldon Hill to your right above the windfarm and Boulsworth Hill with its two cairns, to your left. Boulsworth is one of Pendle's three peaks.

3. Climb the wooden stile and go straight on, following the footpath sign to cross the next field, walking towards two houses. Continue to the top left corner of the field where there is a crossroads footpath sign. Take the right hand footpath to join **The Pendle Way (B)**, signposted with a Pendle Witch symbol. Go over the wooden stile by the large gate onto Stump Hall Road.
4. Turn right and follow the road to the T junction and turn left up the road following the Pendle Way witch sign. Continue up the road and as it levels you'll pass the black and white signpost to Sabden Fold and Newchurch.
As the road goes downhill you'll get views of **Faugh's Delph (D)**, the quarry where the notorious Pendle Witch Demdike, said she had first met the devil.
Turn left at the bottom of the hill and go over the cattlegrid and follow the bridgeway farm track on the left down to the farm.

5. **Lower Houses Farm (C)**. Note the 1592 date stone above the porch and then turn right along the side of the farm, going through the small wooden gate in the wall and follow the fence up to a wooden stile in the right hand corner.

Turn right by the side of a ditch to reach a grassed cattle crossing. Go over it, bearing diagonally left and then diagonally right across the field to cross a small wooden footbridge and a stile over the fence.

Follow the footpath sign, bearing right to go diagonally across the next field, with more views of Faugh's Delph quarry near Newchurch to your right. You will reach a stile by the side of a large gate.



6. Go over the stile and turn left here, following the road down to the entrance to **Sabden Great Hall (E)** which was built in 1577 and partially rebuilt in 1877. Follow the road up and round to see **Forest Cottage (E)**, a distinctive white cottage on the corner at Sabden Fold opposite the red post box and then retrace your steps back down the hill.

7. Now take the bridgeway signposted Sabden to walk towards **Sabden Fold Farm (F)**, passing Green Top Farm.

You now have a choice of two routes. Both routes enjoy views of quiet hills and rough pasture which have the ancient name of **doles (H)**.

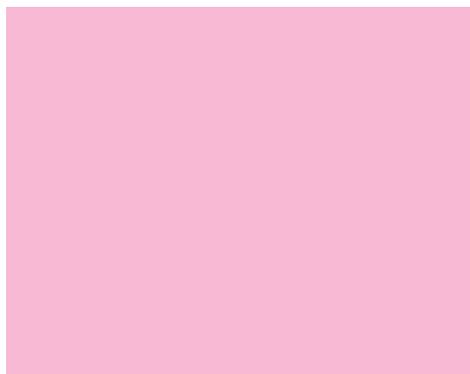
Both routes re-join at **Woodhouse (I)**, the house with a wind turbine.

Route A - To Stan's Cabin

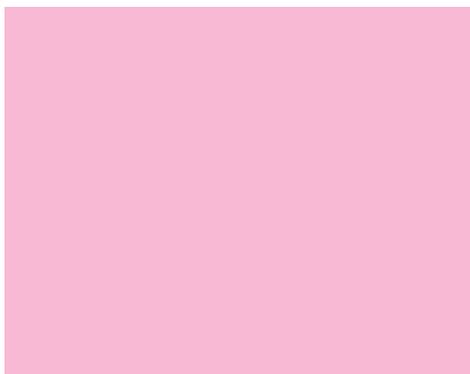
- Just past Sabden Fold Farm, turn right up the track and follow the track uphill keeping to the left of the farm pond on the edge of a small wood including pine trees.
- Climb the stone stile in the wall and continue up the rough track, keeping the wall on your left.



- Go over the stile in the top left corner of the wall go straight on and then downhill through a gate in a wall. Turn right immediately and follow the path by the gorse and alongside a wall.



- Go up the hill to reach a small gate. The historic building in front is Stainscomb, an Elizabethan manor house with a studded oak door.



- At the end of the gorse bushes head downhill to a small wood, heading in the direction of the Elizabethan manor house, Stainscomb.
- Cross the small Woodhouse Brook using the plank and go over the stile and up into the small wood to find Stan's Cabin. Stan lived in nearby Padiham. He was a tripe seller and came to the cabin for his weekends and holidays

- Follow the road up as it curves above the house to find **medieval vaccary walls (G)** and stunning views, including Black Hill on the ridge opposite, part of the former route of the Roman Road. Re-trace your steps back to Stainscomb and then go down the tarmac road to Woodhouse, the house with the wind turbine. Now see **9**.

ROUTE B - Along the old coach road

- At Sabden Fold Farm bear left, following the road to the T junction and then bear right to follow the bridleway. Go through the large gate and take care as the lane can be muddy and watery after rain! This cobblestone track, lined with twisted hawthorns, is the old coach road from Sabden to Newchurch.
- Follow this bridleway up a small rise bearing right and then down to old farm buildings at a ford. If the water is too high, go left and cross using the grassed bridge and re-join the road, going uphill to the tarmac road which descends from Stainscomb.
You may want to climb this tarmac road for a few metres to catch a glimpse of this historic house, with its stunning backdrop of hills or walk up and follow the tarmac road to see the vaccary walls (see more details on route one).
Both routes re-join at **Woodhouse (I)**, the house with a wind turbine.

