Year 9 Homework Booklet

Half term 4

2024

Contents

English

Year 9 English Homework Half Term 4

Week 1

Retrieval: Research the following aspects of a play and create a definition for each:

- Play
- Act
- Scene
- Playwright
- Director
- Actors
- Characters
- Stage Directions
- Monologue
- Soliloquy

Week 2+3

Create a mind map including the following areas:

- The Little Rock Nine
- Apartheid in South Africa
- The Jim Crow Laws
- The Race Relations Act 1965 (UK)
- Mahesh Upadhyaya (Look up eachother.org.uk)

Week 4

Who Is The Most Significant Character In 'Noughts And Crosses' And Why? Use the PETERC structure. There is no right or wrong answer but your answer needs to be convincing.

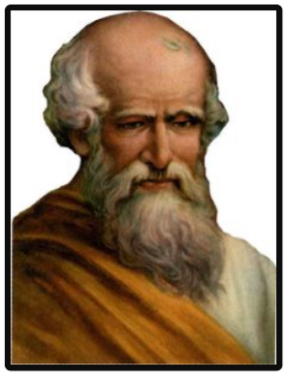
Week 5

What Is The Most Important Message In 'Noughts And Crosses?' Use the PETERC structure. Again, there is no right or wrong answer but your answer needs to be convincing.

Maths

Public

NGA Maths Homework Page



ARCHIMEDES OF SYRACUSE

(287 BCE – 212/211 BCE) was a famous mathematician and inventor who largely resided in Syracuse the Greek state of Sicily. He is well known for shouting 'EUREKA!' when creating Archimedes' principle – a hydrostatic law – found while thinking about solving a problem in a bathtub. He had been trying to solve a problem for the King - how to find out whether the King's crown was pure gold or if some silver had been added. As he got into the bath, some water splashed over the sides and this inspired Archimedes to try an experiment. He discovered that when the crown was put in a bowl of water, more water over-flowed than when the same weight of pure gold was put in. This meant that the crown could not be entirely pure gold.

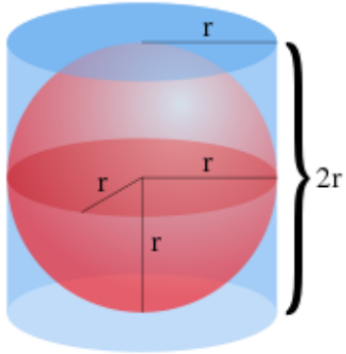
His most well-known discovery in Mathematics is finding the value of Pi (π). Pi is a constant number which is the ratio of the circumference of a circle to its diameter. Archimedes found the value of Pi which is 3.14. He also discovered two shapes (sphere and cylinder) and their measurements.

Many of the formulae we use today in geometry to work out the surface area and volumes of spheres and cylinders came from his teachings. He found that the relationship between a sphere and a cylinder of the same height and diameter. The volume of a sphere is $4/3 \times \pi \times r^3$, and $2 \times \pi \times r^3$ for the cylinder. The sphere, therefore, has a volume that is two-thirds of the cylinder built around it. This is the same for its surface area also.

Archimedes died during the siege of Syracuse, when he was killed by a Roman soldier despite orders that he should not be harmed. Cicero in his writings describes visiting his tomb, which had a sphere and a cylinder placed on top, specifically requested to be put there by Archimedes to represent his mathematical discoveries.

<u>Questions</u>

1) Which shapes did Archimedes discover in his lifetime?
2) How did he find out if the King's crown was real gold or fake without melting it down?
3) What is the value of pi (π) to 4 decimal places?
4) What is the formula for the volume of a sphere? How is this related to the volume of a cylinder of the same size and dimensions?



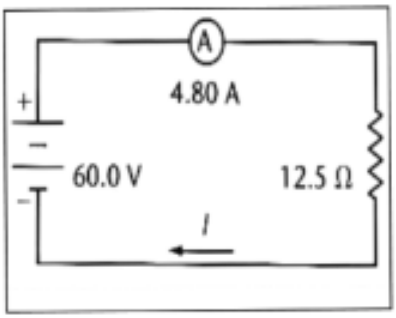
Public

Science

Electrons; the corpuscles of J.J. Thomson's achievement.

Jinny Bell tells us how current changed direction.

Benjamin Franklin was fascinated by charges; who isn't? Franklin knew that rubbing two carefully selected materials together could produce a somewhat attractive force between them and, if brought close enough together this force would discharge into a spark between the objects. There were no batteries at this time and Franklin did not have the fundamental understanding of how this came about and had to surmise that a transfer of a kind of 'electric fluid' was responsible for creating this force. Franklin imagined that there must be a plentiful supply of this fluid on one object and a deficit on the other, which directed its movement. He termed objects with 'plenty' of the fluid 'positive', and those with a deficit as 'negative'. Pioneering these new ideas, Franklin initiated 150 years of the understanding of what is now referred to as the 'conventional' current.

