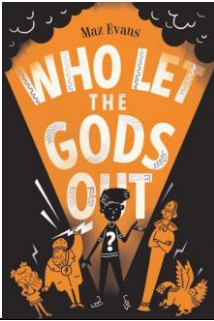




Birchfield PRIMARY SCHOOL

Year 5 Curriculum Overview
Term 3.2

Please see below an overview of the main themes, knowledge, and skills we will be covering this half term.

| | |
|--------------------|---|
| Enquiry Question | What was lifelike in Ancient Greece? |
| Significant People | Jalal al-Din Muhammad Rumi (Linked to the value of Empathy) |
| Class Texts | <p>Who Let the Gods Out? by Maz Evans</p> <p>Themes: Bravery, Illness vs Health, Greek Myths, Luck vs Fate, Life vs Death, Trickery and Love.</p>  |
| Reading | <p>2b – Retrieve and record information/identify key details from fiction and non-fiction.</p> <p>2c - Summarise main ideas from more than one paragraph.</p> <p>2h – Make comparisons within the text.</p> <p>In Reading, the children will continue with the class text 'Who Let the Gods Out?' The children will answer retrieval questions, where we will be focussing on our comprehension skills and will explore the themes from the book.</p> <p>The children will also summarise the different chapters of the class text. Summarising improves children's memory for what they read and acts as a check for comprehension, they recall the most important parts instead of the whole text.</p> <p>Children will then make comparisons, where they will compare characters behaviours, actions and motives and will compare books that they have read this year as well as well-known characters from books.</p> |
| Writing | <p>This half term, children will be learning about the structure of non-chronological reports and applying this learning to create their own reports based on different contexts, including links to the enquiry question. The children will understand the purpose, the audience and the features used for this genre of writing, such as relative clauses and conjunctions to bring better cohesion to their writing. They will be using powerful language choices throughout their writing and understand what makes an effective report using techniques and features to engage and inform the reader.</p> |

| | |
|---------|---|
| | <p>To conclude their writing in Year 5, the children will be writing a letter of persuasion, which will consolidate their understanding of the features of a formal letter. Their writing will be linked to the whole class text, as well as writing from different contexts.</p> |
| Maths | <p>During this half-term, children will learn about the different types of angles, they will classify, measure and estimate angles. They will draw lines and angles accurately and calculate angles on a straight line.</p> <p>As well as this, children will be converting units of length such as kilograms to kilometres, millimetres to millilitres and metric and imperial units.</p> <p>They will continue to work on their skills of reasoning, which will involve children being introduced to SATS based questions to prepare them for year 6.</p> |
| History | <p>This project teaches children about developments and changes over six periods of ancient Greek history, focusing on the city state of Athens in the Classical age, and exploring the lasting legacy of ancient Greece. The children will be continuing their learning, studying the four periods of Greek history, comparing life in each period and how it changed over time. This includes the Minoan civilisation, Mycenaean civilisation, Greek Dark Age and Archaic period. Children will move on to learning about life in Athens during the classical period. They will learn about democracy in Athens and the roles of men and women during these times. The children will learn about Ancient and Modern Olympic Games. The Olympic Games began in 776 BC and were the greatest sporting events of their time, as well as a religious festival for Zeus. Competitors came from all over Greece, and warfare ceased during the games to allow safe travel. Athletes trained to compete in a variety of events and had to adhere to strict rules. Many of these aspects can be seen in the modern Olympics, where the motto 'excellence, respect and friendship' reflects the skill of the athletes, their respect for rules and friendship between nations. The children will also learn about Alexander the Great and answer the question 'Who was Alexander the Great, what did he achieve and how did he influence the wider world?'</p> |
| Science | <p>This half term the earth and space unit teaches children about our Solar System and its spherical celestial bodies. They will describe the movements of the Earth and the other planets relative to the Sun, the Moon relative to Earth, and the Earth's rotation to explain day and night. Children will learn about day and night, day length and seasons and times around the world. This half term will</p> |

| | |
|-------------------|--|
| | <p>conclude with a Lab Session linked to our previous topic, Earth, and space (from Summer 1)</p> <p>This half term will conclude with a Lab Session linked to our previous topic, animals including humans (from Spring 2).</p> |
| DT - Architecture | <p>This project teaches children about how architectural style and technology has developed over time. Children will then use this knowledge to design a building with specific features.</p> |
| Music | <p>For our music lessons this term, we will use Charanga and are focusing on the genre of 'Old School Hip Hop, this unit of work focuses on the song 'The Fresh Prince of Bel Air'.</p> |
| Computing | <p>In this unit, learners will develop their knowledge of 'selection' by revisiting how 'conditions' can be used in programming, and then learning how the 'if... then... else...' structure can be used to select different outcomes depending on whether a condition is 'true' or 'false.' They represent this understanding in algorithms, and then by constructing programs in the Scratch programming environment. They learn how to write programs that ask questions and use selection to control the outcomes based on the answers given. They use this knowledge to design a quiz in response to a given task and implement it as a program. To conclude the unit, learners evaluate their program by identifying how it meets the requirements of the task, the ways they have improved it, and further ways it could be improved.</p> |
| RE | <p>In RE, the children will cover two topics, the first being 'Being Thankful' and 'Being Imaginative and Explorative'. Children will be exploring how different religions show thanks and how different people see the world and why people see the world differently.</p> |
| PSHE | <p>Our unit this half term is called 'What jobs would we like?'</p> <p>We are learning:</p> <ul style="list-style-type: none"> • That there is a broad range of different jobs and people often have more than one during their careers and over their lifetime. • That some jobs are paid more than others, and some may be voluntary. • About the skills, attributes, qualifications, and training needed for different jobs. • That there are different ways into jobs and careers, including college, apprenticeships, and university. • How people choose a career/job and what influences their decision, including skills and interests play. |
| PE | <p>This half term the children will continue with tennis and athletics. The children will learn the skills, techniques, and</p> |

