

THE MONUMENT

Educational Activities & Resources Kit

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- Extracts from Samuel Pepys' Diary Item #8
- Biographies Item #9
 - Dr. Robert Hooke
 - Samuel Pepys
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- Image Library Item #10
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THE MONUMENT: VITAL INFORMATION

Introduction: The Monument was built between 1671 and 1677 to commemorate the Great Fire of London and to celebrate the rebuilding of the City.

Location: Monument Street, London EC3R 8AH

Contact: Telephone: 020 7626 2717
The Monument & Tower Bridge Exhibition Group Bookings
Telephone: 020 7407 9191

Website: www.themonument.info


Opening Hours: April to September: 9:30 AM to 6:00 PM daily
(Last Admission: 5:30 PM)

October to March: 9:30 AM to 5:30 PM daily
(Last Admissions: 5:00 PM)

Access: The Monument is not accessible to people in wheelchairs; however, there is a live camera on the top which feeds the view to the website and to a screen at the bottom of The Monument.

Group Bookings: Groups are not required to book in advance, but due to limited capacity, there can be a wait. Please telephone 020 7940 3965 for advance bookings.

Cost: £2 per pupil; teachers are welcome to a FREE preview visit.
£4 per adult; or refer to www.themonument.info.


Public Transport:  By Tube: The Monument (served by District Line, Circle Line, Northern Line to Bank, and DLR to Bank)



By Train: London Bridge Station, Fenchurch Street Station, Cannon Street Station



By Bus: 15, 17, 21, 25, 40, 43, 47, 48, 133, 149, 335, 344, 447, 521

Coach Parking:  There is a coach park on Lower Thames Street, opposite Sugar Quay, a short walk away from The Monument. Please see the enclosed map for location.

Practical Info: There is NO storage space at The Monument. We recommend bringing as little as possible with you during your visit.

There is a nice pedestrian plaza outside The Monument, which is ideal for a picnic on a sunny day.

PLANNING YOUR VISIT

To Book Your Visit:

Please telephone 020 7407 9191 (The Monument & Tower Bridge Exhibition Group Bookings) or visit www.themonument.info.

Recommendations for your Visit:

- Allow a ratio of 1 adult to 10 children.
- Allow 45 minutes to visit The Monument, plus extra time to explore its environs.
- Minimum age for visitors: 5 years old.

Health & Safety Information:

The stairs at The Monument are very steep and children should be reminded not to run, to hold the hand rails, and to take their time.

Visit Checklist:

On the day of your visit, you may want to bring:

- Clipboards, pencils and duplicates of the Pupil's Worksheet
- Camera(s)
- Drawing materials
- Measuring device – to check the distance from The Monument to Pudding Lane
- Image Library from this Kit
- Map of London

Your Notes:

THE MONUMENT: Educational Activities & Resources Kit

TEACHER'S INFORMATION SHEET

Ideas for Your Visit:

- Explore the Neighbourhood.

Some of the streets in the area are as old as, or older than, The Monument itself. Many have fascinating names related to their history:

Eastcheap: 'Cheap' meant 'market' during medieval times, so 'Eastcheap' was the market in the east of the City of London.

Pudding Lane: Pudding Lane was named after 'pudding' but not as we know it! Medieval butchers located in Eastcheap used to call offal 'pudding.' The offal was the part of the animal which they threw away, and it would often fall from the carts sent down this lane to rubbish barges on the River Thames.

Pepys Street: It was named after diarist Samuel Pepys, who recorded the Great Fire of London.

Seething Lane: Located near the corn market, this lane would have been covered in the *chaff of the processed corn. The medieval word for 'chaff' was 'ceafen' and over time, this was misunderstood as 'seething'.

(*Chaff is the husk on the outside of a kernel of corn, which is separated during processing.)

Fish Street Hill: This was the original path from London Bridge to Old Billingsgate Fish Market.

- Walk in Samuel Pepys' Shoes.

Take along a copy of Samuel Pepys' diary; highlight all the place names he mentions and visit those areas of the City. Read his account while standing where he himself stood during the Great Fire!

- Make a Day of It! Combine your visit with a trip to Tower Bridge.

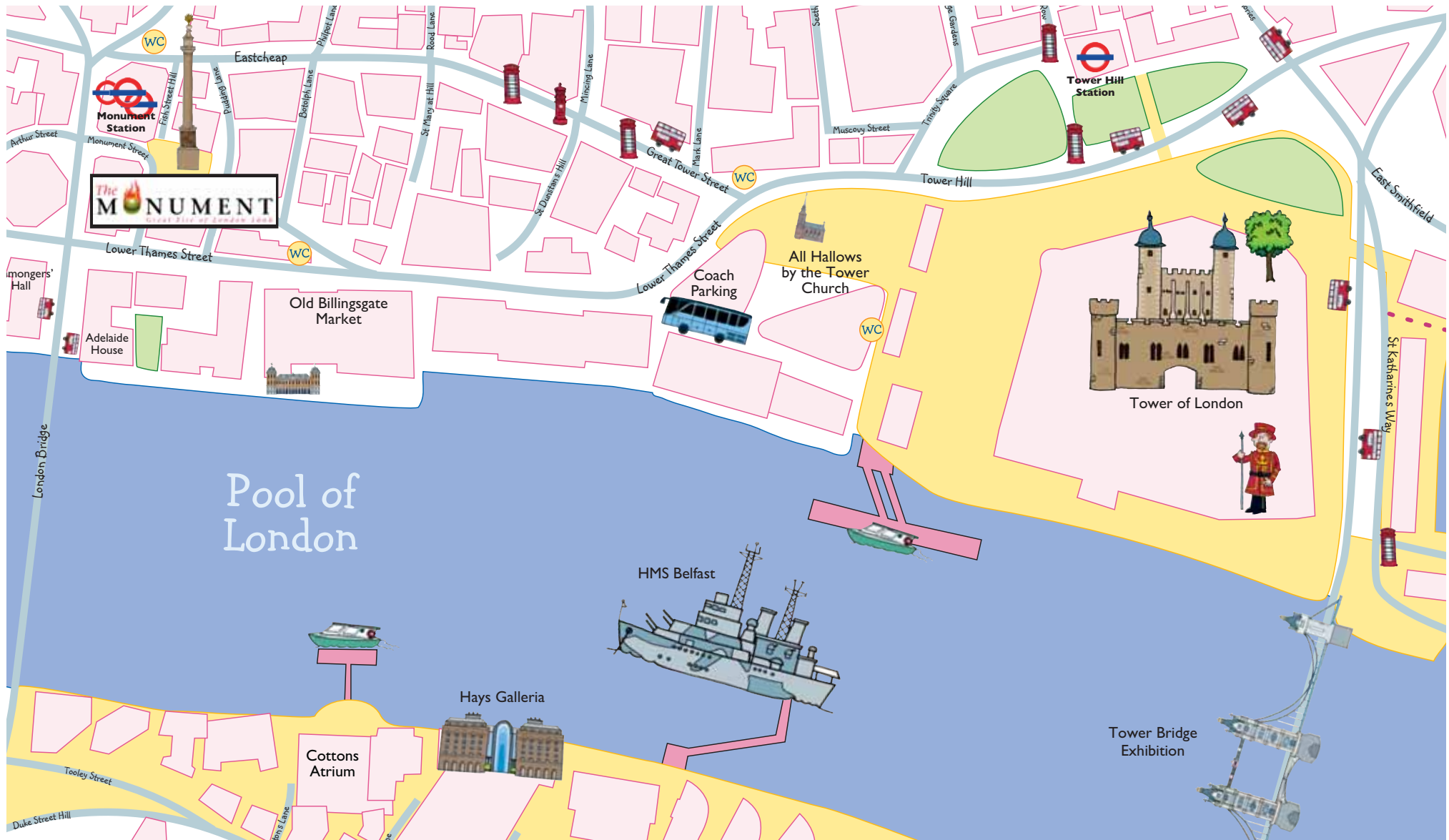
Tower Bridge Exhibition and The Monument offer a combined ticket for visitors.

- Explore the Pool of London!

Download the FREE Guy Fox "Explore Kit", including maps and activity sheets, which features the heritage sites around the Pool of London. It is available FREE from www.guyfox.org.uk and www.towerbridge.org.uk.

THE MONUMENT: Educational Activities & Resources Kit

NEIGHBOURHOOD MAP



My Visit to The Monument

The Monument commemorates the Great Fire of 1666. It was designed by Dr. Robert Hooke under the supervision of Sir Christopher Wren.

Dr. Robert Hooke was a scientist and architect. He made a lot of observations about the world around him.

What Can You Observe During YOUR Visit?