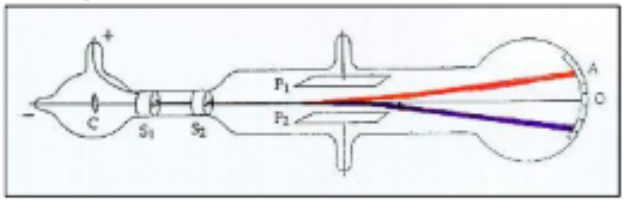


Cathode Ray Tubes

A cathode ray tube (See also 'Crookes' tubes'.) is a vessel of significantly low-pressure gas containing two electrodes, one positive and one negative, across which a large potential difference is applied. Following an electrical discharge from the electrodes, glowing streams of light can be observed between them. These streams of light were referred to as cathode rays, noting that they left the cathode (negative electrode) and travelled towards the anode. At the time, many German physicists suggested that the nature of these cathode rays was an occurrence in the ether and thought that this weightless substance pervaded all space.

Joseph John Thomson

Born in Manchester, 1856, J. J. Thomson was destined for a career in engineering. But, after the death of his father, fate found him a place at Trinity College, Cambridge. Despite being a young graduate in Mathematics, Thomson was controversially elected to replace Lord Rayleigh as Cavendish chair just four years after he began working under him in the department of physics. Thomson began to experiment with discharging electricity through gases at low pressure using cathode ray tubes.



The race against Hertz?

The 'occurrence in the ether' nature of cathode rays was supported by Heinrich Hertz' demonstration that these beams could penetrate thin foils, and this behaviour was akin to light through glass. Hertz also determined through experimentation that electric fields could not deflect this 'ether', conluding that it was not of a charged property. Thomson discovered that at too high a pressure, the as charged gas ions would neutralise the electric field that Hertz had been using to try to deflect the rays. Thomson reduced the pressure of the gas in the vessel and showed that the beams were in fact deflected by an electric field. A scale placed at the bulbous end of the vessel allowed for measurements of the deflection; the red, upper line in the diagram (above) denotes the path taken by the cathode rays when P1 is a positive charged plate. Thomson proved that negative charges were being fired from the cathode. Furthermore, applying Faraday's earlier experiments, Thomson showed that a magnetic field, applied perpendicular to both the electric field and the cathode rays, could also deflect the beam. This observation further supported the theory that negative charges were flowing along the beam.

The discovery of the electron and the plum pudding model

Thomson's claim to this discovery is based on two contributing factors: Firstly, his ability to distinguish this newly observed particle as having fundamentally different properties to known matter. Thomson measured the charge-mass ratio of this particle to be 1000 times smaller than the smallest known particle, hydrogen, using his measurements of deflection due to a measured force. Secondly, Thomson defined his newly termed particle, the 'corpuscle', as being a universal constituent of matter. He achieved this by showing that his measurements were independent of the gas used, and the metal forming the electrons. Thomson's corpuscles, electrons, were fundamental. This new understanding of fundamental matter led Thomson to suggest a plum pudding model for the atom, trying to consolidate the known properties of negative electrons, and neutral atoms. Thomson's student, Ernest Rutherford, explored further.

Spanish

The Galápagos

The Galapagos islands are in the **Pacific Ocean** about 1,000 km from the South American continent. They are made up of 19 separate islands and are closest to Ecuador.

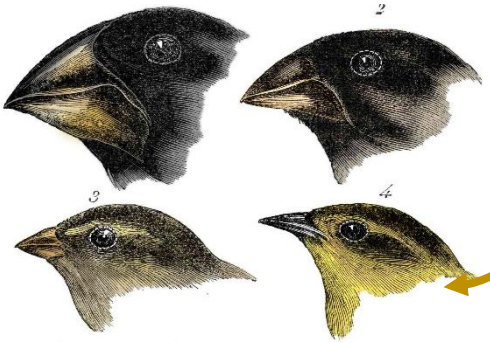
The Land Iguana

The Galapagos islands have been called a unique "living museum and showcase of evolution". This is because the islands are located where three ocean currents meet, which means the Galapagos is a "melting pot" of marine species.

Lonesome George
The Giant Tortoise

Because of the ocean currents and the fact that these islands are extremely isolated, this has led to the development of unusual animal life – for example **the Land Iguana**, the **Giant Tortoise** (both reptiles) and the many types of **Finch** (species of bird).

These diverse animals inspired Charles Darwin's theory of evolution after his visit to the island in 1835.



Finches

Galapagos tortoises can live up to 177 years!

