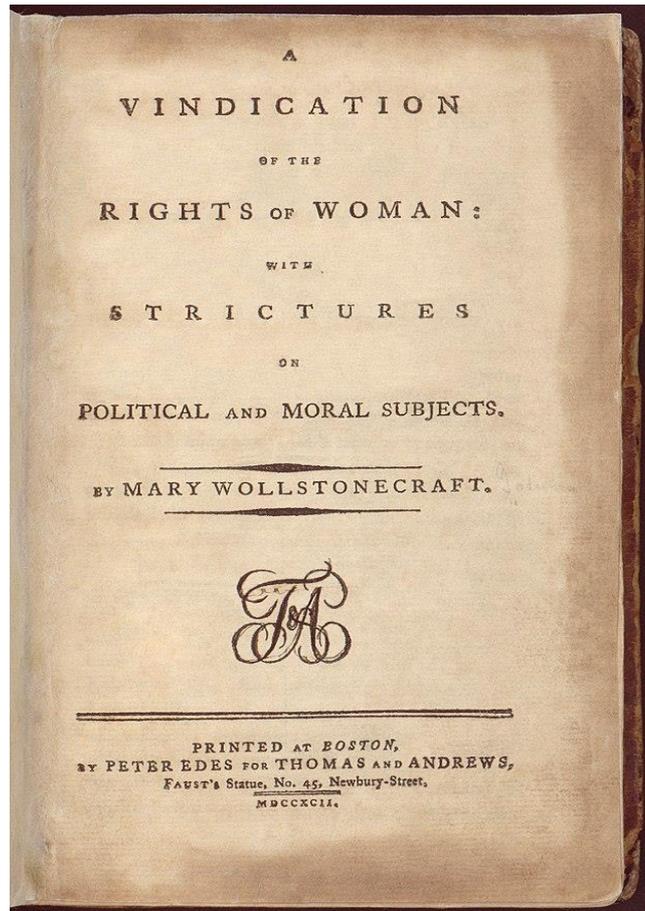


## Books that changed the world

World Book Day is a global event, marked by UNESCO, to celebrate books and reading. This World Book Day, the Global Learning Programme and its partners have put together the following list of books that have helped change, or may help you change, the world.

### 1. Mary Wollstonecraft: *A Vindication of the Rights of Women*, 1792



Public domain image

The 18th century was a time of revolution – both in thought and in action. The American Revolution was centred on the idea of ‘no taxation without representation’. In other words, if we are paying taxes then you must let us take part in Parliament. The French Revolution in 1789 was based on ‘liberty, equality and fraternity’, and especially equal rights for all (men). Thomas Paine published *The Rights of Man* in 1791, but in all the talk of democracy and equality there was very little talk about the rights of women.

Mary Wollstonecraft challenged all that. *A Vindication of the Rights of Women* was published in 1792 as a reply to Paine, and as an assertion that women had rights too. Not just the right to vote, but the right to be educated, own their own houses, keep their own money, and all the other things that were denied to women at that time. Unmarried women were subject to the care and control of their father; married women to their husbands. This was seen as the natural order of things. Wollstonecraft challenged this, and is now regarded as one of the first

feminists. It is no accident that the 1832 Reform Act included an amendment demanding votes for women, and it is a measure of the task facing women that it was decisively rejected. For many years, Wollstonecraft's book was a beacon, pointing in the direction of something we now take for granted.

In 1893, New Zealand gave women the right to vote; in 1894, Australia followed (for white women only). Finland and Norway followed suit. But it was not until 1918 and 1928 that all women in Britain could vote on the same basis as men and, as we all know, women's equality has still not been totally achieved. It seems likely that Wollstonecraft would be rather pleased at the impact of her book, and yet she would perhaps think there is still work to be done.

### Further reading

To learn about more women whose lives have made an impact, see:

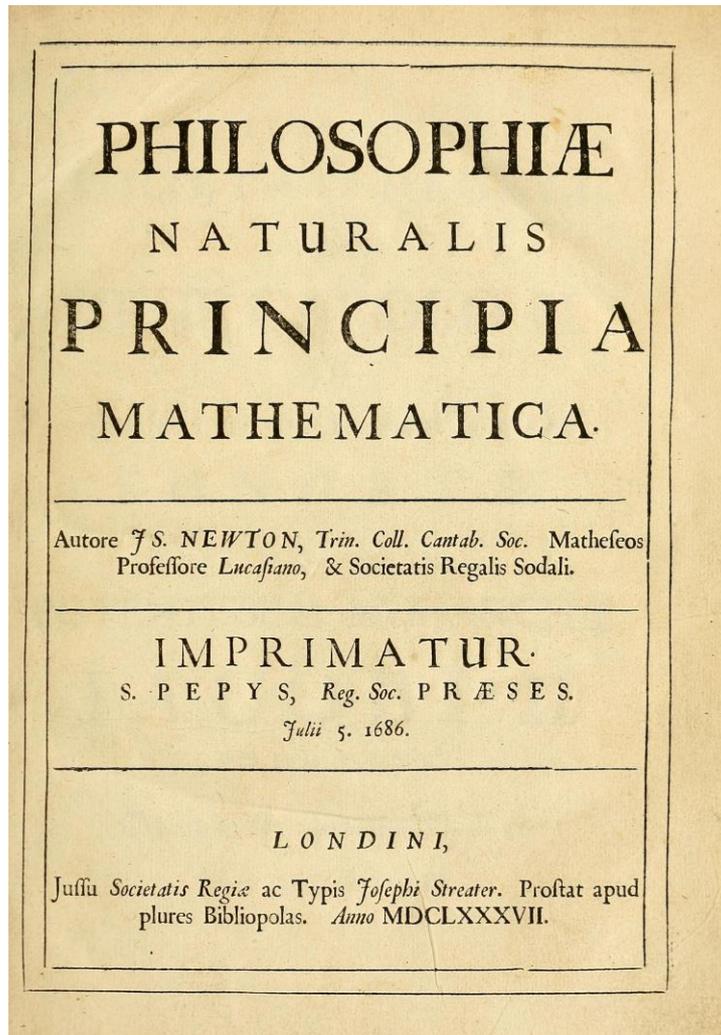
- *Little People, Big Dreams*, a series from Lincoln Children's Books suitable for Key Stages 2 and 3. Women featured include Emmeline Pankhurst, Rosa Parkes, Marie Curie and many more.
- Elena Favilli & Francesca Cavallo: *Good Night Stories for Rebel Girls*, Penguin, and *Goodnight Stories for Rebel Girls 2*, to be published on 28 February 2018.
- Marcia Williams: *Three Cheers for Women*, from Cleopatra to Malala, Walker Books