Today's Date: _____

The weather today was: _____

When I first saw The Monument, I thought: _____

I walked around The Monument and saw: _____

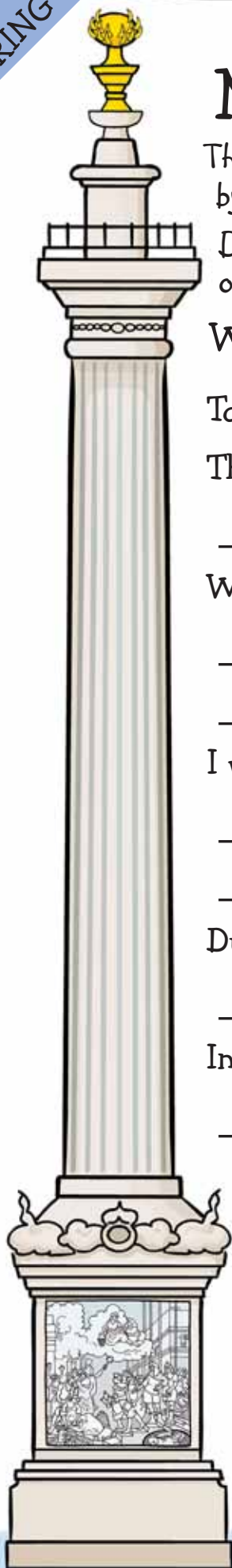
During the climb, I felt: _____

Inside The Monument is: _____

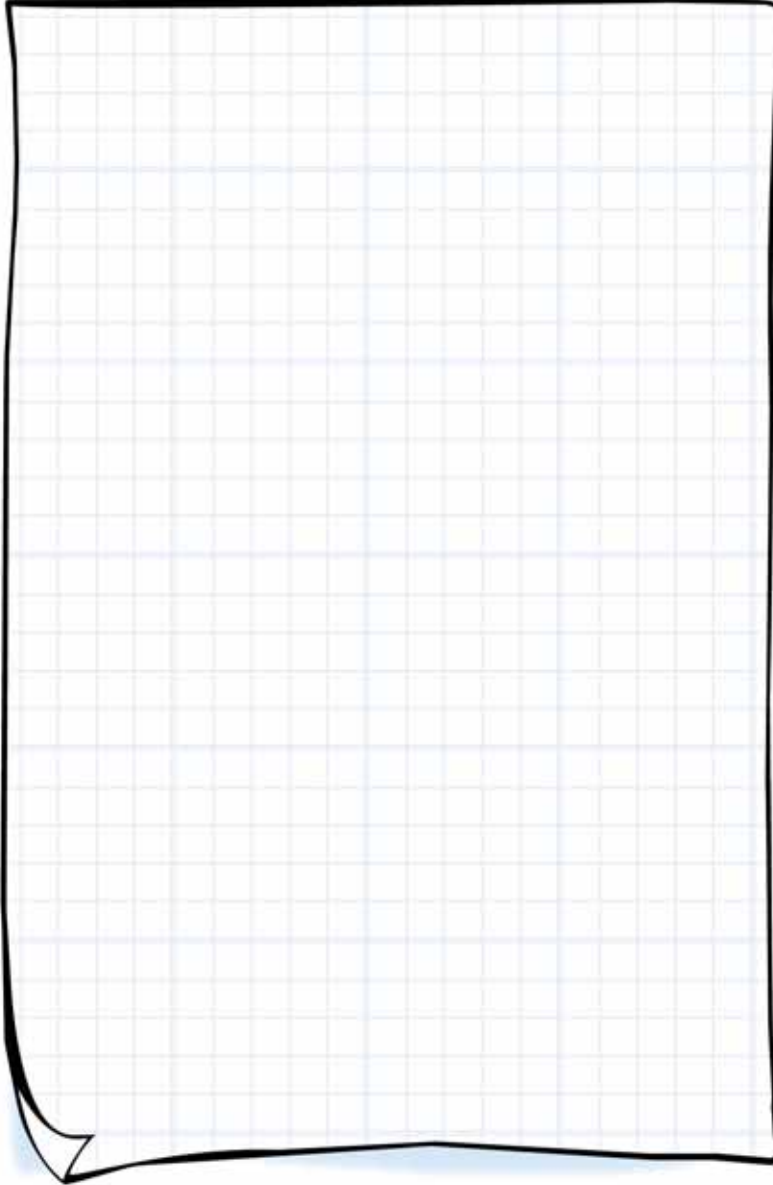
I counted _____ steps to the observation platform.

From the TOP, I could see: _____

Sir Christopher Wren designed many churches in the City of London. His most famous is _____ Cathedral, which you can see from the western observation platform.



Design YOUR own Monument:



What's the name of YOUR monument?

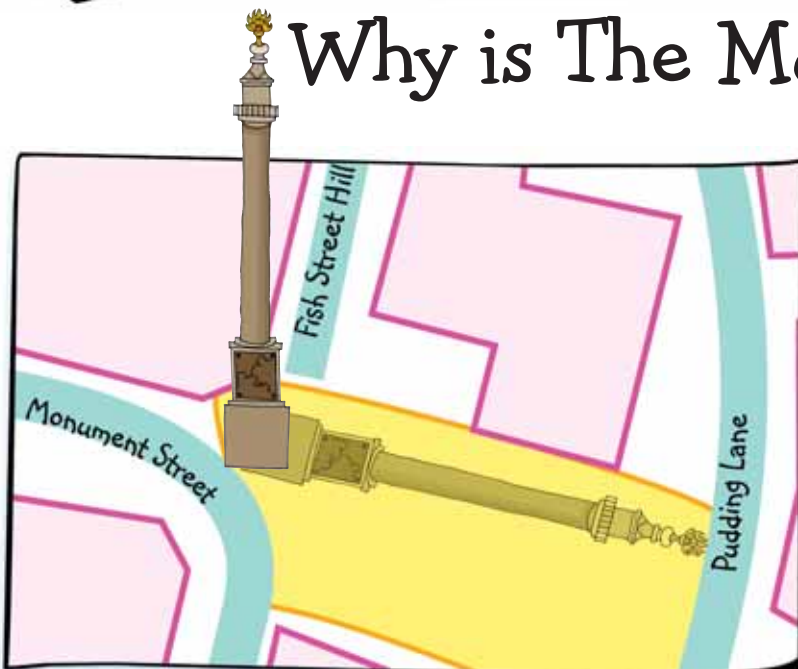
What does it commemorate?

Where will you build it?

What materials will it be made from?

Any special features? _____

Why is The Monument THAT tall?



The Monument is 61 1/2 metres (202 feet) tall. It is the same distance from The Monument to Pudding Lane, where the Great Fire started on 2nd September 1666.

Here's an Idea:

Walk from The Monument to Pudding Lane and count your footsteps along the way.

How many did you count? _____ steps

ACTIVITY 1A: OBSERVE, QUESTION, DOCUMENT

Objectives:

- To explore the heritage, dimensions and features of The Monument
- To reflect on the pupils' experience of The Monument

National Curriculum Links:

Key Stage 2
History 1a, 2c, 2d, 5a, 5b, 6

Required Resources:

- 'The Monument: Facts & Figures' Resource
- Pupil's Worksheets, completed during your visit

Instructions:

As a group, read over 'The Monument: Facts & Figures' Resource. Ask your pupils to review the worksheets which they completed during their visit.

Discuss your experience at The Monument:

- How long did it take to climb to the top of The Monument?
- What did you see from the top of The Monument?
- What words describe the view from the top of The Monument?
- What did you feel when you reached the top of The Monument?
- What did you feel when you saw the view from the top of The Monument?
- How did you feel on the climb up The Monument?
- What did you feel on the climb down The Monument?
- What was the weather like on the day of your visit?
- What was your favourite part of the visit?
- What was your LEAST favourite part?

Discuss The Monument's heritage, dimensions and features:

Question: Why was The Monument built?

Answer: *To commemorate the Great Fire of London of 1666, and to celebrate the rebuilding of the City.*

Question: Who was King of England when The Monument was built?

Answer: *King Charles II.*

Question: Who designed The Monument?

Answer: *Sir Christopher Wren, Surveyor-General to the King and Dr. Robert Hooke, a scientist & architect.*

Question: Sir Christopher Wren and Dr. Robert Hooke had another very important job to do as well as design and build The Monument. What was it?

Answer: *The King put Christopher Wren in charge of rebuilding the City of London after the fire. Robert Hooke helped him survey the whole city and plan the work.*

Question: How tall is The Monument?

Answer: *61½ metres (202 feet).*

Question: How many steps are there to the public viewing platform?

Answer: *311 steps.*

Question: What's the distance to Pudding Lane from The Monument?

Answer: *61½ metres (202 feet): the same as the height of The Monument.*

continues...

ACTIVITY 1A: Continued

Question: If each step is 6 inches (15.5 centimetres) tall, how many feet is the climb? How many metres?

Answer: 47.4 metres (155½ feet)

Question: Explain the frieze on the west side of The Monument.

Answer: It is an allegory of the rebuilding of the City of London. The main female figure represents the City in ruins after the fire. The figure with wings behind her is Time. Time and the citizens of London are raising her up. There is a beehive at her feet, to represent industry. The King and the Duke of York are coming towards her to help and protect her.

Question: How long did it take to build The Monument? Why did it take so long?

Answer: 6 years. It took so long mainly because everyone was using Portland stone to rebuild the City, which was hard to come by.

Question: When was The Monument completed?

Answer: 1677

Question: What is on top of The Monument?

Answer: A bronze vase with flames, which represents the Great Fire of London.

Question: What is underneath The Monument?

Answer: An observation area, which was built so the members of the Royal Society could make scientific observations.

Question: Why did they stop scientific experiments underneath The Monument, soon after it was built?

Answer: The vibrations from the passing traffic made experiments difficult.

ACTIVITY 1B: THE MONUMENT & ME

Objectives:

- To explore the dimensions of The Monument and develop an understanding of scale
- To relate the scale of The Monument to everyday objects

National Curriculum Links:

Key Stage 2
Geography 2b
Mathematics 1a, 1b, 1c, 1d, 1j

Required Resources:

- Monument Facts & Figures Sheet
- Ruler, tape measure and graph paper

Ask your pupils to research, measure and compare:

- HEIGHT of The Monument to your height.
- HEIGHT of The Monument to the height of your school.
- DISTANCE from The Monument to Pudding Lane with the length of the school playing field.
- NUMBER of steps to the top of The Monument to the number of steps to the top floor of your school.
- HEIGHT of each step in The Monument to the height of the steps in your school.
- NUMBER of people who visit The Monument each year to the number of pupils in your school.

ACTIVITY 2: RUMOURS, RELIGION & THE GREAT FIRE

Objectives:

- To explore how the Great Fire made the people of London feel
- To explore the reasons why people are sometimes treated unfairly

National Curriculum Links:

Key Stage 2
 Citizenship 1a, 2c, 2e, 2i, 4b, 4f
 History 2a, 2c, 2d, 3, 5a, 5b
 Personal, Social and Health Education
 1a, 2c, 2e, 2i, 4b, 4f
 Religious Education 1c, 2b, 2c, 2e,
 3a, 3j, 3k, 3p

Read this to your pupils:**RELIGION IN 17th CENTURY ENGLAND**

During the reign of King Charles II, there were disagreements across Europe about which church should be in charge of the Christian faith. England had its own 'Church of England', which had originated in the 1500s during the reign of King Henry VIII. Over time, the Church of England broke away from the Roman Catholic Church and the authority of the Pope. It was called a 'Protestant' religion because its members protested against the Roman Catholic Church.