| | |
|--|---|
| | rules. The children will learn about communication, co-operation, and good sportsmanship. |
|--|---|

Teaching Team:

Miss Begum, Miss Nur, Miss Brown, Mrs Patel, and Mrs Sayed

SLT: Miss Saboor

PE Day: Tuesday

Homework: Homework is set on Friday and to be completed by the following Friday.

Home Learning and Useful Links:

Homework Books

At the end of each week, your child will be set homework on Atom Learning. They will be given a maths, SPAG and reading homework which is to be completed by the following Friday. Please encourage your child to complete these to the best of their ability.

Spellings

These are words your child will be using daily and will need to be familiar with. We will also be sending home words with your children that are key in Year 5 and 6. Please encourage your child to practise their spellings at the weekend and across the course of the week, as they will be tested on these at the end of each week.

Reading:

At the end of each week, your child will also come home with a reading book.

Please encourage your child to read this book regularly and listen to them read when you can.

Within their reading diary, we ask that you please make a comment on how your child has read, whether they are enjoying their book or even any questions you may have asked them and discussed about their story.

Both the reading book and reading diary need to be returned to school by Wednesday.

Who Let the Gods Out?

A troubled boy's life is turned upside down when an immortal crashes out of the sky onto his barn. They go on adventures together but accidentally release a daemon. With help from the gods, they begin a quest to save the world that takes them to incredible places on Earth and beyond.

Author

Maz Evans began her career as a TV journalist and still broadcasts regularly on the radio. As well as writing books, she also writes songs and musical theatre productions. *Who Let the Gods Out?* has received over 20 award nominations worldwide, including Waterstones' Book of the Year. She has written several sequels to the book and narrates audiobooks for them.

Cultural context

The immortals are part of Greek mythology. Zeus is the king of the gods and his daughters Aphrodite and Athene are the goddesses of love and wisdom respectively. Hermes is Zeus' personal messenger.

Daemons are spirits. Hypnos is the spirit of sleep, Thanatos is the spirit of Death and Charon is the ferryman who carries the dead to the underworld.

Constellations are semi-divine spirits. Greek myths explain how each constellation came to be.

Characters

Elliot

Elliot is a lonely boy who looks after his farm and his sick mother. He has lots of worries about money and school. His love for his mother and home lead him to take perilous risks and face danger courageously.

Josie

Josie is Elliot's mother. She has an illness that prevents her from looking after her son and home. Elliot often takes the role of a parent when looking after her.

Virgo

Virgo is an immortal constellation. She is bored with her perfect life in Elysium and seeks adventure on Earth. She becomes good friends with Elliot. Virgo often breaks the rules, for selfish and unselfish reasons.

Immortals

There are five types of immortal: gods like Zeus, constellations like the Zodiac Council, elementals, neutrals and daemons. They all wear a kardia, which is a type of necklace. Immortals become mortal without their kardia.



Charon, the ferryman

Settings

Farm

Elliot lives on a ramshackle farm. It has crumbling bricks, dirty windows, peeling paint and 'holes where fallen tiles made the roof look like a mouth missing some teeth.'



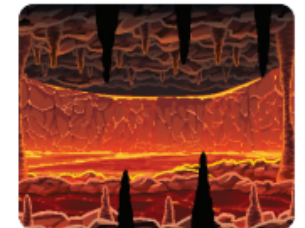
Elysium

The gods and constellations live in Elysium. It is the most perfectly beautiful place, with cloud meadows, heavily laden fruit trees and a river that 'dropped into a waterfall that shimmered with refracted rainbow light.'



Tartarus

Tartarus is the underworld where the daemons live. It is a 'fiery wasteland' where prisoners perform everlasting punishments. It is guarded by a three-headed hound.



Themes

- courage
- friendship
- rules
- family
- love

Story timeline

These are some of the key chapters in the novel. When you read the chapters, use the questions as starting points for discussion.