### Activity ideas

- Research the life of Mary Wollstonecraft. (Warning: It was rather scandalous for the time.) To what extent did she live her life in the spirit of her writing?
- Investigate women's rights (not just the right to vote). How were these achieved during the 19th century? The 20th century?
- Discuss sexual equality: has it been achieved? Is it possible? Is it desirable?
- Would you regard Mary Wollstonecraft as a 'significant individual', or as a role model for modern girls to copy?
- Produce a short presentation for a school assembly on the life and impact of Mary Wollstonecraft.

Provided by the [Historical Association](#) for the [Global Learning Programme](#), 2018

**2. Isaac Newton: *Philosophiæ Naturalis Principia Mathematica* (The *Mathematical Principles of Natural Philosophy*), 1687**



Public domain image

How do we explain how the planets orbit the sun, or how the moon orbits the Earth, mathematically? This was the problem that Isaac Newton sought to explain in *Philosophiæ Naturalis Principia Mathematica*, an ambitious book in three parts published in July 1687.

Geometry, ratios, algebra and, towards the end of the book, an early form of calculus – specifically a form of integration – all feature. He sets out his now-famous three laws of motion and showed that the force retaining the planets in their orbits is the same force that we experience on Earth, such as when we see an apple fall from a tree – gravity. It is also the first book showing the movement of the sea and the movement of the tides.

Newton had to be persuaded to write his book, as he had suffered criticism in the past. The Royal Society found it difficult to pay for the publication of *Principia*, as a previous book, on the history of fishes, did not sell as well as expected. Edmond Halley, now famous for Halley's Comet, paid the publication costs. Though some scholars accepted Newton's ideas almost immediately, others argued over them for many years.

Writing in *The Guardian* in 2012, Ian Stewart, Professor of Mathematics and author, describes how *Principia* changed how we viewed the world: 'It communicated to the world one of the very greatest ideas of all time: Nature has laws, and they can be expressed in the language of mathematics. Using nothing more complicated than Euclid's geometry, Newton developed his laws of motion and gravity, applying them to the motion of the planets and strange wobbles in the position of the Moon... No mathematical book has had more impact.'

### Find out more about *Principia Mathematica*

- [Cambridge University Library](#) has a digital copy of the complete book.
- *The Stanford Encyclopedia of Philosophy* has a very detailed resource on the *Principia*.
- [Oxford University's Newton Project](#) has a chronology of Newton's life – and lots more.

### Biographies of Isaac Newton for children

- Kjartan Poskitt: *Isaac Newton and his Apple (Dead Famous)* (1999)
- Ian Graham: *Avoid Being Sir Isaac Newton! (The Danger Zone)* (2013)

### Activity ideas

- Isaac Newton famously said: 'If I have seen further it is by standing on the shoulders of giants', referring to the people whose work he had used and built upon. Find out whose works he might have been referring to.
- Tim Peake's mission to the International Space Station in 2015 was named *Principia*, after the book. Activities related to the mission are available at the [STEM Learning site](#).

Provided by [The Royal Statistical Society](#) for the [Global Learning Programme](#), 2018

### 3. Robert Recorde: *The Whetstone of Witte*, 1557

**The whetstone  
of witte,**  
whiche is the seconde parte of  
Arithmetike: containyng the extrac-  
tion of Rootes: The Coslike practise,  
with the rule of Equation: and  
the woorkes of Surde  
Nombers.

*Though many stones doo beare greate price,  
The whetstone is for exercise  
As needefull, and in woorkes as straunge:  
Dulle thinges and harde it will so chaunge,  
And make them sharpe, to right good vse:  
All artesmen knowe, thei can not chuse,  
But vse his helpe. yet as men see,  
Noe sharpnesse semeth in it to bee.*

*The grounde of artes did brede this stone:  
His vse is greate, and moare then one.  
Here if you list your wittes to whette,  
Moche sharpnesse therby shall you gette.  
Dulle wittes hereby doe greatly mende,  
Sharpe wittes are fined to their fulle ende,  
Noe proue, and praise, as you doe finde,  
And to your self be not vnkinde.*

**These Bookes are to bee sold, at  
the Weste doore of Poules,  
by Ihon Byngstone.**

Public domain image

Writing the same thing over and over gets pretty boring, doesn't it?

Robert Recorde, a 16th-century Welsh mathematician and doctor, found repeatedly writing out 'is equalle to' (is equal to) pretty tedious. So instead, he drew a pair of parallel lines of the same length to indicate equality. And so, he created the equals sign =.

He introduces the equals sign, and gives his design rationale, in his mathematics textbook *The Whetstone of Witte*, as follows:

To avoide the tedious repetition of these woordes: is equalle to: I will sette as I doe often in worke use, a paire of paralleles, or Gemowe lines of one lengthe, thus: = , bicause noe .2. thynges, can be moare equalle.