During the reign of King Charles II, England was officially a Protestant country. There were still some Catholics in England, and many were punished for their beliefs. Some Protestants thought that Catholics shouldn't be allowed to practise their religion.

King Charles II believed in 'religious tolerance'. He thought that people should be able to be Protestant or Catholic as they wished. He wanted to change the law so that Catholics could be left alone to practice their religion freely. But there was a lot of opposition to this and the King made slow progress.

Some of the advisors in the court of King Charles II were Catholics. This worried the Protestants who thought the Catholics would take control and force England to become a Catholic country again. (Under Queen Mary, England had been a Catholic country, and Protestants had been persecuted; many of them lost their heads at the Tower of London.)

RELIGION AND THE GREAT FIRE OF LONDON

Some Protestants wanted to convince people that the Catholics were bad, so they spread rumours that Catholics started the Great Fire of London. They believed the Great Fire was a Catholic plot to take control of the City. In fact, there used to be a plaque on The Monument, stating that the Catholics were responsible for the fire!

During the Great Fire, rumours spread as quickly as the flames themselves. On the first day of the fire, the London Gazette newspaper was published, but there was no newspaper for six days. Because there was no OFFICIAL news, there was lots of confusion about what was really happening.

In all the chaos, various groups were blamed for starting and spreading the fire. Some people blamed the Catholics, for the reasons outlined above. Some people blamed the Dutch, because England was at war with Holland at the time. Other blamed the French, because France was England's main rival in Europe, and it was a Catholic country.

Rumours spread that England was going to be invaded by foreign forces. Dutch and French people in London were even attacked on the streets.

The Great Fire started by accident in a bakery on Pudding Lane. However, it soon spread across the City and became a disaster. Like many disasters, it frightened people, and they used it as an excuse to blame groups that they didn't like or trust.

continues...

ACTIVITY 2: Continued

Discuss mistrust and conflict during the Great Fire:

Many people lost their homes, businesses and possessions in the Great Fire.

Question: How do you think this made the people of London feel?

Question: Why do you think some people blamed the Catholics and foreign people for the fire?

Question: Do you think this was fair?

Question: How do you think this made Catholics and foreigners in London feel?

Discuss religion and belonging today:

Question: What does it mean to feel like you 'belong' to something or somewhere?

Encourage pupils to discuss things that make them feel like they belong in their school, a club, their family, their group of friends or their religion.

Question: Do you think it is important to most people to feel like they belong? Why?

Question: How do you think people feel when they think they might be forced to change their religion or their way of life?

Question: What does 'prejudice' mean?

Discuss how some people hold negative views towards others simply because their way of life or religion is different to their own, or what they believe it is thought to be 'wrong'.

Question: What does 'tolerance' mean?

Discuss how tolerance means that people allow others to follow their own religion or way of life. They respect it, even if it is different to their own or they don't fully understand it.

Question: Do pupils in the class follow different religions? Which ones?

Summarise the discussion:

- Religious differences have caused disagreement and conflict throughout history and still do today.
- Religion is a very important part of life for many people. It is part of their identity and makes them feel that they belong.
- Sometimes people feel they may be forced to change their religion or way of life, because there is disagreement about who is 'right' and who is 'wrong'.
- This disagreement can make people scared, upset or angry. They may blame each other if something goes wrong, like in the disaster of the Great Fire of London.
- Different religions and ways of life can also live together peacefully and respect each other. This happens in many societies, including the UK today.

ACTIVITY 3A: THE GREAT FIRE OF LONDON, DAY BY DAY

Objective:

- Explore causation by talking about what happened during the fire and role-playing different people of the time

Required Resources:

- 'The Monument: Facts & Figures' Resource

National Curriculum Links:

Key Stage 2
History 1a, 1b, 2a, 2c, 2d, 4b, 5a, 5b
English: En1 Speaking & Listening
1a, 1b, 1d, 1e, 2a, 2b, 2e, 3a, 3b, 3c, 3d,
4a, 4b, 9c, 10c, 11a

As a Class, discuss:

What have you learnt about the Great Fire during your visit to The Monument. What do you remember?

Read this Day by Day account of the Great Fire of 1666:

Day 1: Sunday 2nd September 1666

A small fire started at about 2 o'clock in the morning at **Thomas Farriner's** Bakery on Pudding Lane.

Thomas Farriner and his family escaped from the roof. The **Parish Constables** decided that the houses next door to the bakery should be pulled down, but the **residents** didn't want them to do this.

The **Lord Mayor** was called to make the final decision. When he arrived, he saw the fire spreading to the houses next door. However, he refused to knock them down because the owners weren't there to give permission. By daylight, a strong easterly wind had spread the fire to many buildings.

At daybreak, **Samuel Pepys** climbed the steeple at All Hallows by the Tower Church and looked around the City; he also took a boat to view the damage from the river. Afterwards, he quickly went to Whitehall (in Westminster) to see **King Charles II**.

King Charles II told **Samuel Pepys** to order the **Lord Mayor** to knock down buildings and stop the spread of the fire. **James, the Duke of York** (the brother of the King) offered to send the **Royal Life Guards** to help put out the fire.

Day 2: Monday 3rd September 1666

The **Royal Life Guards** pulled down buildings, but there was lots of rubbish which caught fire and spread the flames even further. The Royal Exchange Market and the General Letter Office, which dealt with post for the whole country, burned down. The London Gazette Newspaper barely managed to send out Monday's issue before it burnt down, too.

Residents were leaving the City with their possessions, causing chaos and blocking the streets. The authorities shut the City gates to try and encourage **residents** to stay and fight the fire instead of leaving the City.

Even the **Lord Mayor** left the City – and he was supposed to organise the fire-fighting! **King Charles II** put **James, Duke of York**, in charge instead.

Because of the chaos and the rumours spreading across the City, **James, Duke of York** had a difficult time understanding exactly what was going on. He had to knock down buildings in the right places, to stop the fire from spreading.

Day 3: Tuesday 4th September 1666

The authorities had to re-open the City gates because the flow of **residents** leaving the City was unstoppable. Tuesday saw the most damage across the City. Even St. Paul's Cathedral, despite its thick stone walls and the open space around it, was destroyed. It was covered in wooden scaffolding for repairs, so this caught fire along with the wooden roof and the papers and books inside. Even the lead roof melted!

The **Royal Life Guards** had to destroy the houses around the Tower of London to prevent the fire reaching the gunpowder stores. That night, however, things finally began to improve. The wind dropped a little, and the fire calmed down in the west when it reached the brick walls of Temple Church.

continues...

ACTIVITY 3A: Continued

Day 4: Wednesday 5th September 1666

Residents started to hope that the fire could be stopped. The Royal Life Guards had created firebreaks by destroying buildings, and the firebreaks were effective. But the Great Fire had caused massive destruction, and many **residents** were living in makeshift camps by now. Bread was so scarce, its price had doubled in some places.

Day 5: Thursday 6th September 1666

It seemed the Great Fire was stopped, but it broke out again when some sparks set wood alight at the Temple. **King Charles II** watched the whole night as **residents** worked to put out the fire once again. They used gunpowder to destroy several houses around Temple, to stop the fire from spreading.

By daylight, after 4 long days and nights, the Great Fire of London was finally over. Finally.

After the Great Fire:

Many **residents** had lost their homes, and some people went to live in the fields around the City as the rebuilding began. **King Charles II** ordered food supplies to be sent out. He sent 'bisket' bread from the Navy stores, but the **residents** had enough food. They didn't like this type of bread so they sent it back!

Discuss:

Question: How did the Great Fire of London start?

Answer: *Some sparks popped from a baker's oven and set the bakery on fire. It spread from there.*

Question: Why did the Great Fire of London spread so quickly?

Answer: *The buildings in the City were packed tightly together and mainly made of wood. Plus it had been a hot, dry summer so the wood burned quickly. The wind coming from the east also helped to spread the fire.*

Question: How do you think the residents of London tried to control the fire? There were no modern fire engines or fire extinguishers like today.

Answer: *With buckets of water, hoses and large hooks to knock down bits of burning building.*

Question: In the end, how was the Great Fire of London stopped?

Answer: *They used gunpowder to knock down the buildings and stop the fire from spreading.*

Role Play:**Assign these roles to your pupils:**

Thomas Farriner, Baker

The Family of Thomas Farriner

The Lord Mayor, Sir Thomas Bloodworth

King Charles II

The Authorities of the City

The Royal Life Guards

James, Duke of York

The Residents of the City of London

Re-read the Day by Day account of the Great Fire. Ask pupils to think about their roles as they are listening.

Ask pupils to:

Act out the story of the Great Fire. In their roles, pupils should say what they did in the Great Fire, remembering the details from the day by day account. Ask them to explain why they chose to take this action, for example:

- Thomas Farriner, the baker, and his family: Why did the fire start? Was it an accident?
- The Lord Mayor: Why did he decide not to knock down the first houses in Pudding Lane?
Why did he later leave the City?
- King Charles II: Why did he decide to knock down lots of buildings?
- James, Duke of York: Why did he send the Royal Life Guards to help?
- The Residents of the City of London: Some stayed to try and fight the fire but many tried to leave.
Which would you have done? Why?

THE MONUMENT: Classroom Activities

ACTIVITY 3B: WRITE AN ARTICLE

Objectives:

- Look at and interpret some historical pictures of the fire
- Write and illustrate an account of the Great Fire in the form of a newspaper article

National Curriculum Links:

Key Stage 2
 Art and Design 1a, 1b, 5a
 History 1a, 1b, 2a, 2c, 2d, 5a, 5b, 5c
 English: En3 Writing 1a, 1b, 1c

Required Resources:

- Image Library (included in this kit)
- Day by Day Account of the Great Fire (Activity 3A)
- Drawing materials (pencils, coloured pencils)

Optional Resources:

- Internet Access (see suggested websites in 'Further Resources' section)
- Books about the Great Fire (see suggested books in 'Further Resources' section)

As a class, look at the Image Library and read the accounts of the Great Fire. Ask your pupils to:

- **Build a picture in your mind of what the Great Fire looked like. Share some words that come into your heads to describe the picture.**
- **Now think about the people in the pictures. What are they doing and saying? Share some words that describe their actions and how they feel.**
- **Look at the pictures of the Great Fire. What else do you see?**

Write the words on the board as the pupils share them so they can refer to them in the next part of the activity.