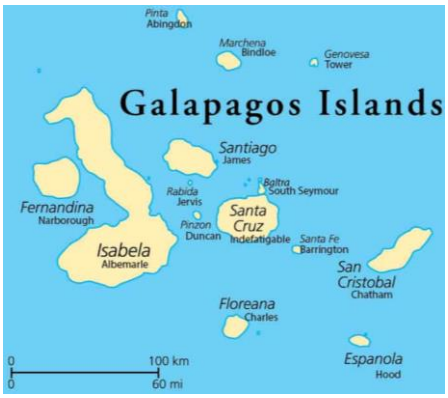
How were these islands formed you might wonder? Volcanic activity and seismic activity, like earthquakes, formed the islands millions of years ago.

The islands have a population of slightly over 25,000 and the official language of the Galapagos Islands is Spanish. Most locals are bilingual, speaking Spanish and Kichwa (also known as Quechua) a language indigenous to the Islands and the country of Peru.

The Islands were 'discovered' in 1536 by the Bishop of Panama, Tomás de Berlanga, when his ship drifted off course whilst en route to Peru. He named the islands **Las Encantadas** ("The Enchanted").

Later, in 1570 the islands were named "Insulae de Galapagos". The shells of the thousands of giant tortoises found there reminded the visitors of horse saddles.

If you are lucky enough to visit the Galapagos islands, here are some activities you can do; snorkelling to see the magnificent coral reefs, panga (dinghy) rides and finally go to the Charles Darwin Research Station to learn about Galapagos Conversation.



*1.**How** many people live in the Galapagos Islands?*

_____

*2.**Why** are they called the "Galapagos" Islands?*

_____

_____

*3.In **what year** were the Islands 'discovered' and **how** many are there?*

_____

*4.If you went to the Galapagos, **which** activity would you like to do? Explain why.*

_____

_____

*5.**Why** have the Galapagos Islands been called "unique"? Explain in your own words.*

_____

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https://www.youtube.com/watch?v=R2x4AXoUBzs

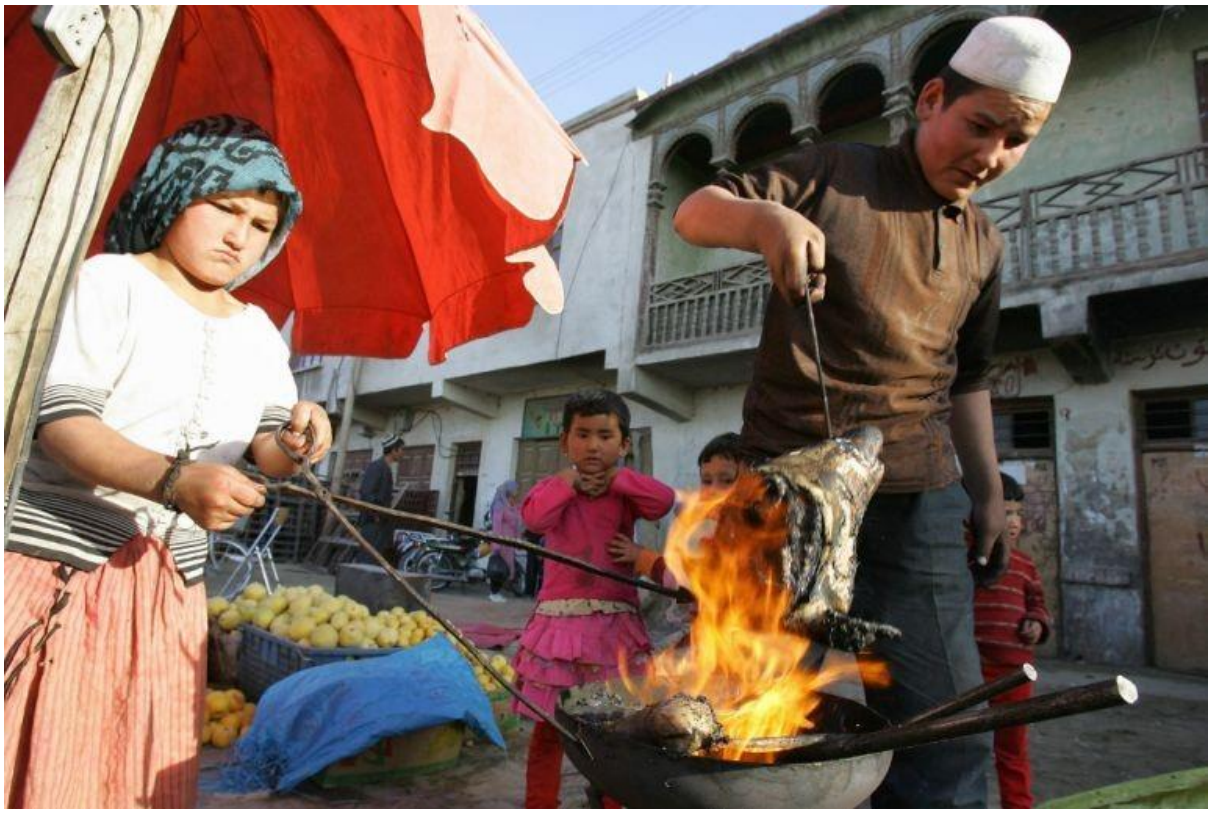
Geography

What you should know about China's minority Uighurs

China's treatment of the largely Muslim ethnic group from Xinjiang has become a source of international tension with Beijing, which insists it is tackling extremism, accused of genocide.