Chapters 1 and 2

Elliot is given a detention by the odious Mr Boil. He returns to the dilapidated farm, which he loves, to find his meddlesome neighbour trying to worm her way in. She wants to purchase the land and turn it into a housing estate. What are your first impressions of Elliot's life?

Chapter 3

In Elysium, Virgo is bored in a Zodiac Council meeting. She plans to break the rules so she can visit Earth. Do you think she is right to do this?

Chapter 4

In this chapter, the reader discovers the sad truth about Elliot's life. How would you describe the relationship between Elliot and his mother?

Chapter 7

An evil daemon is released into the world. Do you think Elliot acted wisely?

Chapter 29

Elliot promises to continue his quest and a mysterious guest appears. Do you like the ending of the novel?

Humour

There are many examples of humour in this novel, making it very entertaining to read. Humour is created through misunderstandings, such as Virgo thinking Kowsh Ed is a region rather than a building. It is also created by unusual similes, such as *'as nutty as a squirrel's packed lunch'* and original names, such as *'Call Me Graham'* and *'Patricia Horse's-Bum'*. Humour is also created using irony, such as *'...she always made sure her telescope was positioned where no one else could look at it – she loathed nosy parkers.'*

Structure

Who Let the Gods Out? is a fantasy adventure novel. It has several settings and often switches between them, for example, some chapters are set on the farm, some in school and some in Elysium. Most chapters end on a cliff-hanger, which adds a sense of urgency for the reader. The third person narration is broken up with poems in the form of emails or newspaper articles to move the plot along.

Dramatic irony

Dramatic irony is when the reader knows more about a character's situation than the character does. This can only be achieved with a third person narrator. In this story, the reader often knows about the risks and dangers before Elliot does. This increases the reader's anxiety for him.

Literary terms

cliff-hanger

A cliff-hanger is when a section of a novel or film ends and you don't know what is going to happen next. You are held in suspense until the next instalment.

fantasy

Fantasy stories involve magic, good and evil characters and adventure.

irony

The irony of a situation is odd or amusing because it involves a contrast that you would not expect.

simile

A simile compares one thing to another using like or as. For example, *'like a china doll on a bad hair day.'*

third person narrator

A text in the third person is written about a character but is not told from their point of view. For example, *'Elliot stared at Virgo through his puffy red eyes.'*



Groundbreaking Greeks

Ancient Greek lands were made up of the Greek mainland, surrounding islands and Greek colonies across the Mediterranean Sea. Ancient Greece was almost entirely surrounded by sea, and the mountains on the mainland made travelling by land difficult.



Significant periods of Greek history

Ancient Greek history can be divided into seven main periods or civilisations: Neolithic, Minoan civilisation, Mycenaean civilisation, Dark Age, Archaic period, Classical period and Hellenistic period. Greece is often referred to as the birthplace of Western civilisation because of the advances that its people made in politics, science, mathematics, philosophy, literature and art.

Minoan civilisation

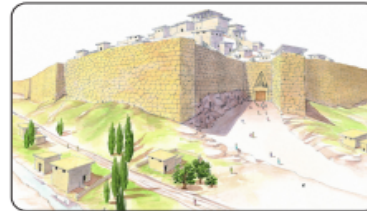
The Minoan civilisation existed between c3000 BC and c1100 BC on the Greek island of Crete. At the civilisation's peak, around 10,000 people lived in 90 cities. As Europe's first developed civilisation, the Minoans lived in towns with roads, wells and a basic sewerage system. They were capable farmers and skilled craftspeople. Their architects oversaw the building of palaces. They were also skilled in making pottery. They traded goods, such as olive oil, pottery and cloth. The Minoans also used an early writing system known as Linear A.



Reconstruction of the palace of Knossos

Mycenaean civilisation

The Mycenaean civilisation existed between c1600 BC and c1100 BC on the Greek mainland. They took control of Crete in c1450 BC. The Mycenaean warriors were excellent warriors. They invaded and settled in areas around the



Artist's impression of the citadel at Mycenae

Mediterranean Sea and developed trade links with Egypt, Cyprus and many Greek islands. The Mycenaean chiefs lived in palaces within fortified hilltop citadels. The Mycenaean people were influenced by the Minoans. They developed the Minoan Linear A script into Linear B and were the first people to speak the Greek language.

Dark Age and Archaic period

In c1100 BC, the Minoan and Mycenaean civilisations collapsed and society began to decline. Greece entered its Dark Age. Many people left Greece and skills, including writing, were lost. The few remaining people lived in small family groups and reared livestock for food. They also began to mine iron to make spears and tools. Then, around 800 BC, Greece entered the Archaic period. This was characterised by the re-emergence of society, government, art and architecture. A new alphabet was devised, the population grew, city states developed and the first Olympic Games were held.

Classical period

The Classical period started in c500 BC and ended in 323 BC. It is known as the golden age of ancient Greece because many discoveries and advancements were made. People in the Classical period believed in gods and mythology from earlier periods, although philosophers and scientists at the time began to challenge those beliefs. Their architecture featured symmetrical designs and columns. Like the Minoans and Mycenaean before them, people in Classical Greece established trade links both within Greece and with surrounding countries.