Ask your pupils to:

- **Use these words and the role play experience to write a newspaper article about the Great Fire.**
- **Refer to the images in this kit and any books or websites, and draw pictures for your story.**
- **You may want to interview characters from the role play (Activity 3A).**

THE MONUMENT: Classroom Activities

ACTIVITY 4: BAKING BREAD

Objectives:

- To explore the history of 'units of measurement' in England and the UK, including those of the 17th century and those used today
- To show that some units have remained in use since the 17th century
- To explore why having standard units of measurement is useful
- To learn about Imperial and Metric measuring systems and how to convert amounts between the two
- To learn about how bread is made, including how yeast works
- To bake and enjoy some fresh bread

National Curriculum Links:

Key Stage 2
 History 1a, 1b, 2c, 2d, 5a, 5b
 Mathematics: 1a, 1b, 1i, 1j
 Science 1a, 1e, 1f

Required Resources for bread making:

Ingredients:

For each loaf of bread you will need:

METRIC

500 grams of strong bread flour
 300 millilitres of warm water
 6 grams of salt
 8 grams of bread yeast
 Small amount of oil or butter for greasing

Equipment:

Metric measuring scales
 Metric measuring jug
 Teaspoon
 A loaf tin lightly oiled or buttered
 A flat surface for kneading, dusted with flour
 Some tea towels (1 for each baking tray or loaf tin)
 A place at room temperature, free from draughts, where you can leave the dough to rise

IMPERIAL

1 pound and 2 ounces of strong bread flour
 10 fluid ounces of warm water
 1¹/₄ teaspoon of salt
 1¹/₂ teaspoon of bread yeast
 Small amount of oil or butter for greasing

Imperial measuring scales
 Imperial measuring jug
 A large bowl

Gather your pupils together and read this short history of units and measurement in England:

For many centuries, measurements have been used in recipes. During the reign of King Charles II, the units used for weighing goods and cooking in England were based on both the Anglo-Saxon system and on the Norman system. The Anglo-Saxons had come from Germany and settled in England around 400 AD.

In 1066, the Normans invaded England, and William the Conqueror became the king. The Normans brought a different system of measurement, based on an old Roman system. England ended up using a mixture of both the Anglo-Saxon and Roman units for hundreds of years.

In 1215 King John signed the Magna Carta. This important document established various laws limiting the power of the king. It also established standard measurements for England. These standards were renewed in 1496 and again in 1588. They were the basis for the units of measurement used during the time of King Charles II and the Great Fire of London of 1666.

In the 1600s many different words were used to express measurements. Some of the most common terms were 'pound', 'stone', 'pint' and 'gallon'. In the UK, we still use these units today!

continues...

ACTIVITY 4: BAKING BREAD (Continued)

Discuss how we measure things:

- Question: What kind of things do we measure?
Pupils can talk about the variety of things we 'measure' in everyday life.
- Question: Why do you think it is important to have standard units of measurement?
- Question: If we didn't have standard units of measurement, what would the alternative be?
- Question: What units of measurement can you name?

Discuss baking bread:

Explain that the class is now going to explore using measurements by making some bread. Ask pupils:

Question: Why are we making bread?

Answer: *To learn about the importance of accurate measurements.*

Question: Does anyone know how you make bread? What equipment do we need?

Question: What ingredients are in bread?

Measure out ingredients and make some bread:

Preparation time: 2 hours, plus 20 minutes

The prepared dough must be left to rise for 2 hours of this time.

Cooking time: 35 minutes

Pupils will be able to do many of these steps themselves. However, you will probably need to help closely with measuring out ingredients, and, of course, using the oven.



Here's an Idea!

Split your pupils into two groups: Metric and Imperial. Ask each group to make a loaf of bread using the appropriate measurement system.

continues...

BREAD RECIPE (PHOTOCOPY FOR PUPILS' USE)

Ingredients:

METRIC

500 grams of strong bread flour
 300 millilitres of warm water
 6 grams of salt
 8 grams of bread yeast
 Small amount of oil or butter for greasing

IMPERIAL

1 pound and 2 ounces of strong bread flour
 10 fluid ounces of warm water
 1¹/₄ teaspoon of salt
 1¹/₂ teaspoon of bread yeast
 Small amount of oil or butter for greasing

Directions for pupils:

1. **Wash your hands.**
2. **Measure out the flour, salt, yeast and place them together in a large bowl.**
3. **Mix all these ingredients together well, using your hands.**
4. **Measure out the water. Make sure the water is warm and not cold. The yeast works better with warm water.**
5. **Add the water little by little to the mixture and blend it in with your hands. Once all the water is added, continue mixing with your hands for 5 more minutes.**
6. **Place the dough on the flat surface, dusted with flour.**
7. **Knead the dough for 10 minutes. To knead it: flatten it out, fold it in half towards you, then flatten it out again with the palms of your hands. Keep repeating this. Remember, it doesn't have to be folded and flattened perfectly! Make sure all the dough has been worked through really thoroughly.**
8. **Put the dough into a lightly greased loaf tin.**
9. **Cover the dough as tightly as possible with a well-dampened tea towel. Use hot water to dampen the towel. Place it somewhere at room temperature away from draughts. This keeps the dough moist and gives the yeast some time to work.**
10. **Leave the dough to 'prove' for about 2 hours. After this time it will have roughly doubled in size and be ready for baking.**
11. **Preheat the oven to 230° Celsius / 450° Fahrenheit. Put the dough in middle of the oven for 35 minutes.**
12. **Remove from the oven when the top of the bread is a light golden brown.**
13. **Allow the bread to cool so it is comfortable to touch before removing from the baking tray or loaf tin. An adult should tear into a piece of bread to check the temperature before serving it to pupils.**
14. **Enjoy fresh, warm bread with butter, jam, your favourite spread, or just on its own!**

ACTIVITY 4: Continued

While the dough is rising, gather together and discuss how yeast works:

Ask your pupils:

Question: Does anyone know why you need to put yeast into bread?

Answer: *To make the dough rise.*

Explain to pupils that yeast is alive!

Yeast cells are living organisms – microscopic fungi in fact! Yeast cells are activated when they come into contact with the starch in flour. Once activated, they make the dough rise. Sugar also activates yeast, so a small amount is sometimes added to bread recipes, but it's not vital and isn't used in the recipe here.

Read this information about Imperial and Metric Systems:

The Metric System, using 'metric units' was first defined in France in 1791. The Imperial System, using 'imperial units' was defined in Britain in 1824. They became used across the countries of the British Empire. At the same time, however, the Metric System of France continued to spread, and indeed, by the late 1900s, most of the countries that had been part of the British Empire were officially using the Metric System.

In the 1960s the Metric System became the standard international measurement system. Today, Metric units are widely used around the world. It is a convenient system and simpler than the Imperial System because divisions of ten are used.

The Imperial System is still used in some countries, even those where the Metric System is official! In the UK, Ireland and Canada, for example, there are special laws permitting the use of Imperial measurements.

Discuss Imperial and Metric units:

Question: Do you remember the names of the units of measurement in the bread recipe?

Answer: *Ounces and grams for solid ingredients, fluid ounces and millilitres for water.*

Question: Do you know which units in the recipe are Metric and which are Imperial?

Answer: *Ounces and fluid ounces are Imperial, grammes and millilitres are Metric.*

Question: Do you know which system is most widely used around the world today?

Answer: *The Metric System.*

ACTIVITY 5A: SAMUEL PEPYS' DIARY

Objectives:

- To read extracts from Samuel Pepys' Diary
- To discuss what we can learn from Samuel Pepys' Diary
- To compare how people recorded events in Samuel Pepys' day, to now

National Curriculum Links:

Key Stage 2
 Citizenship 4b
 History 1a, 1b, 2a, 2c, 2d, 3, 5a, 5b
 English: En1 Speaking and Listening 2a, 2c

Required Resources:

- Biography of Samuel Pepys
- Extracts from the Diary of Samuel Pepys (#8)

Gather together and read the biography of Samuel Pepys.

Discuss:

Question: Who was Samuel Pepys?

Answer: *Samuel Pepys was Chief Secretary to the Admiralty; an important administrative position in the English Navy. He was also a Member of Parliament.*

Question: What did Samuel Pepys do, that makes him famous today?

Answer: *He kept a detailed diary of his life in London and key events of the time.*

Question: What is an 'eyewitness' account?

Answer: *An account given by someone who was actually there at the time. It can be spoken or written.*

Read excerpts of Samuel Pepys' Diary. You could do this all together as a class, or in small groups.

Discuss:

Question: What sorts of things does Samuel Pepys record in his diary?

Question: How does he express what happens? Are there words you don't understand?

Question: Other than the Great Fire, what sorts of things does Samuel Pepys write about?

Question: What kind of things can we learn about 17th century London from Samuel Pepys' Diary?

Question: Writing was a very important way of recording events in those days. How else did people capture information about how things were and looked?

Answer: *Paintings, drawings and other forms of art, such as sculpture.*

Question: In what other ways do we record events now?

Pupils can talk about writing, photography, film, video, voice recordings, blogs, social media, and different forms of art et cetera.

ACTIVITY 5B: A DIARY OF LIFE TODAY

Objective:

- To write and illustrate a diary of life today

Required Resources:

- A4 sheets of white or gridded paper (4 per student)
- Coloured paper or construction paper for the cover
- A long arm stapler
- Writing and drawing materials

National Curriculum Links:

Key Stage 2
 Art & Design 1a, 1b, 1c, 2b, 2c
 Citizenship 1a, 1b, 2a, 5b
 English En1, Speaking & Listening: 2a, 2d
 En3, Writing: 1a, 1b, 1c, 1d, 1e
 Personal, Social & Health Education 1a, 1b, 2a, 5b

Discuss:

Samuel Pepys kept a very detailed diary of his life. He didn't just write about special events; he recorded everyday things such as what he ate, how he slept, people he visited, and so on. Because he recorded his life in such detail, his diary is a good record of the Great Plague and the Great Fire of London.