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- 8. Go down the left-hand side of Woodhouse house and through a small wooden gate and straight on down the field.

Follow the wall and fence on your right and go over the wooden stile and follow the footpath sign down the next field to another wooden stile.

Keep going down the field keeping the wall on your right and as you approach the farm leave the wall and head diagonally to reach the left hand side of the farm buildings.

- 9. Pass some farm buildings and head to the wall, going over the stone stile in the corner and turn right onto the farm track in the field to a small kissing gate in the wall. Turn left down the farm lane and bear right at the T junction to the front of **Dean Farm (J)**. This farm belonged to Sir Jonas Moore and his family. It was built in 1574 over 40 years before his birth.

Re-trace your steps to the junction and turn right by the green footpath sign and cross the stone bridge over Sabden Brook. Go up the farm track to a large gate and follow the track up and round the hill to the right on a cobbled bridleway. The cobblestones show that this is another old coach road from Sabden to Higham.

Climb the hill to look back and enjoy good views of the village of **Sabden (K)** to the left and **Newchurch (L)** to the right and Spence

Moor behind Stainscomb manor house in front of you.

10. At the top go through the gate and turn left onto the narrow road and take care, looking and listening for cars.

This road follows the line of the old Roman road along the ridge from the Roman village of Ribchester to Elslack near Skipton in North Yorkshire, continuing in an eastwards direction towards York.

11. Turn right at the T junction (signposted Higham) and go downhill, passing an old stone trough on your right which is rust coloured from the iron oxides leaching out of the ground.

12. Enter the village of Higham which takes its name from the Saxon heg and ham meaning a high small place. Walk alongside the row of terraced weavers' cottages on the right which have the unusual name of Wallet.

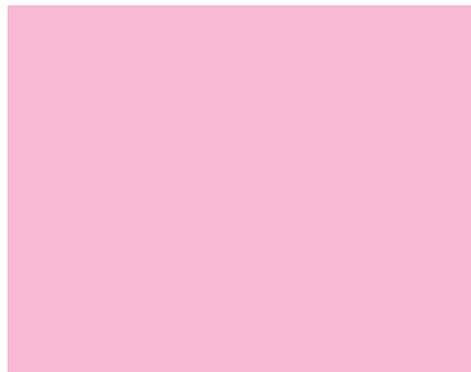
Continue down to where the road bends to the left. Just past the bungalow and road on the left and before a garage building look left to see the **old pinfold or poundfield (M)**

13. Continue down the road passing Jackson's Fold on your right to arrive at the **water spout and trough on your right (N)**.

Just round the corner is the **Four Alls Inn (O)** with its unusual pub sign which illustrates the four alls.

Opposite the pub is the site of the **Wesleyan Methodist Chapel (P)**. If you'd like to see more of the village, go down Chapel Row, past the wedge-shaped house (formerly a village shop) to see the cottages and back alleys of the old village. From the chapel and wooden bus shelter, go up the hill on Towngate and find **Higham House (Q)** on your right. This was the old gaol house where some of the Pendle Witches were kept in 1612.

Others were interrogated at the Halmote Court held at Higham Hall and later at the Four Alls Inn.



A little further along on your right is the old manor house of **Higham Hall (P)**, built in 1327. This is the place where those caught stealing or breaking the pound rules (**see M**) were fined and could be sent to be locked up in Higham House.

14. On your left is the old village school with its beautiful cupola bell tower. Built in 1837, it's now the village hall. Continue up the hill past the church of St John The Evangelist and the new school back to the car parking area in the layby to complete the trail.



We are indebted to local walking guide leader Norman Mitchell for researching and developing this four mile trail to give Sir Jonas Moore his rightful place in England's history and help people to explore the places of his birth.

History along the trail

(A) Higher White Lee Farm was called simply White Lee when Jonas Moore was born here in 1617. It was built in 1593 and has a date stone at the back for 1594.

(B) The Pendle Way – this 45 mile trail which takes in all the variety of Pendle's countryside – passes through Higham. To download the free walking guides www.visitpendle.com/things-to-do/walking/long-walks.

(C) Lower Houses Farm is a fine Elizabethan house dating from the 16th century and a Grade II listed building. It's part of a conservation area which includes historic farmhouses and a landscape of drystone walls and open pasture.

(D) Faugh's Delph is the old quarry near Newchurch in Goldshaw Booth, where the Pendle Witch, Demdike, claimed to have first met the devil. Demdike had been returning home after a begging expedition and said the devil was in the shape of a boy called Tibb who wore a coat which was one half black, the other brown. In return for his promise that she could have anything she wanted, she agreed to give him her soul.

(E) Sabden Great Hall is an imposing grade II listed building which was built around 1577. This Elizabethan Hall is one of the finest early houses in Pendle and is part of a conservation area in a hamlet called Lower Sabden Fold. It's reached by Haddings Lane which is enclosed by high grassy banks and dry stone walls until the imposing twin gables of Sabden Great Hall rise above the trees and the fine mullion windows become visible.