Aerial view of the Acropolis

City states

During the Classical period, ancient Greece was a collection of city states, rather than one united country. Each city state, known as a polis, included a city and its surrounding villages, farms and land. Each city state had its own government and hierarchy, although they spoke the same language and followed the same religion. The design of each city was also similar. They all had a connection to the sea for trade and transport, outer walls for protection, a variety of buildings inside the city walls and an acropolis built on a hill. Despite similarities and trade links between the city states, they were often at war with each other in a bid to gain power and land.

Family life and social class

In ancient Greece, class and gender determined the roles people could play in society and at home. Only male citizens were allowed to vote and make decisions. Below them in society came men called metics, who were not citizens and lastly, slaves. Men worked as politicians, landowners, artists, architects, sculptors, scientists and scholars. Women were expected to run the home, bring up the children, supervise the slaves and make clothing. They were not allowed to own land, vote or take part in politics.

Significant people

Ancient Greece is known for its many great thinkers, including philosophers, political leaders, scientists, mathematicians, historians and writers.

Pythagoras (c580–c500 BC) was a philosopher and mathematician. He developed a method to help people to calculate the longest side of a right-angled triangle.

Cleisthenes (c570–c508 BC) was a political leader in Athens. He developed the first democratic system.

Pericles (c495–429 BC) was a political leader in Athens. He ordered the construction of the Acropolis and Parthenon.

Socrates (c470–c399 BC) was a great philosopher. He used questions to help people to examine their knowledge and beliefs.

Hippocrates (c460–c375 BC) was a doctor. He carried out medical research and became known as the 'father of medicine'.

Plato (c427–c347 BC) was a philosopher and student of Socrates. He founded the first university in Athens.

Alexander the Great (356–323 BC) was a military leader. He expanded Greece's territory to create the ancient world's largest empire.

Timeline

| | |
|-----------------------|---|
| c6000–c3000 BC | People start to farm and make produce in Neolithic Greece. |
| c3000–c1100 BC | The Minoan civilisation exists on the island of Crete. |
| c1600–c1100 BC | The Mycenaean civilisation exists on the Greek mainland. |
| c1450 BC | The Mycenaeans take control of Crete. |
| c1100–c800 BC | Greek cities are destroyed or abandoned during the Greek Dark Age. |
| c800–c500 BC | Greece develops quickly and city states are founded in the Archaic period. |
| 776 BC | The first Olympic Games are held in Olympia. |
| c507 BC | Cleisthenes introduces the world's first known democratic system to Athens. |
| c500 | The Classical period begins. |
| 356 BC | Alexander the Great is born. |
| 323 BC | Alexander the Great dies and the Classical period ends. |
| 323–30 BC | Greece becomes divided during the Hellenistic period. |
| 30 BC | Ancient Greece is conquered by the Romans. |

Lasting legacies

Democracy

The world's first democratic system was created in Athens in the fifth century BC. The system was designed to give the Athenian people a say over how their city was run. Today's democratic systems, although different from Athens', follow the same principles and allow ordinary citizens to have a say in how their country is governed.



Philosophy and mathematics

Socrates, Plato and Aristotle were some of the greatest philosophers of their time, and their ideas are still influential today. Socrates' method of questioning and discussion, known as the 'Socratic method', is still used in schools and universities. The ancient Greeks also made hugely significant advances in mathematics and the ideas of mathematicians, such as Pythagoras and Archimedes, are still relevant today.



Olympic Games

The Olympic Games were invented in ancient Greece. It was one of the greatest sporting and religious festivals of its time and drew in competitors and spectators from all parts of Greece. Today's Olympic Games share some of the same core values of excellence, respect and friendship that underpinned the original Olympic Games.



Arts and culture

Theatre was an important tradition in ancient Greece. Over 40 plays have survived from the Classical period. Poetry was another source of entertainment and education. Epic Greek poems have provided information about historical and mythological events. Sculpture was an important part of ancient Greek art and their method of painting designs onto pottery was also distinct and inspired many other civilisations.



Glossary

| | |
|----------------------|---|
| acropolis | The upper fortified area of a Greek city that is usually built on a hill. |
| architect | Someone who designs buildings and makes sure that they are built correctly. |
| Athenian | A person from Athens. |
| citadel | A central fortified area of a city or town. |
| city state | A city and the area surrounding it with an independent government. |
| civilisation | A highly developed culture, including its social organisation, government, laws and arts. |
| democracy | A political system, which allows people to have a say in the way their country is governed. |
| empire | A group of countries or states ruled by a single authority, such as an emperor or monarch. |
| mathematician | Someone who studies, teaches or is an expert in mathematics. |
| mythology | A collection of religious and cultural stories. |
| Parthenon | A temple on the Acropolis in Athens. |
| philosopher | Someone who studies basic ideas about knowledge and reasoning. |
| warrior | A soldier with skill and experience in fighting. |