Ask your pupils:

Question: Does anyone in the class keep a diary, a scrap book or a photo album?

Question: What kinds of things do you record in them?

Ask your pupils to start a diary of modern life, like Samuel Pepys did in the 1600s. Instruct them to write in their diary every day for 7 days, and explain that they can draw pictures as well as write in their diary.

Make your diaries as a class.

Fold sheets of A4 paper in half and staple them together.

Ask pupils to write their names on the front and illustrate the cover.

Write the date they are going to begin the diary on the first page.

After pupils have kept their diaries for a few days, come together and discuss what they have done:

Did you enjoy keeping a diary?

What kinds of things did you write about and draw?

What kind of language did you use in your diary?

How does this compare to the kinds of things Samuel Pepys wrote about?

Will you carry on keeping a diary now the exercise has finished?

THE MONUMENT: Classroom Activities

ACTIVITY 6: REBUILDING LONDON

Objectives:

- To explore how the City of London was rebuilt after the Great Fire of 1666
- To imagine how you would rebuild London today if the City were destroyed

Required Resources:

- Biography of Sir Christopher Wren
- Photos of the City of London
- Large sheets of paper and drawing materials

National Curriculum Links:

Key Stage 2
 Art & Design 1a, 1b, 2a, 2b, 2c
 Design & Technology 1a, 1b
 English: En1, Speaking & Listening 1a, 1b, 1c,
 1d, 1e, 1a, 2b, 2c, 2e, 3a, 3b, 3c, 3d
 Geography 1a, 1d, 2a, 2e, 3a, 3d, 5a
 History 1a, 1b, 2a, 2c, 2d, 5a, 5b

Gather together and read the biography of Sir Christopher Wren. Look at the images of the City from 1848 and the present day.

Discuss:

Question: Who was Sir Christopher Wren?

Answer: Sir Christopher Wren was one of the best known English architects in history. King Charles II put him in charge of rebuilding the City of London after the Great Fire of 1666. He was also an astronomer, geometer, mathematician and physicist. In 1669, he was appointed Surveyor of the Royal Works, which meant he was in charge of all government building in the country. He was knighted in 1673.

Question: Can you name some of the things he designed and built after the Great Fire?

Answer: St. Paul's Cathedral, over 50 new churches and The Monument.

Question: How do you think he went about rebuilding the City?

Answer: He had to view the damage to the City, decide what needed to be rebuilt, decide how to rebuild things, design buildings and work out what materials were needed. He needed a lot of help!

Question: Looking at the images, what has changed in the City?

Question: Looking at the images, are there things which have remained similar?

Ask your pupils to:

Imagine there has been a Great Fire in London and the City needs rebuilding. All the buildings, landmarks and open spaces have been destroyed. This time YOU are in charge of rebuilding the City and you're going to draw up some plans for a brand new city!

Discuss:

Question: What would your new city need to include?

Pupils can talk about the important aspects of a city, such as homes, shops and markets, offices, services such as schools, hospitals, museums and libraries, open spaces such as parks, squares and riverside walks, and infrastructure such as roads and transportation systems.

Question: Which buildings would be the most important to build? Make a priority list.

Question: Would you rebuild things in the same way. or differently? What would you improve?

Question: What kind of materials would you use?

Question: What is your favourite historical London landmark? Why?

Question: If your favourite landmark was destroyed, would you rebuild it exactly as it was, or change it?

continues...

ACTIVITY 6: Continued

Draw a plan for your new city:

Pupils should draw up a plan for their new city of London in the form of a map.

They should start by placing the River Thames in the right place.

Pupils should include names for their new buildings or features if they want to.

Once everyone has finished their plans, encourage pupils to present their ideas to the class. Other pupils can give feedback and ask questions.

Discuss:

Question: What were the most common things that people thought should be included in the new city?

Question: What were people's favourite ideas?

THE MONUMENT: Classroom Activities

ACTIVITY 7A: DR. ROBERT HOOKE: SCIENTIST & ARCHITECT

Objectives:

- To discuss the role of Dr. Robert Hooke in England around the time of the Great Fire of 1666
- To discuss Dr. Robert Hooke's interests and work as a scientist and his plans to use The Monument as a place of scientific study
- To conduct an experiment showing how we can create forces, which make objects vibrate

National Curriculum Links:

Key Stage 2
History 1a, 1b, 2a, 2a
Science 1a, 1b, 1e, 1j, 1l

Required Resources:

- Biography of Dr. Robert Hooke
- A selection of ordinary objects found in school, such as metal cutlery and pencils
- A few plastic cups or beakers of water
- A table with plenty of space around it

Gather together and read the biography of Dr. Robert Hooke.

Discuss:

Question: Who was Dr. Robert Hooke?

Answer: *Dr. Robert Hooke was a great scientist and architect. In his position as 'Surveyor to the City of London' he helped rebuild London after the Great Fire of 1666, including The Monument.*

Question: Which areas of science was Dr. Robert Hooke especially interested in?

Answer: *Mechanics, gravitation, microscopy and astronomy*

Question: What do you think these words mean?

Mechanics, Gravitation, Microscopy and Astronomy

Answer: *- **Mechanics** studies how physical objects behave when forces, such as pushing, pulling or stretching, are placed upon them.*

*- **Gravitation** studies what attracts all the physical objects in the universe to other physical objects, like the moon to the Earth, or a ball and to the ground. In Hooke's day, gravity was a hot topic and scientists were still debating whether it existed and how it worked.*

*- **Microscopy** is the study of very tiny objects, which the human eye can't see, using a microscope. Hooke was the first person recorded to use the word 'cell' to describe a biological organism. He chose this word because plant cells made him think of the way that religious monks lived in 'cells' separated from others.*

*- **Astronomy** studies things in outer space such as stars and planets.*

Question: What did Dr. Robert Hooke want to build inside The Monument?

Answer: *The central shaft was designed to house a zenith telescope, which would point straight up at the sky and view objects when they were directly above the Earth.*

Question: Why didn't the zenith telescope work?

Answer: *The vibrations from all the passing traffic made it difficult to carry out precise experiments.*

continues...

ACTIVITY 7A: Continued

As a Class:

Re-create the heavy passing traffic around The Monument!

Ask pupils to:

Place a selection of objects, such as pencils and metal cutlery, on a table. Include one or a few plastic cups or beakers of water. Make sure there is plenty of space around the table.

Gather everyone around the table.

Ask some pupils to jump up and down, as hard as they can, close to the table. Make sure they keep a safe distance from the table and each other.

Ask the other pupils to observe the objects on the table and listen carefully. What do they see and hear? If nothing much seems to be happening ask a few more pupils to join in with the jumping, or move the pencils and cutlery closer to the edge of the table.

Pupils should notice the water in the glasses shaking, or hear the clanging of the metal cutlery against the table.

Pencils near the edge of the table may inch along and eventually fall off.

Swap pupils so others have a chance to jump, observe and listen.

Ask everyone to think about what happens when a train or a heavy truck passes nearby, or when someone walks around heavily in a room above. Can they feel vibrations?

Explain that this is what it was like trying to conduct precise scientific experiments at The Monument, with all the London traffic passing by!

ACTIVITY 7B: WEATHER EXPERIMENTS

Objectives:

- To discuss what 'science' is, and to learn about different types of science
- To do some experiments, which demonstrate how different types of weather are formed

National Curriculum Links:

Key Stage 2
Geography 2a, 2b
Science 1a, 1b, 1d, 1i, 1j, 1l

Discuss:

Question: What is 'Science'?

Answer: *The word comes from the Latin 'scientia', meaning knowledge. Science is any system that gathers knowledge about the world around us.*

Question: Can you name some kinds of science?

Answer: *You could discuss terms such as chemistry, biology, physics, medicine or zoology. Point out that there are thousands of different types of sciences dedicated to the study of everything around us.*

Question: How do scientists gather knowledge?

Answer: *Scientists look or 'observe' the things they are interested in and record what they see. They also do experiments to try and understand how things work.*

Question: What is the science of weather called?

Answer: *Meteorology. The word comes from the Greek word 'meteoros', meaning a thing in the sky.*

Question: What kinds of weather are there?

As a class, do some weather experiments:

EXPERIMENT 1: MAKE A THUNDERSTORM!

Required Resources:

- Clear plastic container (the size of a shoebox)
- Red food colouring
- Ice cubes made with blue food colouring

INSPIRED BY
www.weatherwizkids.com
which is a FAB website, by the way!

Directions:

1. **Fill the plastic container two-thirds full with lukewarm water and let it sit for one minute.**
2. **Place a blue ice cube at one end of the plastic container.**
3. **Add three drops of red food colouring to the water at the other end of the plastic container.**

Watch what happens.

What happens?

The blue, cold water sinks but the red, warm water rises. Something similar happens in thunderstorms. They form when a body of warm air is forced to rise by a cold front. In this experiment the blue water represents the cold air and the red water represents the warm air.

continues...

ACTIVITY 7B: Continued

EXPERIMENT 2: MAKE THUNDER!

Required Resources:

- Paper bag

Directions:

1. **Blow into the paper bag to fill it up with air.**
2. **Twist the open end and hold it shut with your hand.**
3. **Quickly hit the bag with your other hand.**

INSPIRED BY

www.weatherwizkids.com
which is a FAB website, by the way!

What happens?

When you hit the bag, it makes the air inside the bag compress so quickly that the pressure breaks the bag. The air trapped inside the bag rushes out and pushes the air outside the bag away from it. This air continues to move forward. When the moving air reaches your ear, you hear the 'bang' of the exploding bag. Thunder is produced in a similar way. Lightning gives off energy, which heats the air that it passes through. This heated air expands quickly and produces energetic waves of air that cause the sound of thunder.

EXPERIMENT 3: MAKE DEW AND FROST!

Required Resources:

- 2 food tins without the lids, with the labels peeled off
- 4 tablespoons of salt (rock salt or table salt)
- Crushed ice

INSPIRED BY

www.weatherwizkids.com
which is a FAB website, by the way!