*(To avoid the tedious repetition of these words is equal to, I will set, as I do often in work, a pair of parallels or twin lines of one length, thus: = , because no two things can be more equal.)*

At the time, to study mathematics, you had to be able to read and write Latin, restricting access to education. Robert Recorde wanted to change that. *The Whetstone of Witte* was part of a series of introductory mathematics textbooks that Recorde wrote. He wanted to provide a set of books that would be accessible to everyone, and aimed these books at merchants and other people who were not scholars. He also translated several books from Anglo Saxon, Greek and Latin into English. Many of his books were in print for over one hundred years, and encouraged wider study of mathematics and the publication of more mathematics books in English.

Today, as you look at any mathematics book, you can remember that they are all descendants of Robert Recorde's popularising ethos.

### Further reading

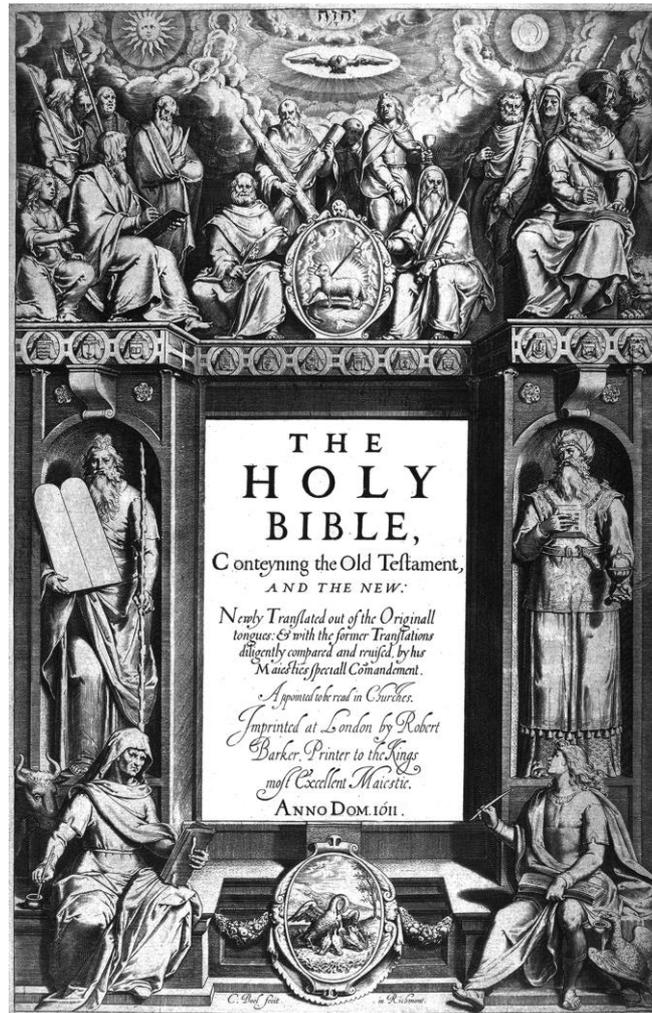
- [Life and works of Robert Recorde](#) from the School of Mathematics and Statistics at the University of St Andrews
- ['Life of Robert Recorde'](#) from the Dictionary of Welsh Biography

### Activity ideas

- Robert Recorde wanted everyone to have the opportunity to learn mathematics. Discuss how important that is.
- Research the history of other mathematical symbols and notation, such as plus, minus, divide, square root or zero. (You already know the name of the first person to publish a plus sign in a maths book in English!)
- Design your own mathematical symbol. Think of your design problem (for example, what do you want to avoid having to write out lots of times?), then draw a design for your symbol. Like the equals sign, does it give a visual clue to its meaning?
- Research other important books in the history of mathematics, such as *The Compendious Book on Calculation by Completion and Balancing* by Muḥammad ibn Mūsā al-Khwārizmī, which introduced the term 'algebra' to European languages.

Provided by [The Royal Statistical Society](#) for the [Global Learning Programme](#), 2018

#### 4. The Bible



**Title page to the 1611 first edition of the King James Version of the Bible.**  
Public domain image

The Bible is a world best seller – billions of copies have been printed and sold.

It has been translated into more languages than any other book in the world, meaning that people from across the globe can read the Bible and understand it. Of course, the Bible was not originally written in English but there have been many different English translations including the King James Version of 1611 and more recently the *New International Version*, the *International Children's Bible* and *The Message*. The Bible actually helped to bring printing into the Western world as it was the first mass-produced book in the West.

As well as seeing Bibles printed in different languages, you might have seen Bibles published in a number of styles, such as a comic strip Bible, a Bible aimed at very young children, a large print Bible or a grand Bible used in the front of a church. These differing styles help to make the Bible understandable to as many people as possible.

The Bible is important for followers of several religions. It is the holy book of Christianity and Christians read both the Old and New Testaments. Jewish people read five books of the law

(Torah), eleven books of prophets (Ketuvim) and eight books of writings (Nevi'im) and regard these as holy. These books all feature in the Old Testament of Christianity, but they are arranged slightly differently in the Jewish canon. Many of the characters and stories from the Bible feature in Muslim holy texts, but the stories and their meanings are not always exactly the same as the biblical ones. It is interesting to see where these three religions have similarities and differences in their religious texts and the ways that followers interpret them, and to think about why these likenesses and variances might have occurred.

Although the Bible was written such a long time ago, it is still important to many cultures around the globe. It influences art, architecture, music, literature, patterns of festivals in many countries, working days and days of rest... the list goes on. Crucially, it influences the beliefs, actions and lifestyle of many religious believers – a significant proportion of humanity follows a religion linked to the Bible. It is important to remember that there are many religious texts and that the Bible is not the only holy book to affect the beliefs and behaviour of religious followers.