In the late summer of 2018, the United Nations revealed that at least a million Uighurs had been detained in "counter-extremism centres" in China's Xinjiang province, thrusting the treatment of a once-obscure mostly Muslim ethnic group into the spotlight.

The report also revealed that a further two million Uighurs had been "forced into so-called re-education camps for political and cultural indoctrination" beginning in the middle of 2017. Other reports put the figure at one million.



The detentions, forcible training as well as alleged abuses inside enclosed government facilities were later described by the United States and many international human rights groups as a form of genocide constituting "crimes against humanity".

China has rejected the allegations, saying its policies towards the Uighurs and other Muslim minorities living in its far western region, are necessary to "fight extremism" and to promote upward economic mobility for the impoverished ethnic groups.

But secret documents have revealed a “deliberate strategy” to lock up ethnic minorities and erase their language and way of life.

The Uighurs (also spelled as Uyghurs) are an ethnic minority group mostly living in the Xinjiang autonomous region of the People’s Republic of China.

The Uighurs are predominantly Muslims. They have been practising Islam for centuries, tracing their religious influence to the Karakhanid, a Turkic fiefdom that ruled Central Asia from the 9th to the 13th century. In previous centuries, Uighurs followed other religions including Zoroastrianism and Buddhism.

According to official Chinese records, there are 12 million Uighurs, representing almost half the population in Xinjiang. A recent report published in Xinhua news agency quoted China’s top diplomat, Wang Yi, as saying that the population increased from 5.5 million to 12 million in the last 40 years.

Most Uighurs in China live in the region called Xinjiang, a Chinese term to mean “new frontier” or “borderland”.

Beijing insists it has an ancient claim to Xinjiang – dating back to 206BC – and considers it an “inseparable part of the Chinese nation”.

Uighurs disagree, saying that borders in the region have been drawn and redrawn for centuries, depending on the dominant power, including the Mongols and the Turkic Karakhanid. Overseas Uighurs also say that their religion, language and cultural practices clearly distinguish Xinjiang from the rest of China.

History

Kitty Hart-Moxon OBE

Kitty was born in Bielsko close to the Polish-German-Czech frontiers in 1926.

Following the German invasion of Poland, Kitty's father decided to flee eastwards to the city of Lublin. However, the city was soon occupied by the Germans and its Jewish population was subjected to rapidly increasing persecution, culminating in the creation of a ghetto.

Kitty's father realised it was essential to escape from the ghetto before it was sealed off and with the help of a priest they obtained non-Jewish documents. Posing as Polish forced labourers Kitty and her mother, who had to separate from the rest of the family, were transported into Germany. They were working in the IG Farben industrial concern in Bitterfeld when in early 1943 they were betrayed. Kitty and her mother were imprisoned and sentenced to death, but their sentence was later commuted to imprisonment in Auschwitz-Birkenau. They arrived in Auschwitz on 2nd April 1943.

In her second year in Auschwitz-Birkenau, Kitty was forced to work for 8 months in the Kanada Kommando, a work group that had to sort the belongings of the camp's victims. The Kanada complex where Kitty worked was situated very close to the four gas chambers and crematoria. This close proximity meant that Kitty was a witness from April 1944 to November 1944 to the relentless killing that took place. This was the period in which the greatest numbers of victims were murdered.

On 11th November 1944 Kitty and her mother were evacuated to a sub-camp of Gross-Rosen, near Wrocław, to work in an electronics factory. This camp was evacuated on 18th February 1945 and prisoners were forced on a death march which took them over the Sudeten mountain

range into Czechoslovakia. Thousands of women died during the two-week march, exposed to freezing temperatures, deep snow and without food or shelter. In Czechoslovakia they were forced into open coal trucks. The train took eight days to reach the next destination, Porta Westfalica, in north-west Germany. There, Kitty and her mother had to work in an underground Philips factory.

In spring 1945 Kitty and her mother were sent to Bergen-Belsen, but then marched back to a siding and pushed into a cattle truck and the doors sealed. The train moved eastwards and eventually stopped outside the town of Salzwedel where it was abandoned and the people inside left to die. Hours later one truck where Kitty was with her mother was opened but many women had suffocated because of lack of air. The few alive were taken to a nearby camp outside the town. The camp was liberated by American forces on 14th April 1945.