Directions:

1. **Fill one tin about half way with crushed ice and 4 tablespoons of salt.**
2. **Mix it well for about 30 seconds and then let it sit.**
3. **Fill the other tin about half way with crushed ice. Add just enough cool tap water to cover the ice.**
4. **Observe the frost forming on the outside of the tin containing the ice and salt mixture. Compare this with the liquid moisture on the outside of the tin with no salt.**

Why does this happen?

The salt wants to absorb water, but, to do that, it has to melt the ice into water. Strange as it seems, melting the ice actually makes the mixture cooler. The salt water mixture inside the tin gets below freezing, so the moisture from the air that collects on the outside of the can will freeze. This is why frost forms!

In the other tin, the mixture of the melting ice and water is just at freezing point. The temperature outside the tin is warmer than inside the tin, so the moisture in the air doesn't freeze. This is how dew is formed.

continues...

ACTIVITY 7B: Continued

EXPERIMENT 4: MAKE IT RAIN!

Required Resources:

- A large glass jar
- A plate big enough to cover the top of the jar
- Hot water
- A few ice cubes

INSPIRED BY
www.weatherwizkids.com!
 which is a FAB website, by the way!

Directions:

1. **Pour about 5 centimetres of very hot water into the glass jar.**
2. **Cover the open top of the jar with the plate and wait a few minutes.**
3. **Put the ice cubes on the plate.**
4. **Watch what happens. Water droplets will form in the jar.**

What happens?

The cold plate makes the moisture in the warm air that's inside the jar, condense to form water droplets. This process also happens in the atmosphere. Warm, moist air rises and meets colder air high in the atmosphere. The water vapour in the warm, moist air condenses to form rain, which falls to the ground.

ACTIVITY 7C: THE GRAVITY CLOWN EXPERIMENT

Objectives:

- To learn about Dr. Robert Hooke's work on gravity
- To do an experiment which demonstrates gravity in action

National Curriculum Links:

Key Stage 2
 History 2a
 Design and Technology 2d
 Science 1a, 1b, 2a, 1j, 1l

Gather together to read about gravity:

During the 17th century, scientists were trying to understand the way gravity works. Dr. Robert Hooke was one of the scientists who was experimenting with gravity, and Sir Isaac Newton was another. When Sir Isaac Newton published his theory of gravity, Dr. Robert Hooke was very upset. He claimed he had shared his own ideas with Sir Isaac Newton, who had not given him credit for them in the published work. Sir Isaac Newton claimed that the work was his alone. The men never resolved their disagreement. Dr. Robert Hooke became secretive about his writings on gravity, and it is said that Isaac Newton even waited until after Dr. Robert Hooke died to publish some of his important work!

Discuss:

Question: What is Gravity?

Answer: *Gravity is the force that causes objects in the universe to be pulled towards one another. It is what brings you back to the ground when you jump, what makes a ball fall to the ground if you drop it and what keeps the moon in orbit around the Earth.*

continues...

ACTIVITY 7C: Continued

EXPERIMENT: MAKE A CLOWN THAT WILL NOT LIE DOWN!

Required Resources:

For each 'clown' in the gravity clown experiment, you will need:

- A ping-pong ball
- Thick Paper (measuring 10 centimetres by 5 centimetres)
- Scissors
- Sticky tape
- Pens, pencils or crayons for drawing
- Plasticine or Blu-Tak (enough to fill half a ping-pong ball)
- A marble
- A gently sloping surface

INSPIRED BY
www.kids-science-experiments.com
 which is a FAB website, by the way!

Directions:**Part 1:**

1. **Cut the ping-pong ball in half along the join line around the middle.**
2. **Place the paper snugly inside one half of the ball so it forms a tube. Tape the paper along the join line so the tube stays intact.**
3. **Tape the tube of paper to the half-ping-pong ball.**
4. **Draw a face on the tube so the half ping-pong ball is at the 'feet' end of the tube.**
5. **Try standing your clown up on the ping-pong ball end. It won't stand! Gravity will keep making it fall over, because the weight of the paper is too heavy for the ping-pong ball to stay upright.**

Part 2:

1. **Now put some plasticine into the base of the clown and press it into the half ping-pong ball. Add a small amount at a time until it the clown stands upright.**
2. **Now try to push the clown so it falls over completely. It won't work! This time, when you try to push the clown over, gravity pulls on its base, which is now heavier.**

Part 3: Now you can make your clown flip from head to toe:

1. **Take the plasticine out of the base.**
2. **Put the marble in the base.**
3. **Tape the other half of the ping-pong ball to the top of the paper tube.**
4. **Stand the clown on a slight slope, holding it at the 'head'.**
5. **Release the clown and watch it flip from head to toe and over again. The marble rolls from one end of the clown to the other, changing its centre of gravity and making it stand each time it reaches the bottom of the tube.**

ACTIVITY 8: DESIGN YOUR OWN MONUMENT

Objectives:

- To encourage pupils to explore the idea of a 'Monument'
- To create a design for their own Monument in 2D and then as a 3D model
- To create a model city as a class, featuring the pupils' Monuments

National Curriculum Links:

Key Stage 2
 Art & Design 1a, 1b, 2a, 2b
 Design & Technology 1a, 1b, 1d
 English 1a, 1d, 1e, 3a, 3b, 2c, 3d

Required Resources:

- Images of The Monument from this kit and from your visit
- 'The Monument Facts & Figures' Resource
- Drawing materials
- Scissors
- Glue
- Sticky tape
- A variety of art materials for making Monument models and the model city
- A 'base' for the city, e.g. a large sheet of sturdy cardboard

Ask your pupils to:

Look at their own drawings, photos and notes about their visit. Imagine they have to build a new Monument to the Great Fire of London, which will be as important and as famous as The Monument that exists today.

Discuss:

Question: What special purpose does a Monument have?

Answer: *It is built in memory of a person, people, or an event, so that they are never forgotten.*

Question: What makes The Monument impressive or makes it stand out as special?

Question: What would your new Monument look like?

Question: Where would you build your Monument? In the same place or somewhere else? Why?

PART 1: DESIGN / DRAW YOUR OWN MONUMENT

Ask your pupils to:

Draw/design a Monument in 2D.

Describe why they have chosen to design it in the way they have.

PART 2: MAKE A 3-D MODEL OF YOUR MONUMENT

Ask your pupils to:

Make a 3D model of their Monument. They should decorate and colour it according to their design and the materials they would select to build it

Work together as a class to create a model city, featuring their Monument models. Between The Monuments they can create other features such as parks, a river, bridges and other buildings.

ACTIVITY 9: LONDON THEN AND NOW

Objectives:

- To place the story of *The Monument* within the context of the London's history, from the 17th century to the present day
- To consider the London of the future
- To consider other important historical developments worldwide that have happened since *The Monument* was built

National Curriculum Links:

Key Stage 2
 Art & Design 1a, 1b, 2b
 History 1a, 1b, 2a, 2c, 2d, 4b, 5a, 5b, 5c, 6, 7

Required Resources:

- Images of the view from *The Monument* in 1848 and 2009

PART ONE: LONDON IN 1666

Discuss:

Question: When was the Great Fire of London and what was happening in London at the time?

Answer: *The Great Plague of 1665-1666 had killed about 100,000 people in England, including 20% of the population of London. The Great Fire started on 2nd September 1666 and the plague slowed down rapidly after this. It's thought the fire stopped the spread of the disease.*

Question: Who are the key people involved in the Great Fire of London? What did they do?

Answer: *Refer to Activity 2 and Activity 3 for more information.*

Question: What are the key dates and people involved in the development of *The Monument*?

Answer: *Refer to Activity 6 for more information.*

Make a list and assign each pupil an event or a person.

Ask your pupils to:

Draw a picture of your person or your event.

Once everyone has finished their drawings, look at the pictures of the views from *The Monument* in 1848 and the present day.

PART TWO: LONDON TODAY

Discuss:

Question: How does London look today, compared to how it looked in 1848?

You may want to consider architecture, city plan, street layout, pavements, the River Thames, people and fashion, transport, et al.

Question: *The Monument* has stood tall in the middle of London for over 300 years and has seen many important events across the City. What important events have shaped the history of London and the UK since the Great Fire of 1666?

Make a list of key dates and important people in London history between 1666 and now. Assign each pupil a key date or a person.

continues...

ACTIVITY 9: LONDON THEN AND NOW (Continued)

Ask your pupils to:

Make a large timeline for your classroom wall.

The timeline should begin in 1660 and finish in the current year (or later, if you like).

Draw a picture of your person or what happened on the key date.

Add your drawings to the timeline on the correct date, including the first set of drawings timetabling the Great Fire.

As a class:

Identify historical events which have happened, and people who have made history, since 1660. Draw pictures of those events and people, and add them to the timeline.

PART THREE: LONDON'S FUTURE!

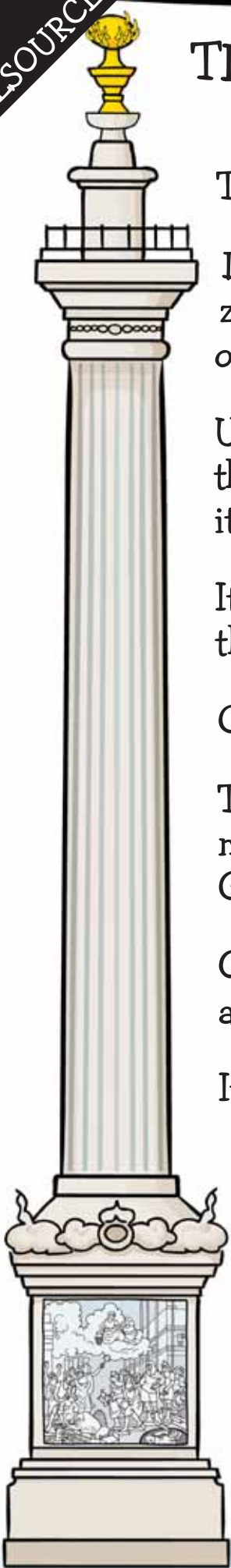
Imagine the London of the future! You could extend your timeline and add some pictures to show what you think London might look like, and how the people of London might be living, in ten, twenty, fifty, or even another 300 years' time!