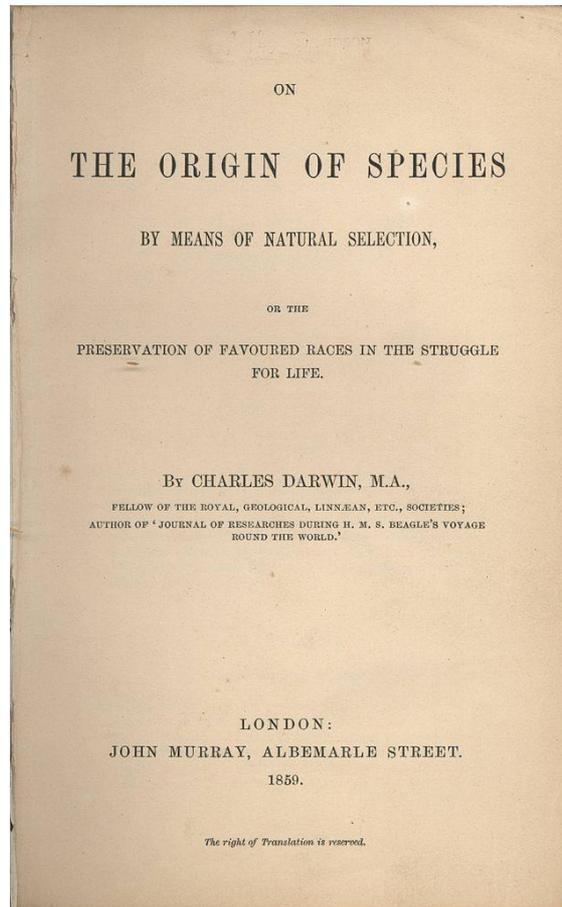
### Activity ideas

- Look at where the Bible is embedded in today's culture. For example, find where it is used in political speeches, well-known songs, in prominent places (such as the words of Psalm 127 inscribed in the lobby of the Houses of Parliament) or where it affects the pattern of the year. Ask pupils to investigate each example – what does each show about the Bible's place in our society? Take some of the more established examples (Psalm 127, the pattern of the year) and ask pupils to debate whether or not a modern day re-design of the Houses of Parliament/the pattern of the year would reflect the Bible to such an extent.
- Explore how the words of the Bible affect the actions of followers today. Look at how religions are diverse and that there is often variation in how followers from the same religion act on the words of the Bible.
- There are similarities and differences between the ways in which Jewish people and Christian people interpret the Hebrew Bible/Old Testament. Help pupils to find out about some of these and reasons for them. Take one character (e.g. Moses) and look at teachings about him/her in Christianity, Judaism and Islam – where are there similarities and differences? Why?
- Help pupils to explore holy writings from other religions and find out how they influence the lives of followers today.

Find more resources from The National Association of Teachers of Religious Education at [www.natre.org.uk](http://www.natre.org.uk)

*Provided by the [National Association of Teachers of Religious Education](http://www.natre.org.uk) for the [Global Learning Programme](#), 2018*

## 5. Charles Darwin: *On the Origin of Species by Means of Natural Selection*, 1859



Public domain image

In the words of past ASE President, Professor Steve Jones, geneticist and Fellow of the Royal Society: 'Charles Darwin's *The Origin of Species* is probably the best-known, least-read book. One of the most important achievements of the past millennium, it did for biology what Galileo did for astronomy: made it into a single science rather than a collection of unrelated facts.'

Association for Science Education (ASE) science educators voted Charles Darwin's seminal book as the book about science that most changed the way we see the world. Comments from our members about this book included:

- 'Darwin fundamentally changed how we see ourselves and every living thing around us.'
- 'This book knocks humans off their perceived pedestal of being separate from other forms of life: we are part of the planetary pageant.'
- 'After Darwin we were a part of creation rather than set above it.'
- 'Thinking about humans as a collection of genes and the biological world as a gene battleground had a big impact on me.'
- 'This book challenged many deeply held beliefs and still does; it explains more than any other book in existence.'

- 'In my view, it affected more disciplines of study and of thought than any other book.'

### Further reading

Important though *The Origin of Species* remains, its examples and intricate Victorian prose are now a century and a half old. They are ripe for renewal and reaffirmation. Writing as 'Darwin's ghost', the eminent geneticist Steve Jones updates this seminal work and restates evolution's case for the 21st century in his book, *Darwin's Ghost: The Origin of Species Updated*, Ballantine Books, 1999.

An online article in the [Encyclopaedia Britannica](#) gives more detail about the composition and reception of Darwin's book.

### Teaching resources from The Association for Science Education (ASE)

[Let's talk about evolution](#): A guide for primary teachers learning and teaching about evolution. This book and CD-ROM resource is a summary of the ideas associated with evolution, at a level suitable for learners in late primary or early secondary schools. It includes activities for learners and background information for teachers.

The book begins with an introduction to evolution and background information for teachers. It also includes chapters on adaptation, struggle for existence, natural selection and evolutionary change. Each chapter features a range of activities for learners, alongside extension activities. All the required printable resources are on the CD-ROM.

This book and CD-ROM form our complete guide to teaching evolution in the new primary curriculum.