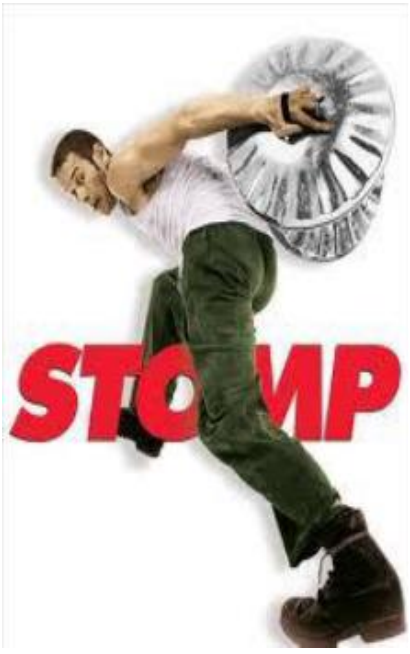
Kitty and her mother were the only survivors of their family. Kitty's father had been murdered; her brother killed in action at Stalingrad and 30 members of her family perished in Auschwitz-Birkenau. In 1946 Kitty and her mother received permits to settle in the UK, where their only remaining relatives had been living. They found this a hard period of readjustment; it was felt that nobody would listen and help them to deal with their past. From the time of liberation Kitty felt it was her duty, having witnessed and experienced the horrors of war, to speak out about her past and warn of the consequences of intolerance, racism and hatred.

For many years Kitty has been speaking in schools, universities, colleges and to the general public, in the UK and abroad, as well as on radio and television. She has written two books – *I Am Alive* and *Return to Auschwitz* – and made the films *Return To Auschwitz*, where a camera crew accompanied her on her first return to the camp, *Death March: A Survivor's Story*, documenting the last 6 months of the war, and *Another Journey By Train*, where she met four Neo-Nazis at Birkenau.

Performing Arts

STOMP

What does the word STOMP make you think of?
Music, Dance, Theatre, Choreography or Performance Art?
All of the above! Or is it none of the above.
Well, both are sort of right...In a way.
Confused? read on...STOMP is a movement,
of bodies, objects, sounds - even abstract ideas.
But what makes it so appealing is that the cast
uses everyday objects, but in non-traditional ways.



There's no speech, no singing, but it is meticulously planned. So why go and see STOMP? Well, have you ever composed a piece using only matchboxes as instruments? Or created a dance routine based around sweeping? Well, get a group of rhythmically gifted, extremely co-ordinated bodies with strong personalities, and you have the makings for STOMP. It originated on the streets of Brighton, England. Luke Cresswell and Steve McNicholas, the creators of STOMP, were a group of street performers commonly known as "buskers". They perform for the public passing by, hoping for money often thrown into a hat or case. Busking is an old custom in the UK, often seen at village fairs in the Middle Ages.

STOMP! use rhythms in their music, but in a very clever way – they start off with one rhythm and repeat it over and over (called an **OSTINATO** meaning a repeated musical pattern). They then overlap this with another ostinato, then another, then another increasing the musical **TEXTURE**. The technique of layering multiple rhythms originates in African music and is referred to as **POLYRHYTHMS**. Sometimes they stop all the ostinatos and play the same rhythm together in **UNISON** to form a musical **CONTRAST**.

Questions:

1. Give a brief explanation of what STOMP is.

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_____

_____

2. What 5 art forms do STOMP! combine in their performance?

_____

_____

3. What is a “busker”? What are its’ origins?

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4. Pick 1 of the 5 key words (in bold) and describe what it means.

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PE

Year 9 components of fitness

Fitness is a crucial aspect in the realm of sports, and different sports require a diverse set of components to excel. These components collectively contribute to an athlete's overall performance, endurance, and skill in their respective disciplines. The components of fitness can be broadly categorized into cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition.

Cardiovascular endurance is essential in sports that demand sustained effort over an extended period, such as long-distance running, cycling, and swimming. Athletes need efficient heart and lung function to supply oxygen to working muscles, enabling them to maintain a high level of activity without fatigue.

Muscular strength is vital in sports that involve explosive movements or heavy resistance, like weightlifting, shot put, or football. Powerful, forceful contractions of muscles are necessary for actions such as sprinting, jumping, or throwing.

Muscular endurance is crucial in sports that require repetitive muscle contractions without fatigue, such as rowing, wrestling, or cycling. Endurance allows athletes to sustain effort throughout the duration of a match, race, or game.

Flexibility is vital across various sports to ensure a full range of motion in joints, reducing the risk of injury. Gymnastics, dance, and martial arts are examples of sports where flexibility plays a significant role in achieving optimal performance.

Body composition is the proportion of lean body mass to fat mass and is crucial in sports where weight categories are relevant, such as wrestling, boxing, or mixed martial arts. Maintaining an ideal body composition enhances an athlete's power-to-weight ratio and overall performance.

Different sports prioritize these components differently, emphasizing specific aspects based on the nature of the activity. Athletes often engage in sport-specific training programs that target the components of fitness relevant to their discipline, ultimately contributing to their success in their chosen sport.