Properties of Shapes

Key Vocabulary

angle

right angle

acute

obtuse

reflex

protractor

horizontal

vertical

parallel

perpendicular

polygon

regular

irregular

two-dimensional

three-dimensional

flat face

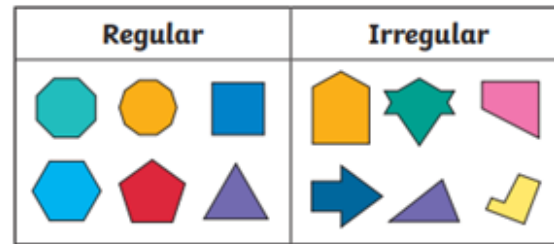
curved surface

edge

vertex

apex

Regular and Irregular Polygons



A polygon is any two-dimensional shape with straight lines.

In a regular polygon, all the sides and angles are equal.

Equal sides can be indicated by lines called hatch marks.



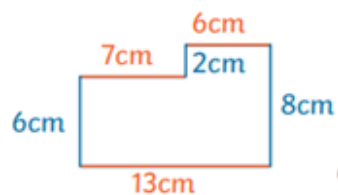
two sets of equal sides



all sides are equal

In an irregular polygon, the sides and angles are not equal.

Using Properties of Rectangles












$$6\text{cm} + 2\text{cm} = 8\text{cm}$$

$$7\text{cm} + 6\text{cm} = 13\text{cm}$$

Knowledge Organiser

Properties of 3D Shapes

| Name | Surfaces | | Edges | Vertices | Picture |
|----------------------|----------|--------|-------|----------|---|
| | Flat | Curved | | | |
| cube | 6 | 0 | 12 | 8 |  |
| cuboid | 6 | 0 | 12 | 8 |  |
| square-based pyramid | 5 | 0 | 8 | 5 |  |
| tetrahedron | 4 | 0 | 6 | 4 |  |
| triangular prism | 5 | 0 | 9 | 6 |  |
| pentagonal prism | 7 | 0 | 15 | 10 |  |
| hexagonal prism | 8 | 0 | 18 | 12 |  |
| octagonal prism | 10 | 0 | 24 | 16 |  |
| octahedron | 8 | 0 | 12 | 6 |  |

Properties of Shapes

Knowledge Organiser

Identifying Angles

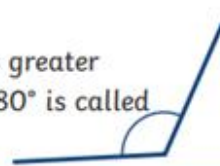
Acute Angles

Any angle that measures less than 90° is called an **acute** angle.



Obtuse Angles

Any angle that measures greater than 90° and less than 180° is called an **obtuse** angle.

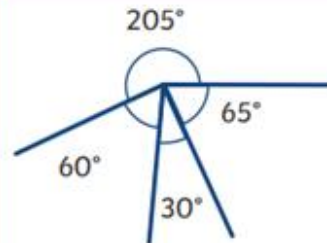


Reflex Angles

Any angle that measures greater than 180° is called a **reflex** angle.



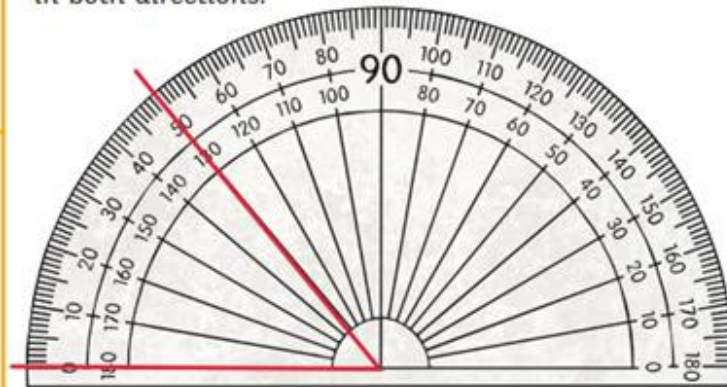
Angles on a straight line always total 180° .



Angles around a point always total 360° .

Measuring and Drawing Angles

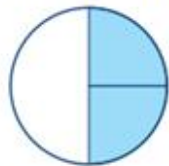
To measure angles, we use a protractor. Look carefully at how the numbers on the scale count from 0° to 180° in both directions.



Multiples of 90° can be used as descriptions of a turn.



$\frac{1}{4}$ turn = 90°



$\frac{1}{2}$ turn = 180°



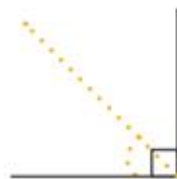
$\frac{3}{4}$ turn = 270°



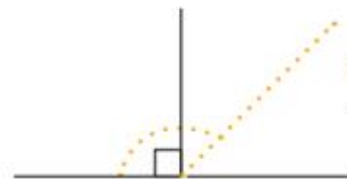
1 turn = 360°

Estimate Angles

45° is half of a 90° right angle.