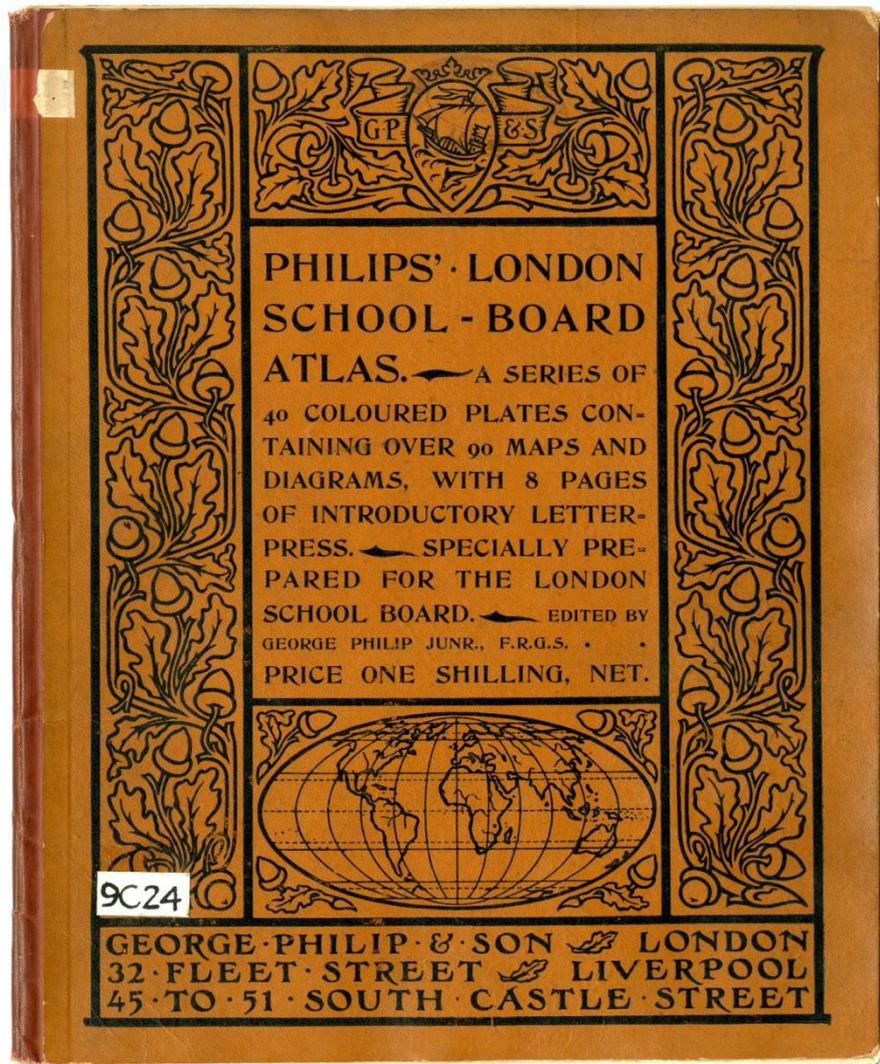
[Teaching controversial issues](#): Ten questions about teaching evolution in the classroom by Dr James Williams. Should you teach evolution? Should you tell students about intelligent design? Isn't it just a theory? James looks at the misconceptions surrounding teaching evolution and ways to deal with tricky questions from students.

To find out more about the ten highly influential science books that science educators voted for in 2018, visit ASE's website [www.ase.org.uk](http://www.ase.org.uk)

Provided by the [The Association for Science Education](#) for the [Global Learning Programme](#),  
2018

## 6. George Philip Junior (editor): *Philips' London School Board Atlas*, 1900

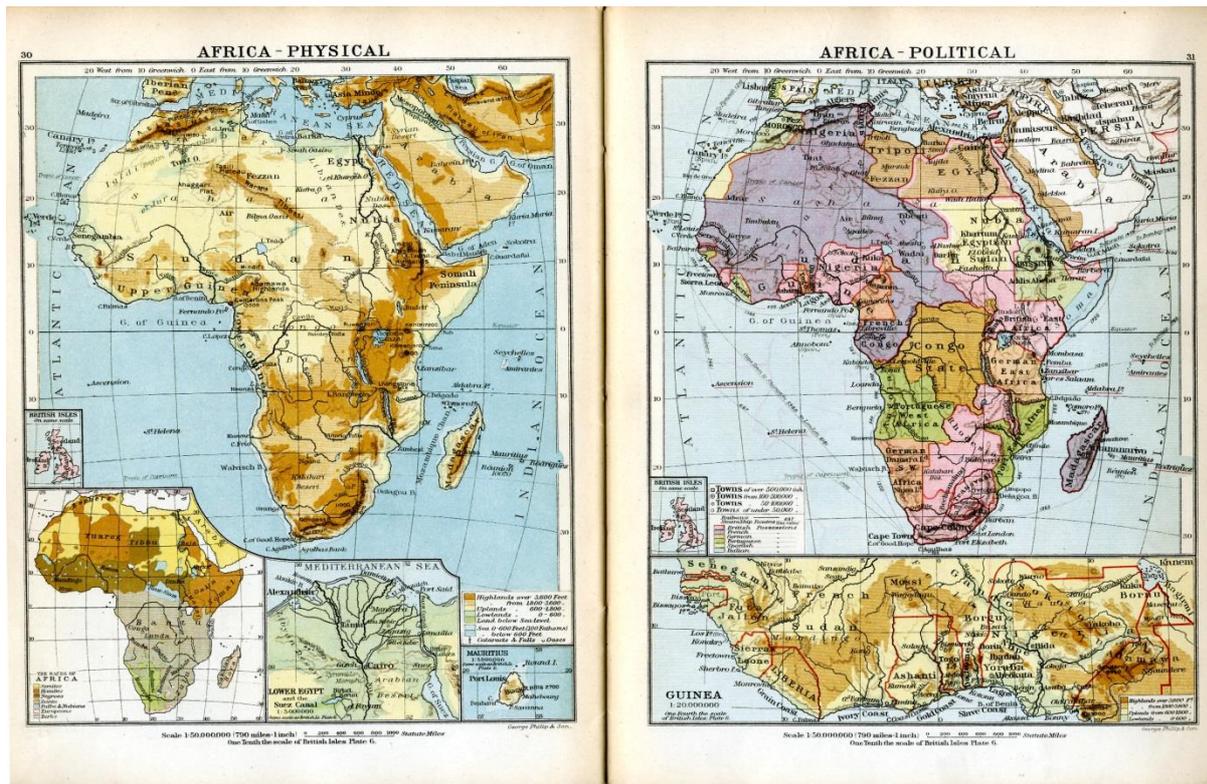
This was the first 'everyday' atlas, which put views of the world into the hands of ordinary children.