1. Sprint Running (Cardiovascular Endurance, Muscular Strength): Sprinters need cardiovascular endurance to maintain speed throughout the race and muscular strength for explosive starts and powerful strides.
2. Soccer (Cardiovascular Endurance, Muscular Endurance, Agility): Soccer players require cardiovascular endurance for continuous running, muscular endurance for repeated sprints and challenges, and agility for quick changes in direction.
3. Basketball (Cardiovascular Endurance, Jumping Power, Agility): Basketball players need cardiovascular endurance for the fast-paced game, jumping power for rebounds and shots, and agility for quick movements on the court.
4. Swimming (Cardiovascular Endurance, Muscular Endurance): Swimmers rely on cardiovascular endurance for sustained effort in the water and muscular endurance for repetitive strokes.
5. Gymnastics (Flexibility, Muscular Strength, Balance): Gymnasts need flexibility for intricate routines, muscular strength for dynamic movements, and balance for precision in execution.
6. Weightlifting (Muscular Strength, Power): Weightlifters require muscular strength for lifting heavy loads and power for explosive movements during lifts.
7. Rock Climbing (Strength, Endurance, Flexibility): Climbers need upper body strength, endurance for sustained climbs, and flexibility for reaching and stretching on the rock face.

8. Tennis (Cardiovascular Endurance, Agility, Coordination): Tennis players use cardiovascular endurance for rallies, agility for quick movements on the court, and coordination for accurate shots.
9. Cycling (Cardiovascular Endurance, Leg Strength): Cyclists rely on cardiovascular endurance for long rides and leg strength for powerful pedaling.
10. Martial Arts (Agility, Flexibility, Muscular Endurance): Martial artists need agility for quick defensive moves, flexibility for kicks and strikes, and muscular endurance for sustained effort during sparring.
11. These examples illustrate how various sports demand a combination of different fitness components, highlighting the importance of a well-rounded training program to excel in specific athletic pursuits.

Questions:

How does cardiovascular endurance contribute to the success of sprinters in maintaining speed throughout a race, and what role does muscular strength play in their performance?

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_____
_____
_____

In what ways do soccer players utilize cardiovascular endurance, muscular endurance, and agility during a match, and how do these components collectively enhance their abilities on the field?

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Explain the significance of flexibility, muscular strength, and balance in the context of gymnastics, and how do these skills contribute to the precision and execution of gymnastic routines?

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Computing

Year 9 – The History of Databases

Databases are a foundational element of the modern world. We interact with them even without knowing it — any time we buy something online, or log in to a service, or access our bank accounts, and so on.

The concept of a database existed long before computers. In these times, data was stored in journals, in libraries, and in hundreds of filing cabinets. Everything was recorded via paper — and that meant it took up space, was hard to find, and difficult to back up. And then computers became available, and with them, the opportunity for better data management.

The history of databases begins with the two earliest computerised examples. Charles Bachman designed the first computerised database in the early 1960s. This first database was known as the Integrated Data Store, or IDS. This was shortly followed by the Information Management System, a database created by IBM. Both databases were forerunners of the 'navigational database'.

Navigational databases required users to navigate through the entire database to find the information they wanted. There were two main models of this: the hierarchical model, and the network model. The hierarchical model was developed by IBM. In it, data is organised like a family tree. Each data entry has a parent record, starting with a root record.

Perhaps one of the most influential events in the history of databases came in the 1970s. It was in this decade that E. F. Codd would release his paper "A Relational Model of Data for Large Shared Data Banks". This paper coined the term 'relational database' at the start of the decade, and sparked development of this new way to store and access data.

A relational database is one that shows the relationship between different data records. Unlike their navigational counterparts, relational databases would be searchable. They would also be more space-efficient, meaning reduced data storage costs.

IBM then released their take on a relational database. Known as System R, it was the first in the history of databases to use structured query language (SQL). The 1980s also saw SQL become the standard language used for databases, which we still use today.

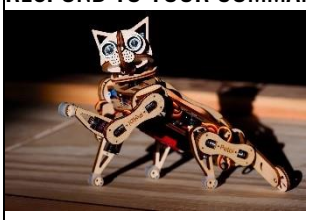
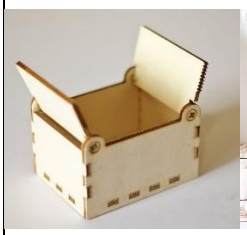
Another key event impacting the history of databases happened in the 90s with the creation of the World Wide Web. High investments in online businesses fuelled demand for client-server database systems. As such, the internet helped to power massive growth of the database industry.