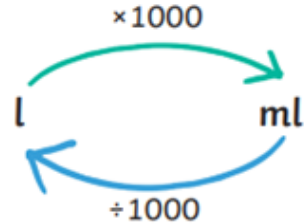
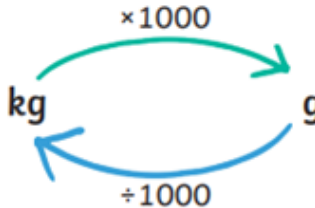
135° is halfway between a 90° right angle and a 180° straight line.



Converting Units

Knowledge Organiser

| Key Vocabulary | Converting Mass | Converting Capacity |
|----------------|--|--|
| mass |  <p> $1000g = 1kg$ $\frac{1}{10}kg = 0.1kg = 100g$ $\frac{1}{4}kg = 0.25kg = 250g$ $\frac{1}{2}kg = 0.5kg = 500g$ $\frac{3}{4}kg = 0.75kg = 750g$ </p> |  <p> $1000ml = 1\text{ litre}$ $\frac{1}{10}l = 0.1l = 100ml$ $\frac{1}{4}l = 0.25l = 250ml$ $\frac{1}{2}l = 0.5l = 500ml$ $\frac{3}{4}l = 0.75l = 750ml$ $\frac{1}{100}l = 0.01l = 10ml$ </p> |
| gram | | |
| kilogram | | |
| capacity | | |
| volume | | |
| millilitre | Converting Length | |
| centilitre |  <p> $1000m = 1km$ $100cm = 1m$ $10mm = 1cm$ $\frac{1}{10}km = 0.1km = 100m$ </p> | <p> $\frac{1}{4}km = 0.25km = 250m$ $\frac{1}{2}km = 0.5km = 500m$ $\frac{3}{4}km = 0.75km = 750m$ </p> |
| litre | | |
| millimetre | | |
| centimetre | | |
| kilometre | | |



Converting Units

Knowledge Organiser

Units of Time

Minute

1 minute = 60 seconds



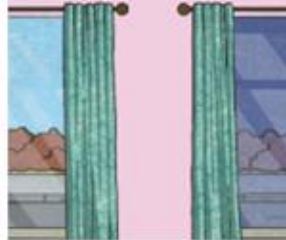
Hour

1 hour = 60 minutes



Day

1 day = 24 hours



Week

1 week = 7 days



Fortnight

1 fortnight = 2 weeks



Month

January = 31 days
February = 28 days (29 on a leap year)
March = 31 days
April = 30 days
May = 31 days
June = 30 days
July = 31 days
August = 31 days
September = 30 days
October = 31 days
November = 30 days
December = 31 days



Year

1 year =
12 months =
52 weeks =
365 days



Leap Year

1 leap year =
366 days



Decade

1 decade =
10 years



Century

1 century =
100 years



Millennium

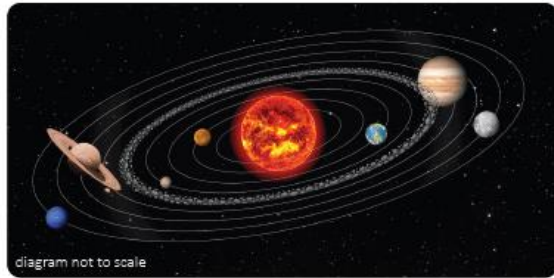
1 millennium =
1000 years



Earth and Space

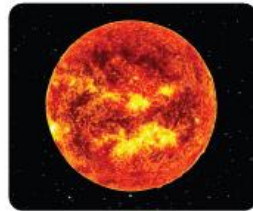
The Solar System

The Solar System consists of eight planets that orbit around the Sun.



The Sun

The Sun is a 4.5 billion-year-old star. It is a huge, hot ball of gas that rotates on its axis once every 27 Earth days. The Sun is the only source of light and heat in the Solar System. Without it, life as we know it would not exist on Earth.



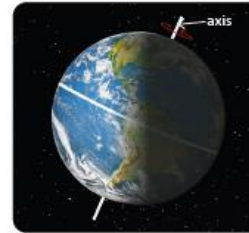
The planets

There are eight planets in the Solar System. The planets closer to the Sun (Mercury, Venus, Earth and Mars) are terrestrial planets because they are made of rock. They are hotter and have a shorter orbit and a shorter year than the planets farther away. Planets that are farther from the Sun (Jupiter, Saturn, Uranus and Neptune) are made of gas and are called gas giants. They are colder and have a larger orbit and a longer year than the closer planets.



The Earth

The Earth is the third planet from the Sun in the Solar System and is the only one to support life. The Earth rotates on an axis at a tilt of 23.5°. One rotation takes 24 hours, which is one day. The Earth orbits the Sun once every 365.25 days, which is a year.



Models of the Solar System

Geocentric model

In the past, many philosophers and scientists believed the Solar System was geocentric, meaning that the Earth was at the centre, orbited by the Sun and the other planets. The observations and common sense of Aristotle, the mathematics of Ptolemy and the scientific methods of Alhazen supported this theory. The geocentric model was accepted for 1500 years.