Public domain image

Historically, atlases have been prestige items, and a top-class atlas at the turn of the 20th century would have cost about 10 guineas (well over £500 in today's money).

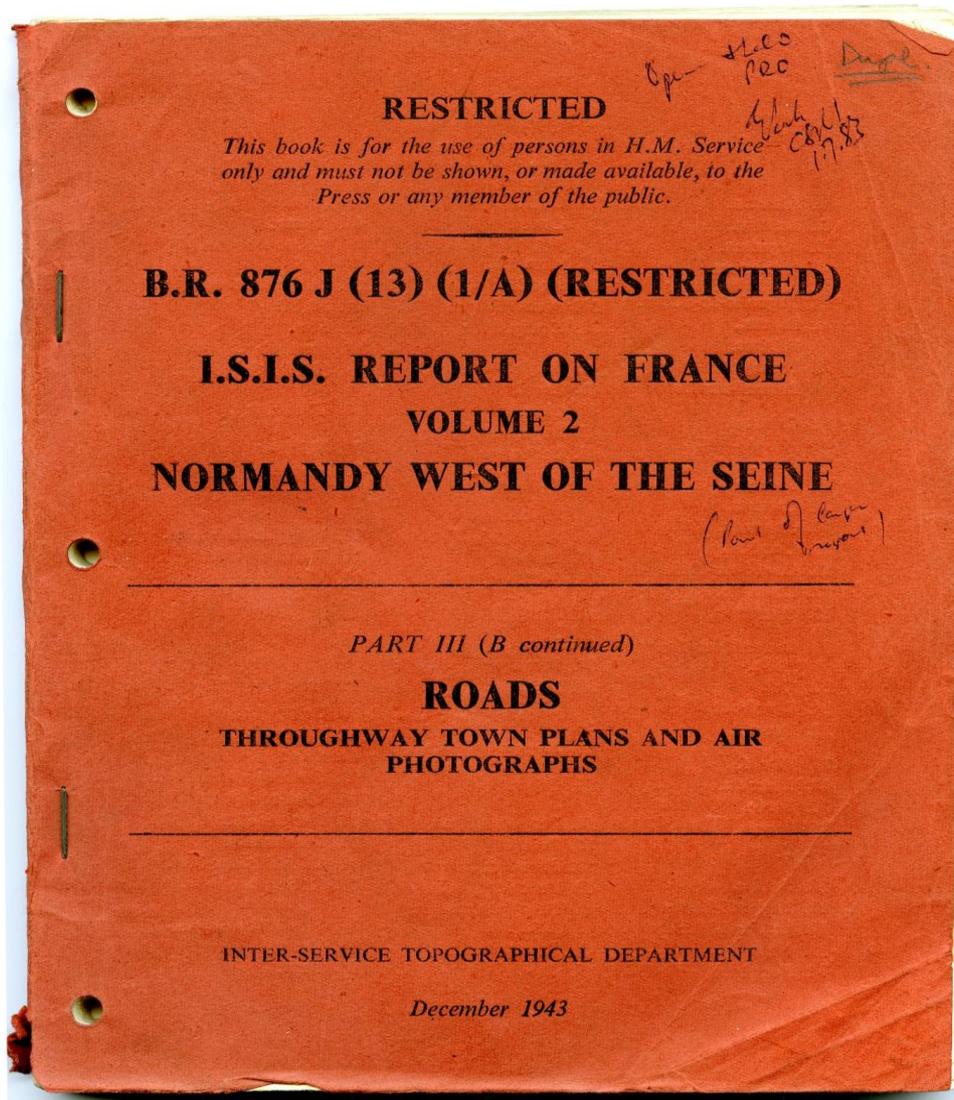
This changed with the publication of the *Philips' London School Board Atlas*. This was published in 1900 and cost only 1 shilling (about £3 in today's money). It was edited by George Philip Junior FRGS and it is described as the 'breakthrough' atlas in geographical education by Professor Michael Wise (a former President of the Royal Geographical Society) in his article 'The School Atlas 1885–1915'. Professor Wise wrote, 'The breakthrough in producing a good school atlas came with *Philip's London School Board Atlas*, [priced at] one shilling. The experienced A.W. Andrews reviewed the atlas for the *Geographical Teacher* and recommended it as 'the best school atlas yet published, apart from its remarkable cheapness'. By making copies available to all of its schools, and by encouraging parents to buy copies at the low price, The London School Board had provided a substantial guarantee. The advice of the Geographical Association had also been sought on the atlas's information.