THE MONUMENT: Educational Activities & Resources Kit

CLASSROOM ACTIVITIES CURRICULUM LINKS INDEX

	Art & Design	Citizenship	Design & Technology	English	Geography	History	Mathematics	PSHE	Religious Education	Science
Activity 1A: Observe, Question, Document						●				
Activity 1B: The Monument & Me					●		●			
Activity 2: Rumours, Religion & The Great Fire		●				●		●	●	
Activity 3A: The Great Fire of London, Day by Day				●		●				
Activity 3B: Write an Article	●			●		●				
Activity 4: Baking Bread						●	●			●
Activity 5A: Samuel Pepys' Diary		●		●		●				
Activity 5B: A Diary of London Life Today	●	●		●				●		
Activity 6: Rebuilding London	●		●	●	●	●				
Activity 7A: Robert Hooke: Scientist & Architect						●				●
Activity 7B: Weather Experiments					●					●
Activity 7C: The 'Gravity Clown' Experiment			●			●				●
Activity 8: Design Your Own Monument	●		●	●						
Activity 9: London Then & Now	●					●				

THE MONUMENT: FACTS & FIGURES



The Monument was designed by Dr. Robert Hooke.

Dr. Robert Hooke designed The Monument as a large zenith telescope, and he intended to use it for astronomical observations.

Unfortunately, the vibrations from passing traffic made the Monument an inaccurate scientific instrument; instead, it has become a popular London visitor attraction.

It commemorates the Great Fire of London of 1666 and the rebuilding of the City of London afterwards.

Construction started in 1671 and was finished in 1677.

The Monument is $61\frac{1}{2}$ metres (202 feet) tall and $61\frac{1}{2}$ metres (202 feet) from the site of the bakery where the Great Fire started.

On the top of The Monument, there is a cylinder with a gilt bronze vase. This symbolises the Great Fire of 1666.

It cost £313,450 11s 9d to build.

There are 311 marble steps to the public viewing platform. Each step is exactly $15\frac{1}{2}$ centimetres (6 inches) high.

The Shaft is $36\frac{1}{2}$ metres (120 feet) high and $4\frac{1}{2}$ metres (15 feet) in diameter.

The Pedestal is 40 square metres (441 square feet) in area and $12\frac{1}{2}$ metres (40 feet) high.

BIOGRAPHIES

Dr. Robert Hooke (18th July 1635 to 3rd March 1703)

Robert Hooke was a brilliant scientist and architect, who played an important role in the scientific revolution of the 17th century and who served as Surveyor to the City of London after the Great Fire of 1666. In this role, he helped to rebuild the City and to design and build The Monument.

Throughout his life, Robert Hooke was a keen observer of nature and the weather, which he documented in his journals; he was very curious about the world around him, he was interested in mechanical things and he liked to draw. These skills and interests made him an excellent scientist, and he pursued mechanics, microscopy, astronomy and gravitation.

His work on gravitation was overshadowed by Sir Isaac Newton's. Robert Hooke was upset when Sir Isaac Newton took all the credit for the theory of gravity; Robert Hooke felt he deserved some credit too, for the ideas which he had shared with Newton.

Robert Hooke designed and built a number of scientific instruments for his experiments at the Royal Society; in fact, he designed The Monument itself to be a giant zenith telescope. He intended to use it to observe the stars and planets. Unfortunately, vibrations from nearby traffic made it impossible to make accurate measurements.

Robert Hooke was a "polymath"; his interests were so diverse and his ability so great, some people call him the "Leonardo da Vinci" of England. He was an architect as well, working closely with Sir Christopher Wren during the rebuilding of the City of London. Again, Robert Hooke's work was overshadowed, this time by Sir Christopher Wren.

Robert Hooke was an impressive and brilliant 17th century scientist, who changed the way we see the world; unfortunately, he lived at the same time as Newton and Wren and perhaps has not received the fame he deserves.

Sir Christopher Wren (20th October 1632 to 25th February 1723)

From an early age, Christopher Wren enjoyed inventing and building things. Like Robert Hooke, he had diverse interests and talents, including astronomy, physics, engineering, mathematics and architecture.

He was a founding member of the Royal Society, where he and other inquisitive men (mathematicians, scientists and scholars) pursued experiments in astronomy, gravitation, biology, physics and other sciences. The Royal Society members, many of whom were friends, created a "Scientific Revolution" in Great Britain. He was also a professor of astronomy at Gresham College and Oxford University.

Christopher Wren is most famous as an architect. He designed St. Paul's Cathedral, the Royal Observatory at Greenwich, the Royal Hospital in Chelsea, and more than 50 churches in the City of London. After the Great Fire of 1666, he also designed a new plan for the City of London, with broad straight streets. This plan was NOT put into action, but it was in fact adapted by city planners for the plan of Washington DC over a century later.

BIOGRAPHIES

Samuel Pepys (23rd February 1633 to 26th May 1701)

Samuel Pepys (pronounced “peeps”) is best known for his diary (from 1660 to 1669), which gives us a personal view of life in 17th century London. Nobody knows exactly why he started his diary, but some people think it may have been vanity – Samuel Pepys wanted to share his achievements with the world. It was a common practice to keep a diary in the 17th century, however, and we have learned a great deal from the diaries of Samuel Pepys, Dr. Robert Hooke and John Evelyn.

In his diary, Samuel Pepys recorded everything – what he ate, how he slept, who he met – and as part of this detail, he recorded major events including the Great Plague, the second Dutch War and the Great Fire of London.

Samuel Pepys had a talent for administration; this, and his hard work, helped him rise to the post of Chief Secretary of the Admiralty under King Charles II. He also held this post under King James II (who was the brother of King Charles II and the Duke of York during the Great Fire of London).

He also was a Member of Parliament.

King Charles II (29th May 1630 to 6th February 1685)

King Charles II was King of England, Scotland, and Ireland during the tumultuous 17th century. After his father (Charles I) was beheaded, Parliament did not make Charles II king. Instead, England entered the period which was known as the English Commonwealth, and the country was led by Oliver Cromwell. Charles II fled to France and England had a civil war.

When Oliver Cromwell died in 1658, Charles was invited to take the throne. He was crowned King of England and Ireland at Westminster Abbey on 23 April 1661. His reign is called the “Restoration.”

It was a tumultuous time for politics, religion and society. After the chaos of the Civil War, people wanted everything to return to normal as soon as possible.

Charles II favoured religious tolerance, but this wasn’t very popular. People were suspicious of Charles’ connections with the Catholic France (his first cousin was King Louis XIV), and they worried that he might establish Catholicism as the official religion in England.

Charles attempted to introduce religious freedom for Catholics and for Protestant dissenters, but the English Parliament forced him to withdraw it. Apart from the social and religious unrest during this period, the reign of Charles II coincided with the Second Dutch War, the Great Plague (1665) and the Great Fire of London (1666).

Charles II was a patron of the arts and sciences and helped found the Royal Society and the Royal Observatory, in Greenwich. Charles was the personal patron of Sir Christopher Wren.

BIOGRAPHIES

James, Duke of York (14th October 1633 to 16th September 1701)

James, Duke of York was the second son of King Charles I and the brother of Charles II. He succeeded Charles II and became King James II. He was the last Catholic monarch to reign over England, Scotland and Ireland.

In 1666, during the Great Fire of London, James was Duke of York; he was instrumental in helping put the fire out.

“New York” in the United States of America was named in his honour.

Thomas Farriner [also spelled Farynor] (circa 1615 to 1670)

Thomas Farriner was a baker, whose bakery was in Pudding Lane, London. In the wee hours of Sunday 2nd September 1666, he and his family were awakened by smoke. They escaped through a window and raised the alarm. Despite their efforts, the fire grew to become the Great Fire of London, which destroyed most of the City of London.

Thomas Farriner maintained that the fire had not started in his oven. He also insisted he had extinguished the oven fire before going to bed. However, he did admit that he had left some wood next to the oven, to dry it out overnight. It is likely that a spark from his oven lit the wood, which started the fire.

After the Great Fire of London, he reopened his bakery, and he was not blamed for the catastrophe!

Sir Thomas Bloodworth [also spelled Bludworth] (1620 to 1682)

Sir Thomas Bloodworth was a wealthy timber merchant and member of the Company of Vintners. He was Lord Mayor of the City of London from October 1665 to October 1666.

When fire broke out in Pudding Lane in the early hours of 2nd September 1666, Bloodworth was summoned to give permission to pull down buildings and prevent the fire from spreading. He refused to give permission, because he believed the fire was not a threat; he then went home to bed.

Many people believe his bad decision allowed the fire to spread and ultimately destroy more than 75% of the City of London.

He would maintain for the rest of his life that the scope of the fire was not his fault.

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Saturday 1 September 1666

Up and at the office all the morning, and then dined at home. Got my new closet made mighty clean against to-morrow. Sir W. Pen and my wife and Mercer and I to "Polichinelly," but were there horribly frightened to see Young Killigrew come in with a great many more young sparks; but we hid ourselves, so as we think they did not see us.

By and by, they went away, and then we were at rest again; and so, the play being done, we to Islington, and there eat and drank and mighty merry; and so home singing, and, after a letter or two at the office, to bed.

Sunday 2 September 1666

(Lord's day). Jane called us up about three in the morning, to tell us of a great fire they saw in the City. So I rose and slipped on my nightgowne, and went to her window, and thought it to be on the backside of Marke-lane at the farthest; but, being unused to such fires as followed, I thought it far enough off; and so went to bed again and to sleep.

About seven rose again to dress myself, and there looked out at the window, and saw the fire not so much as it was and further off. By and by Jane comes and tells me that she hears that above 300 houses have been burned down to-night by the fire we saw, and that it is now burning down all Fish-street, by London Bridge.

So I walked to the Tower, and there got up upon one of the high places; and there I did see the houses at that end of the bridge all on fire, and an infinite great fire on this and the other side of the bridge.

So down, with my heart full of trouble, to the Lieutenant of the Tower, who tells me that it begun this morning in the King's baker's house in Pudding-lane, and that it hath burned St. Magnus's Church and most part of Fish-street already. So I down to the water-side, and there got a boat and through bridge, and there saw a lamentable fire.