Creative Arts

CREATIVE ARTS

SUBJECT	HOMEWORK 1	HOMEWORK 2
GRAPHICS	Read the article below and answer the questions on the page.  **In 2017 Billy Monger was involved in a collision during a Formula Four race at Donnington Park. As a result, both his legs were amputated but he has continued to compete in the Formula 3 based Euroformula Open championship in adapted cars.** My recovery was public, it wasn't something that I'd ever planned for. I woke up from an induced coma and because it was on TV a lot of people had an interest in my recovery. I had good support from the motorsport community which was fundamentally a nice thing to have. As much as other people came on this journey with me, it was always me kind of trying to lead the way in terms of how I've approached it and how I wanted to do it. My involvement in racing, in terms of developing hand controls that I've used in the race car, obviously that has some opportunity to benefit people outside of motorsport but I'd say in general, it's all down to sponsorship. If the costs were lower, I'm sure there would be more incentive for people to improve the technology that people are using. Channel 4 were keen to have me involved in the Paralympics in some way and I've met a few Paralympians during my recovery, so it was	Read the article below and answer the questions on the page. Research and analysis **UK Disability Survey research report, June 2021** Updated 20 September 2021 **Accessing the built environment** **54% of disabled** people reported that they either own their home outright, were buying with the help of a mortgage, or part owned and part rented (shared ownership). This figure fell to 51% for disabled respondents aged 16 to 64 but remained greater than the proportion of owner occupiers in the disabled population of the UK aged 16 to 64 (40.9%). **53% of disabled** people said that their home met their needs to live independently 'completely' or 'to a large extent'. This highlights that many disabled people are still living in homes which do not comprehensively meet their needs to live independently. 47% of disabled people reported that it required at least 'some effort' getting in and out of where they live. **34% of disabled** people had to make 'a lot' or 'a moderate amount' of adjustments to their home over the past 5 years to support independent living and these changes were most frequently self-funded (58%) or paid for by contributions from family or friends (12%). Only 16% of disabled people who had made adjustments received funding to pay for their adjustments, and 61% said that more adjustments are required to meet their needs. **31% of disabled** people had difficulty using public spaces 'all the time' or 'often'. Similarly, 28% had difficulty accessing public buildings 'all the time' or 'often'.

	basically me meeting Paralympic athletes and throwing myself into their sports – and getting blown out of the water! I wanted to highlight how incredible Paralympic athletes are and that they're not just 'Paralympic' athletes, they're athletes fundamentally; they do exactly the same training and hours as any Olympian would. Paralympians maybe don't get their fair share of credit that their hard work deserves; the documentary is about highlighting them. Usain Bolt does 100m in nine and a half seconds, but it's hard to look at a Paralympian running it in 12 seconds and understand how impressive that is. I basically said to myself in this kind of documentary you're going to be playing the role of being the average Joe who's not anywhere as fit as a Paralympian. People at home can watch it and understand how impressive what these guys and girls do. 1.Where did Billy find a lot of support in the early days? 2.What makes Billy Monger so special? 3.Where did Billy have his accident? 4.What is Billy is doing for Channel 4?	Of those who had reported having difficulty accessing public buildings at least 'sometimes', the buildings respondents had most frequently been unable to access or had extreme difficulty accessing were shops and shopping centres (78%), and pubs, bars, restaurants, and cafes (66%) highlighting the need to make these venues more accessible and gather high quality data on their accessibility. 46% were unable to access or had extreme difficulty accessing medical facilities. 1.What did 47% of people report in the survey? 2.66% of people had difficulty accessing which facilities? 3.In what ways could 54% of disabled people afford to own their homes? 4.In the last paragraph, what do you find most surprising?

D & T	LOVED SOX IN 'LIGHTYEAR'? WELL, THIS REMOTE-CONTROLLED ROBOT CAT CAN RESPOND TO YOUR COMMANDS TOO!  Designed to be a robot that you can build, play, and explore with, Nybble comes with a laser-cut plywood body that you must put together first. The entire process takes about 4 hours including the assembly, software and calibration configuration time, and once you're done, Nybble is ready to play with! Nybble's architecture makes it a rather nimble, flexible little cat, as it borrows bionic concepts from a cat's skeleton. The robot cat comes outfitted with two ultrasonic sensors on its front that act as the robot's "eyes". It sports a USB input that lets you connect it to a device to tinker around with its open-source code and teach it new tricks (in Python, C++ or a graphical user interface via the Petoi desktop app), and even comes with Bluetooth and WiFi dongles as well as an infrared remote controller. Other parts include a holder for two 14500 Li-ion rechargeable 3.7V batteries that give Nybble up to 45 minutes of play-time, and even silicone covers for the cat's feet, to give it friction as well as prevent it from accidentally scratching your furniture! While Nybble can't do as much as Sox can in the movie, it's definitely a step in the right direction given that it's one of the few robot cats that have such flexible movements (the official Sox plush toy can't move). However, just like the Pixar feline, Nybble too is a personal companion robot capable of delighting you with its antics. It can be trained via its	**Product Analysis** **Choose one of the following products.**      

	open-source programmable API, and even physically modified to give it a different character or unique abilities. The cat is highly extensible with support for Raspberry Pi and Arduino ecosystems to make your robot cat even more advanced! A perfect toy for youngsters, animal/animation lovers, or anyone with an inclination toward coding and robot-building. Answer the following questions. 1. what are the benefits to having this robot instead of a real cat? 2. Who is this robo cat aimed at? 3. What materials is it made of?	 **Answer the following questions here** 1. Describe the product 2. What materials do you think are used? 3. What do you like about it? 4. What could be improved about the product? 5. Who is this product aimed at? Why do you think this?
TEXTILES	https://www.japancrafts.co.uk/sashiko.html#/ Read this article about the ancient Japanese technique of Sashiko.	