Public domain image

Provided by the [Royal Geographical Society](#) and the [Geographical Association](#) for the [Global Learning Programme](#), 2018

**7. Inter-service Topographical Department: *Report on France, Normandy West of the Seine, 1943***



Public domain image

This book wasn't available to the public. It was a secret document written by British Topographical experts (geographers in today's language) working for the British military during World War II. They collected the intelligence that was necessary to identify which beaches were suitable for the subsequent D-Day landings, which took place on 6 June 1944. As well as aerial photography and information passed to the Allies by the French Resistance, the topographical experts also asked for British people to send in photographs and post cards of the beaches that they may have visited on holiday during the pre-war years. These photographs were then reproduced in this intelligence report and interpreted to provide briefings about which beaches were suitable and whether, for example, the sand was suitable for tracked vehicles such as tanks.

This family sent in their holiday snap of Arromanches beach in Normandy. Little did they know that a few years later it would be renamed Gold Beach for the D-Day landings. On 6 June 1944 this beach was the scene of fierce fighting between British and German troops, resulting in hundreds of deaths.



Public domain image

*Between Asnelles and Arromanches*

### Atlases today

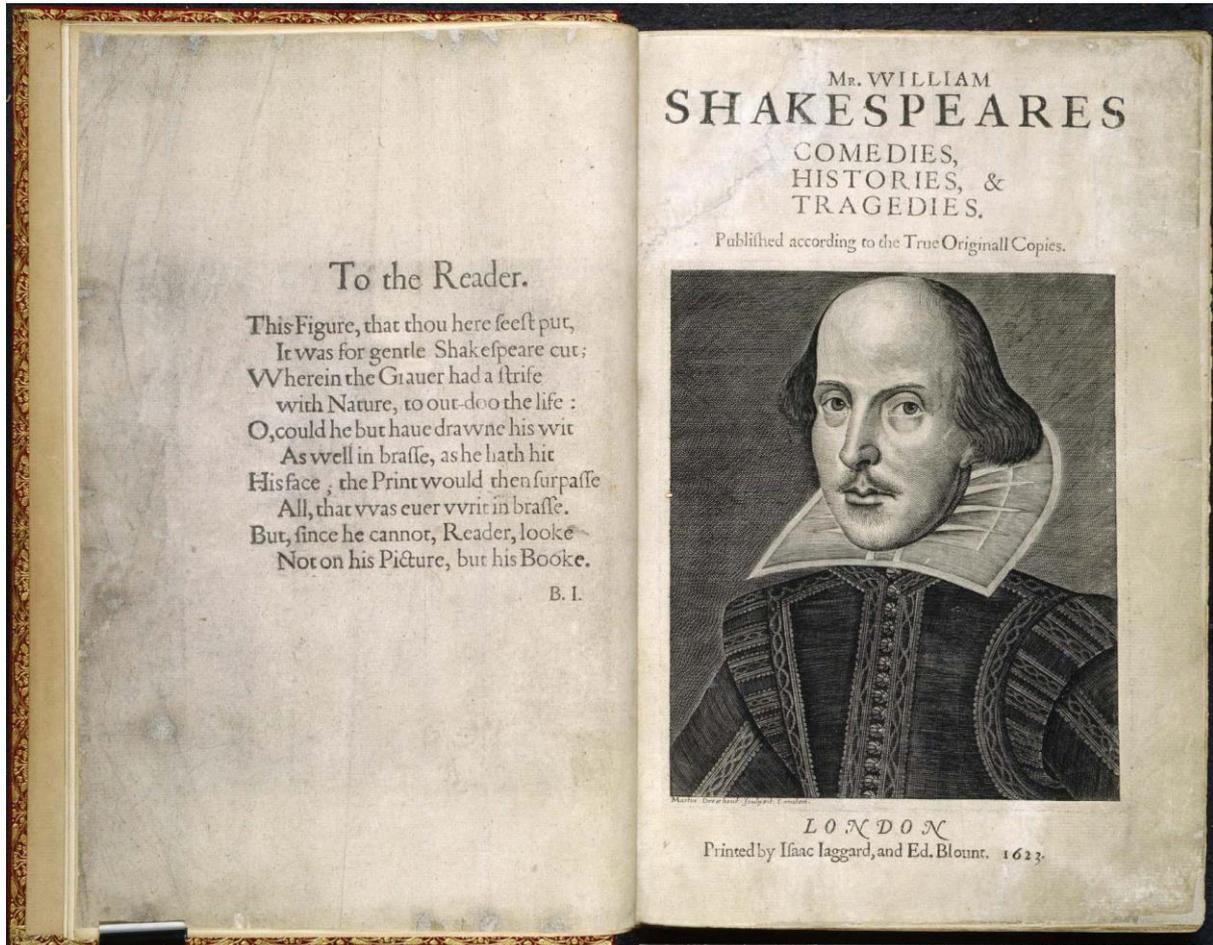
There are many atlases to help us understand the world today. Thematic atlases help us see information and places in a variety of interesting and informative ways.

A modern equivalent of the groundbreaking *Philips' London School Board Atlas* would probably be Google Earth, the first really successful electronic mapping resource that is accessible to anyone with a computer and internet access.

What do you think might be the 21<sup>st</sup>-century book or resource that will change the way people see the world?

Provided by the [Royal Geographical Society](#) and the [Geographical Association](#) for the [Global Learning Programme](#), 2018

## 8. William Shakespeare: *Mr William Shakespeares Comedies, Histories, & Tragedies*, 1623



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The First Folio is the name given to the first collected edition of Shakespeare's plays, published seven years after his death. It was put together by two of Shakespeare's fellow actors, John Heminges and Henry Condell, and was the first time 18 of his plays had been printed at all. Without the First Folio, popular plays such as *Twelfth Night*, *Measure for Measure*, *Macbeth*, *Julius Caesar* and *The Tempest* might never have survived.