Aristotle,
c384–c322 BC



Claudius Ptolemy,
AD c100–c170



Alhazen,
AD c965–c1040

Heliocentric model

In the 16th century, Nicolaus Copernicus suggested the heliocentric model, with the Sun at the centre of the Solar System and the Earth and other planets orbiting around it. Even though this was an unpopular theory at the time, the observations of Galileo Galilei and the scientific laws of Sir Isaac Newton proved that the heliocentric model was correct.



Nicolaus Copernicus,
1473–1543



Galileo Galilei,
1564–1642



Sir Isaac Newton,
1643–1727

The planets and stars are spheres

Each planet and star is spherical because gravity, created by their large mass, pulls all material towards their centre and compresses it into the most compact shape, a sphere.



Beliefs about the shape of the Earth

Many ancient civilisations believed the Earth was flat and shaped like a floating disc, a cylinder or even a square. In ancient Greece, around 500 BC, the philosopher, Pythagoras, thought a sphere was the perfect shape, so the Earth must be a sphere. Aristotle proved the Earth was a sphere when he observed a ship sailing away to sea. He noticed that the bottom of the ship disappeared first and the sail last. If the Earth were flat, the whole ship would have looked gradually smaller as it sailed away.



Modern technology has provided further evidence that the Earth is spherical. For example, the famous *Earthrise* photograph was taken from the spacecraft *Apollo 8* during the crew's first orbit around the Moon.



Earthrise, 1968

Architecture over time

Prehistoric

c10,000–c2500 BC

Earth barrows were constructed for worship and burial. Stone circles, called henges, were made using natural materials.



Stonehenge, England

Ancient Egyptian

c3100–c30 BC

Enormous pyramids and temples were built from stone. A wide pyramid base supported the heavy, sloping walls.



Great Pyramid of Giza, Egypt

Classical

c850 BC–cAD 470

Decorated stone temples supported with columns were built in ancient Greece. The Romans further developed these designs, and invented concrete to add arches and domes.



Parthenon, Greece

Gothic

1100–1500

Buildings were taller, with pointed arches and larger windows. Arches of stone called flying buttresses supported thinner walls.



Notre Dame Cathedral, France

Renaissance

1400–1600

Inspired by classical architecture, private villas were built with columns, arches and domes.



Villa la Rotonda, Italy

Baroque

1600–1830

Using the domes and colonnades from the Renaissance, buildings were larger and grander with golden statues and twisted columns.



Palace of Versailles, France

Early industrial

1700–1850

The industrial revolution led to the mass production of iron and steel. These new materials gave structures added strength.



Ironbridge, England

Modernist

1920–1970

Buildings were designed for their use rather than their appearance. Glass, metal and concrete structures were more functional and plain.



De La Warr Pavilion, England

Postmodern

1960–1990

Some traditional designs were given a surprising or amusing twist. Buildings were designed to make a statement or entertain.



Dancing House, Czech Republic

Sustainable

1980–present day

Buildings are designed to reduce their environmental impact by using solar panels, environmentally friendly building materials and plants, such as grass and trees.



Bosco Verticale tower, Italy

Greek architecture

The ancient Greeks developed the Classical style of architecture. Their temples were made from limestone or marble, and columns supported the roofs.



Columns

The order of a building was determined by the style and design of the columns. Three types of columns were used in ancient Greece: Doric, Ionic and Corinthian.



Doric columns were plain and simple, with no decoration. They were wider at the bottom than at the top.



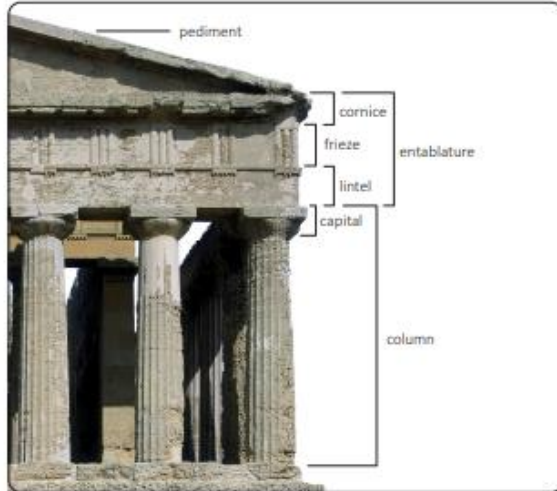
Ionic columns were thinner than Doric columns and stood on a base with scrolls decorating the capital at the top.



Corinthian columns were the most decorative, with scrolls and leaves of the acanthus plant carved around the capital at the top.

Entablature

The entablature is the wide, horizontal block above the columns. It comprises the lintel, which helps to support the roof; the frieze, which often provided decoration or a series of scenes; and the cornice, which separated the entablature from the pediment.