(F) Sabden Fold and the neighbouring hamlet of Lower Sabden Fold have been designated a conservation area as they are distinctive historic hamlets which have changed very little in the last 200 years. The name Sabden may be derived

from the Old English sceppe denu, meaning spruce valley. The name occurs as early as 1296 as Sapedene.

(G) Vaccary walls – The settlements and landscape of Goldshaw Booth date back to medieval times when vaccary farms were established by the de Lacy family to raise draught oxen. The de Lacy family were an old Norman family originating from Lassy in Calvados, France and they took part in the Norman conquest of England.

The vaccaries they created were like small islands of cultivated land enclosed by flat standing stones to keep cattle in, within the extensive open hunting forest of Pendle. Vacca comes from the Latin name for cow.

(H) Doles, booths and launds – There are a number of doles in this valley: Stainscomb, Wood House, Lower, Craggs and Cock Dole. Dole is a Saxon or Old English name for poor man's pasture. Peasants were not allowed to graze their livestock on the lord or king's land which was divided up by vaccary walls. Instead they had to use the rough pasture found higher up the hills.

Another example of Old English names in Pendle are launds and booths. A laund was a place where deer were reared and kept for hunting by the lords and the king. And booths were farms or small-holdings. These ancient names remain in the area covered by this trail, including Old Laund Booth. Goldshaw Booth, which includes the village of Newchurch, is mentioned in the confessions of the Pendle Witches of 1612. Higham's full name is Higham with West Close Booth.

(I) Dean House Farm – The Latin inscription carved above the mullion windows means: This house was builded by Hugh More son of Chrestover More oldest brother son of Leis Hugh

wife in the year of our Lord 1574. Hugh More was the father of John Moore and the grandfather of Jonas Moore. A Hugh Moore of the Dean, Higham, probably Jonas Moore's grandfather, is listed as one of the victims of Chattox. He died after accusing Chattox of bewitching his cattle.

(J) Sabden is a large village in the Ribble Valley. Farming and quarrying were the main occupation in the 16th century. In the later 18th and the 19th century fabric printing and weaving industries took over. The water quality in the valley was good for calico printing industry and printworks developed along Sabden Brook and seven mills in the village employed over 2,000 people with workers walking to work from surrounding towns and villages to do a twelve hour shift.

Strings of lime gals (Galloway ponies) were a familiar sight in this valley from the mid 18th to late 19th century as they carried slate, lime and coal, between the Burnley coal fields and the Clitheroe and Chatburn lime kilns.

(K) Newchurch was known in the 17th century as Goldshaw Booth and later Newchurch in Pendle Forest. It's now called Newchurch in Pendle. The church tower, built in 1544 has a unique 'eye of god' which was thought to help protect the hallowed ground from witches. During the investigation of the Pendle Witches of 1612, human bones and teeth, allegedly dug from graves at Newchurch to use in spells, were found at the home of the Devices at Malkin Tower. Alizon, James and Elizabeth Device were hanged as witches in 1612.

(M) Pinfold or poundfield – Pinfolds go back about 500 years and were the places where stray animals were kept until re-claimed. They were enclosed by a high wall and had fresh grass with a water supply running through it. Once stray animals were placed in the pinfold the gate was secured with a special piece of wood by the Pindar, who was an official of the court, responsible for the Pinfold.

The owner of the animals, when claiming them had to pay a fine before he could take the animals away. There was also a fine for anyone who broke

into the Pinfold and removed the animals without paying the fine.

(N) Four Alls Inn – This village inn was headquarters of the Higham Balloon Juice Company, a spoof company launched on the stock market. In fact it was a club of locals, who met to drink and talk. The Four Alls Inn opened in 1792.

The name Four Alls Inn denotes:

- **The King rules all**
- **The Priest prays for all**
- **The Soldier fights for all**
- **The Common Man pays for all.**

(O) Wesleyan Methodist Chapel – It was founded before 1813 and closed before 1984.

The Wesleyan Methodist church was formed in the 18th century from religious societies founded by John Wesley and his preachers. It was the largest nonconformist denomination in the 19th century.

Other things to see & do

Pendle Sculpture Trail – enjoy a short walk to Aitken Wood to see a range of sculptures inspired by the Pendle Witches of 1612 and the natural environment of this wild and beautiful corner of the Forest of Bowland. www.visitpendle.com

Watch the film Walk into history along the Pendle Way.

INSIDE BACK COVER



Take care

Please wear suitable stout footwear and clothing for outdoor walking. Bring food and water and carry waterproof clothing in case of wet weather. It's always wise on country walks to bring a first aid kit - plasters, insect-bite cream, wet wipes etc... and a mobile phone!

This is farming country and you may encounter farm animals along the trail. Please keep dogs on a lead where there are sheep and cattle. If your dog is chased by cows then let it off the lead for safety.



The book cover binding of Moore's new system of the mathematics. 1681.

www.visitpendle.com

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