This folio edition with tributes from leading writers such as playwright Ben Jonson (who wrote the verse 'To the Reader' that you can see in the image above) was an indication that Shakespeare's fame was already well established. Folio editions, so called from their large size (this one is 32 centimetres high), were expensive prestige items. The 'upstart Crow', as one disgruntled rival described him in 1592, had become the 'Soul of the Age' and 'the wonder of our stage' in the poem 'To the memory of my beloved, the Author Mr. William Shakespeare and what he hath left us' that Jonson also contributed to the First Folio.

Jonson's claim, 'He was not of an age but for all time!', might have seemed extravagant in 1623, but so it has proved. At the end of the 18th century, actor David Garrick laid on a lavish Shakespeare Jubilee and proclaimed him as 'the Genius of our Isle' – yet he has become known as more than a national, or even English-language, genius.

In 1970s apartheid South Africa, the 'Robben Island Bible' was really a copy of Shakespeare's works smuggled into the prison disguised as a Hindu religious text. 34 of the political prisoners, who were often held in solitary confinement, marked and autographed passages that were significant to them. They included Nelson Mandela, who after 27 years in jail, was to become the first president of the fully democratic, post-apartheid South Africa. Mandela chose lines from *Julius Caesar*, reflecting his own risk of the death penalty for political activism:

Cowards die many times before their deaths;  
The valiant taste of death but once. (2.2: 32–33)

Today, Shakespeare's plays are performed around the world in many languages and adaptations. Their lasting appeal comes partly from the way he retells old stories of enduring interest, of lovers, of children and parents, about jealousy and seeking or losing power and growing old. The plays feature dressing up and cross-dressing, disguise, confused identities, magical islands, fairies and bears. As the performance poet Kate Tempest puts it in her poem 'My Shakespeare':

He's in every lover who ever stood alone beneath a window,  
In every jealous whispered word,  
in every ghost that will not rest.  
He's in every father with a favourite,  
Every eye that stops to linger  
On what someone else has got, and feels the tightening in their chest.

The best way to enjoy Shakespeare is to watch (or even better, to take part in) the plays. The books and other resources here aim to help you explore other aspects of the plays and ways they have been interpreted and adapted.

### Find out more

- [The British Library](#) has information and more pages from their copy of the First Folio, seen above. It is one of only four surviving early copies in which the engraving appears to show Shakespeare's head floating above his large ruff (collar). Also look at the British Library's [Literature Timeline](#) to see Shakespeare's works in context.
- **Theatres:** The [Royal Shakespeare Company](#) and [Shakespeare's Globe](#) have extensive resources for students. The RSC and the [National Theatre](#) also put on special schools video relays of productions.

### Further reading

- Leon Garfield: *Shakespeare's Stories* (1985) – two beautifully written volumes containing versions of the plays in striking prose.
- Marcia Williams: *Mr William Shakespeare's plays* (1998) – illustrated versions which sum up the stories and retain some of the original text, adding delightful illustrations that provide insight into the plays and their staging.
- Geraldine McCaughrean: *Stories from Shakespeare* – accessible, engaging and entertaining re-tellings of ten of Shakespeare's best-known plays. McCaughrean mixes Shakespeare's words with her own to create lyrical and dramatic language which makes the stories excellent for reading aloud.

- Pamela Butchart: *To Wee or Not to Wee* (2016) – a light-hearted look at the plays for 5 to 8 year olds. ‘When Izzy is asked to tell her friends some *hilarious* and *scary* stories she knows exactly where to look: Shakespeare, the king of *super* dramatic stuff.’
- Michael Rosen: *What’s so special about Shakespeare?* (2007) – an accessible and informative biography of Shakespeare for younger readers, with humorous illustrations.
- Kate Tempest: ‘My Shakespeare’ – created for the World Shakespeare Festival in 2012 and available as a video on the RSC site, this celebration of Shakespeare is a terrific poem to use in the classroom. There is more on the project on [The Guardian site](#).
- Susan Cooper: *King of Shadows* (1999) – the thoughtful and moving story of an orphaned boy actor, Nathan, who arrives in London from America with an American theatre troupe. He is scheduled to play Puck in *A Midsummer Night’s Dream* at the newly rebuilt Globe Theatre but falls ill before the play opens. When he wakes, he finds himself transported back to Elizabethan England and working as an actor in the original Globe.
- Malorie Blackman: *Noughts and Crosses* (2001) – award-winning novel developing the *Romeo and Juliet* theme in a world of split communities and civil unrest
- Joan Lingard: *Across the Barricades* (1972) – one of a series set in the Troubles in the divided city of Belfast, this novel tells the story of Kevin, a Catholic boy and Sadie, a Protestant girl whose love transcends the physical and psychological barriers of the city in which they live.

For more reading for World Book Day, see the resources on the [Global Learning Programme site](#).

Provided by the [National Association for the Teaching of English](#) for the [Global Learning Programme](#), 2018

## More books to change the world

- Sue Turton: *This Book Will (Help You) Change the World* (2017) – find out more about the book and author Sue Turton on the [publishers' page](#)
- Nelson Mandela: *Long Walk to Freedom* (1994) – Mandela's journey from apartheid and prison cell to becoming the first non-white President of South Africa
- Art Spiegelman: *Maus* (1980–1991) – an award-winning graphic novel in which Art Spiegelman interviews his father about his experiences as a Polish Jew and Holocaust survivor
- George Orwell's influential novels about power, suppression and resistance: *Animal Farm* (1945) and *Nineteen Eighty-Four* (1949)
- Anne Frank: *The Diary of a Young Girl* – her record of two years in hiding in occupied Amsterdam, 1942–44
- Robert Innocent: *Rose Blanche* (1983) – a picture book about a young girl living in a small town in Germany. The Historical Association also has [teaching resources](#) on this text.

Provided by the [Association for Citizenship Teaching](#) for the [Global Learning Programme](#),

2018