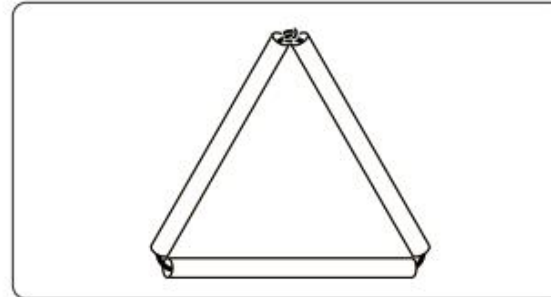
Pediment

The pediment is the triangular shape that forms the end of the roof slope. It was often decorated with sculptures.

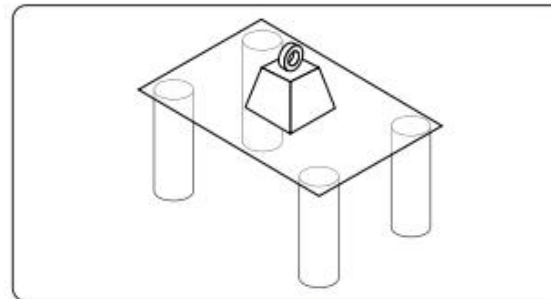


Support, stiffness and stability

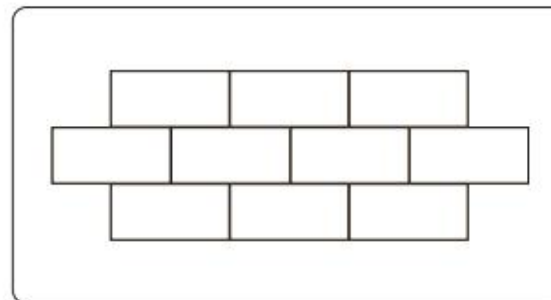
Different features are used to support a framework and increase the strength of a structure. The features below can be seen in different types of architecture.



triangular shapes



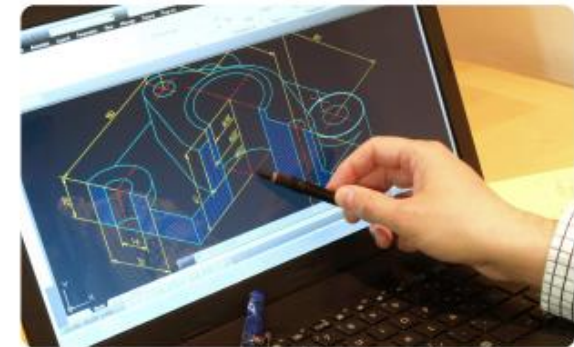
columns



overlapping brickwork patterns

Computer-aided design

Engineers and architects use computer-aided design software to help design structures and view them from all angles. Computers allow designers to make changes to structures and immediately see the effects.



Glossary

| | |
|------------------------------|---|
| barrow | A large mound of earth or stones used as an ancient burial ground. |
| capital | The top part of a column that supports the weight of the entablature. |
| colonnade | A row of columns set at regular intervals, usually supporting a roof. |
| concrete | A building material made by mixing cement, sand, small stones and water. |
| industrial revolution | A period of time when work began to be done more by machines in factories than by hand at home. |

Reading:

[Oxford Owl for School and Home](#)

<https://www.bbc.co.uk/bitesize/topics/zs44jxs/year/zhgppg8>

<https://schoolreadinglist.co.uk/category/reading-lists-for-ks2-school-pupils/>

Phonics:

<https://www.topmarks.co.uk/english-games/7-11-years/spelling-and-grammar>

[PhonicsPlay](#)

[Phase 2 Games – Letters and Sounds \(letters-and-sounds.com\)](#)

Writing:

<https://www.bbc.co.uk/bitesize/subjects/zv48a6f/year/zhgppg8>

<https://home.oxfordowl.co.uk/english/primary-writing/writing-year-5-age-9-10/>

[Spelling and Grammar, English Games for 7-11 Years - Topmarks](#)

Maths:

[Key Stage 2 Maths - Topmarks Search](#)

<https://www.timestables.co.uk/multiplication-tables-check/>

Science:

<https://www.bbc.co.uk/bitesize/subjects/z2pfb9a/year/zhgppg8>

[Home | WowScience - Science games and activities for kids](#)

<https://www.bbc.co.uk/bitesize/topics/z6wwxnb/articles/zdvhxbk>

Geography:

<https://kids.britannica.com/kids/article/agriculture/352715>

<https://www.bbc.co.uk/teach/class-clips-video/ks2-geography-food-and-farming/z9yjjsq>

Computing:

[Is my child safe online? Parent's questions answered | Barnardo's \(barnardos.org.uk\)](#)

[Parents and Carers - UK Safer Internet Centre](#)

[Parental Controls & Privacy Settings Guides | Internet Matters](#)

PSHE:

[Talk PANTS & Join Pantosaurus - The Underwear Rule | NSPCC](#)

[How to make an emergency 999 call – West Midlands Ambulance Service University NHS Foundation Trust \(wmas.nhs.uk\)](#)

PE:

[Nutrition Based Physical Activity Games - Action for Healthy Kids](#)

[Kids Active Learning & PE at Home – Think Active](#)