Everybody endeavouring to remove their goods, and flinging into the river or bringing them into lighters that lay off; poor people staying in their houses as long as till the very fire touched them, and then running into boats, or clambering from one pair of stairs by the water-side to another.

Sunday 2 September 1666

And among other things, the poor pigeons, were loth to leave their houses, but hovered about the windows and balconys till they were, some of them burned, their wings, and fell down.

I to White Hall; and there up to the Kings closett in the Chappell, where people come about me, and did give them an account dismayed them all, and word was carried in to the King.

So I did tell the King and Duke of Yorke what I saw, and that unless his Majesty did command houses to be pulled down nothing could stop the fire. The King commanded me to go to my Lord Mayor and command him to spare no houses, but to pull down before the fire every way.

The Duke of York bid me tell him that if he would have any more soldiers he shall.

At last I met my Lord Mayor in Canningstreet, like a man spent, with a handkercher about his neck. To the King's message he cried, like a fainting woman, "Lord! what can I do? I am spent: people will not obey me. I have been pulling down houses; but the fire overtakes us faster than we can do it."

That he needed no more soldiers; and that, for himself, he must go and refresh himself, having been up all night. So he left me, and I him, and walked home, seeing people all almost distracted, and no manner of means used to quench the fire.

(After dinner) I walked, through the City, the streets full of nothing but people and horses and carts loaden with goods, ready to run over one another, and, removing goods from one burned house to another.

Sunday 2 September 1666

When we could endure no more, we to a little ale-house on the Bankside, and there staid till it was dark almost, and saw the fire grow; and, as it grew darker, appeared more and more, as far as we could see up the hill of the City, in a most horrid malicious bloody flame, not like the fine flame of an ordinary fire.

It made me weep to see it.

So home with a sad heart, and there we were forced to begin to pack up our owne goods; and prepare for their removal; and did by moonshine carry much of my goods into the garden. And got my bags of gold into my office, ready to carry away, and my chief papers of accounts also there, and my tallys into a box by themselves.

Monday 3 September 1666

About four o'clock in the morning, my Lady Batten sent me a cart to carry away all my money, and best things, to Sir W. Rider's at Bednall-greene. Which I did riding myself in my night-gowne in the cart; and, Lord! to see how the streets and the highways are crowded with people running and riding, and getting of carts at any rate to fetch away things.

I find Sir W. Rider tired with being called up all night, and receiving things from several friends. His house full of goods, and much of Sir W. Batten's and Sir W. Pen's I am eased at my heart to have my treasure so well secured.

The Duke of Yorke of this day by the office, and spoke to us, and did ride with his guard up and down the City, to keep all quiet (he being now Generall, and having the care of all).

At night lay down a little upon a quilt of W. Hewer's in the office, all my owne things being packed up or gone; and after me my poor wife did the like, we having fed upon the remains of yesterday's dinner, having no fire nor dishes, nor any opportunity of dressing any thing.

Tuesday 4 September 1666

Up by break of day to get away the remainder of my things; it was the afternoon before we could get them all away. Sir W. Pen and I to Tower- streete, and there met the fire burning three or four doors beyond Mr. Howell's, whose goods, poor man, were flung all along Tower-street;

Sir W. Batten not knowing how to remove his wine, did dig a pit in the garden, and laid it in there; and I took the opportunity of laying all the papers of my office that I could not otherwise dispose of. And in the evening Sir W. Pen and I did dig another, and put our wine in it; and I my Parmazan cheese, as well as my wine and some other things.

This afternoon, sitting melancholy with Sir W. Pen in our garden, and thinking of the certain burning of this office, which would, much hinder the King's business.

This night Mrs. Turner and her husband supped with my wife and I at night, upon a shoulder of mutton from the cook's, without any napkin or any thing, in a sad manner, but were merry.

Only now and then walking into the garden, and saw how horridly the sky looks, all on a fire in the night, was enough to put us out of our wits; and, indeed, it was extremely dreadful, for it looks just as if it was at us; and the whole heaven on fire.

I after supper walked in the darke down to Tower- streete, and there saw it all on fire. Now begins the practice of blowing up of houses in Tower-streete, those next the Tower, which at first did frighten people more than anything, but it stopped the fire where it was done.

Tuesday 4 September 1666

W. Hewer this day went to see how his mother did, and comes late home, telling us how he hath been forced to remove her to Islington, her house in Pye-corner being burned; so that the fire is got so far that way, and all the Old Bayly, and was running down to Fleete-streete; and Paul's is burned, and all Cheapside. I wrote to my father this night, but the post-house being burned, the letter could not go.

Wednesday 5 September 1666

About two in the morning my wife calls me up and tells me of new cries of fire, it being come to Barkeing Church, which is the bottom of our lane.

I up, and finding it so, resolved presently to take her away, and did, and took my gold, W. Hewer, and Jane, down by Proundy's boat to Woolwich; but, Lord! what sad sight it was by moone- light to see, the whole City almost on fire.

There, when I come, I find the gates shut, but no guard kept at all, which troubled me, because of discourse now begun, that there is plot in it, and that the French had done it.

I got the gates open, and to Mr. Shelden's, where I locked up my gold, and charged, my wife and W. Hewer never to leave the room without one of them in it, night, or day. So back again, by the way seeing my goods well in the lighters at Deptford, and watched well by people.

Home; and whereas I expected to have seen our house on fire, it being now about seven o'clock, it was not. But to the fyre, and there find greater hopes than I expected; for my confidence of finding our Wednesday 5 September 1666

Office on fire was such, that I durst not ask any body how it was with us, till I come and saw it not burned. But going to the fire, I find by the blowing up of houses, and the great helpe given by the workmen out of the King's yards, sent up by Sir W. Pen, there is a good stop given to it.

I up to the top of Barking steeple, and there saw the saddest sight of desolation that I ever

saw; every where great fires, oyle-cellars, and brimstone, and other things burning.

I became afeard to stay there long, and therefore down again as fast as I could, the fire being spread as far as I could see it; and to Sir W. Pen's, and there eat a piece of cold meat, having eaten nothing since Sunday, but the remains of Sunday's dinner.

Thence homeward, having passed through Cheapside and Newgate Market, all burned, and seen Anthony Joyce's House in fire. And took up (which I keep by me) a piece of glasse of Mercers' Chappell in the streete, where much more was, so melted and buckled with the heat of the fire like parchment.

I also did see a poor cat taken out of a hole in the chimney, with, the hair all burned off the body, and yet alive.

So home at night, and find there good hopes of saving our office; but great endeavours of watching all night, and having men ready; and so we lodged them in the office, and had drink and bread and cheese for them.

And I lay down and slept a good night about midnight, though when I rose I heard that there had been a great alarme of French and Dutch being risen, which proved, nothing. But it is a strange thing to see how long this time did look since Sunday, having been always full of variety of actions, and little sleep, that it looked like a week or more, and I had forgot, almost the day of the week.

Thursday 6 September 1666

Up about five o'clock, and where met Mr. Gawden at the gate of the office to call our men to Bishop's-gate, where no fire had yet been near, and there is now one broke out which did give great grounds to people, and to me too, to think that there is some kind of plot in this.

And now all being pretty well, I took boat, and over to Southwarke, and took boat on the other side the bridge, and so to Westminster; and then to White Hall, but saw nobody; and so home.

A sad sight to see how the River looks: no houses nor church near it.

At home, did go with Sir W. Batten, to Sir R. Ford's, and there dined in an earthen platter – a fried breast of mutton; a great many of us, but very merry, and indeed as good a meal, though as ugly a one, as ever I had in my life.

The Great Fire of London 1666



The large building in the background is the old Saint Paul's Cathedral. Londoners, including Samuel Pepys, watched the fire from boats on the river. Courtesy of the Guildhall Library.

The Great Fire of London by Jan Griffier the Elder



A view of the City on fire, from the north side of town. The large building in the background is the old Saint Paul's Cathedral. Copyright © Museum of London. Used with permission.

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The Great Fire of London 1666



A view of the fire, from London Bridge. Notice the people leaving the City with their possessions. Downloaded from www.wikipedia.com

Panorama of London from the top of The Monument, looking east



Painted by Carl Haag (1820 to 1915) in 1848. Courtesy of the Guildhall Library.

THE MONUMENT: Educational Activities & Resources Kit Image Library
Modern view from The Monument, looking east



Photo by Scott Unwin, Guy Fox Limited, February 2009.

THE MONUMENT: Educational Activities & Resources Kit Image Library
Modern view from The Monument, looking east



Photo by Scott Unwin, Guy Fox Limited, February 2009.

Panorama of London from the top of The Monument, looking south



Painted by Carl Haag (1820 to 1915) in 1848. Courtesy of the Guildhall Library.

THE MONUMENT: Educational Activities & Resources Kit Image Library
Modern view from The Monument, looking south



Photo by Scott Unwin, Guy Fox Limited, February 2009.

Panorama of London from the top of The Monument, looking west



Painted by Carl Haag (1820 to 1915) in 1848. Courtesy of the Guildhall Library.

THE MONUMENT: Educational Activities & Resources Kit Image Library
Modern view from The Monument, looking west



Photo by Scott Unwin, Guy Fox Limited, February 2009.

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Modern view from The Monument, looking west



Photo by Scott Unwin, Guy Fox Limited, February 2009.

Panorama of London from the top of The Monument, looking north



Painted by Carl Haag (1820 to 1915) in 1848. Courtesy of the Guildhall Library.

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Modern view from The Monument, looking north



Photo by Scott Unwin, Guy Fox Limited, February 2009.

THE MONUMENT: Educational Activities & Resources Kit Image Library
Modern view from The Monument, looking north



Photo by Scott Unwin, Guy Fox Limited, February 2009.

FURTHER RESOURCES

Children's Books:

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- *The Great Fire of London (How Do We Know About?)*, Deborah Fox 2003
- *The Great Fire of London (Great Events)*, Gillian Clements 2002
- *Great Fire of London (Popcorn: History Corner)*, Jenny Powell 2009
- *The Great Fire of London (Historical Stories)*, Jill Atkins 2008
- *Raven Boy: A Tale of the Great Fire of London*, Pippa Goodhart 2007

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