	Write a short paragraph about the technique. Include answers to these questions and any other information you find interesting. How old is the Art of Sashiko embroidery? Why did people use this technique? What fabric was traditionally used? What dye was traditionally used and why? Why did this style of embroidery fall out of fashion? Upload your writing to Teams Assignments.

If you want to find out more about CREATIVE CAREERS
https://www.bbc.co.uk/bitesize/articles/zfrq92p

MY FAVOURITE DISH

Khagina, or spicy scrambled eggs, are delicious with comforting chickpea curry and spiced potatoes

SUMAYYA USMANI'S SINDHI KARRI

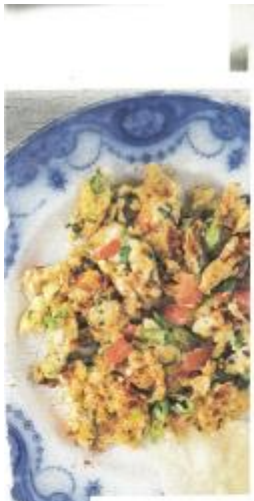
I like to buy whole spices, and grind them at home

"I felt this need to speak about and identify Pakistani food"

In this series, we're celebrating the world's best comfort food by asking chefs and food writers to share the dishes they love from their backgrounds. Here, food writer and cookery teacher Sumayya Usmani shares hers

as told to TONY NAYLOR

When Sumayya Usmani arrived in London in 2005, she felt she couldn't get a real Pakistani dish in any restaurant. The Karachi-born lawyer was stung by that absence. 'I felt this need to speak about and identify Pakistani food,' says Sumayya, who began to write, teach, and – in books such as her 2016 cookbook *Summers Under The Tamarind Tree* – demystify Pakistani cuisine for a Western audience. Not that this contributor to The Kitchen Café on BBC Radio Scotland is solely focused on South Asian cooking. After quitting the legal profession, Sumayya moved to Glasgow ('my second home'), where she runs Kaleyard, a non-profit cookery school that offers commercial classes to fund



My Nani and Nana (maternal grandparents)

You can't miss the aroma of railway mutton curry at the platforms of Karachi Cantonment station

Dressed up ready for Eid with my Nani in her wonderful garden

lessons for disadvantaged groups. 'I wanted Kaleyard to celebrate Glasgow's multi-ethnicity and sense of community.

'My dad is a lawyer, but unlike many privileged Pakistanis, we didn't have a cook. Mum loved cooking, and often did it with my gran, who lived next door. On dad's side, his mum was "head chef" to five aunts who cooked every meal from scratch. Every woman in the family cooked beautifully, and loved that kitchen togetherness. One entertainment absolutely embedded in the Pakistani lifestyle is feeding masses of family. There's no eating for two – it's always fifteen!

'I learned to cook not from recipes, but vicariously. You grow up in the kitchen making chapattis or sauces, and by watching, hearing and tasting, you learn without realising. In Urdu, "andaza" means "cooking from your senses". It's about trusting yourself and what you like, recreating the memory of a flavour by taste, touch and feel. That cooking by estimation is hard to teach, but Pakistani cooking is

'India and Pakis
We were one nati

Sumayya Usmani is the author of Summers Under the Tamarind Tree (£25, Frances Lincoln) and Mountain Berries and Desert Spice (£20, Frances Lincoln). She's also the founder of Kaleyard cook school, where she is the

has specific, different layers. For instance, when partition happened, a lot of Indian Muslims migrated into Pakistan and brought a rich, regal, and spice-heavy cuisine with them. Pakistan also has border cuisines that have been influenced by Afghanistan, Iran and central Asia, and centuries-old cuisines in regions such as Sindh, where I'm from. That amalgamation is distinct.

'Growing up, I have real memories of eating firni, a cardamom-and-saffron-scented ground rice pudding, as well as parathas made with mum's divine nutty ghee and stuffed with minced beef, potato or mooli. Yogurt-based karri (a traditional curry) made for a relaxed, chilled Sunday lunch, was a staple eaten as soup or with rice, often using leftovers. There would always be a little earthy dried turmeric, a bit of yogurt and something at the base of our vegetable box to use up. The recipe for karri changes regionally, but in Sindh, we use carrots, onions and peas, then temper it with aromatic curry leaves, mustard seeds and cumin. Mum also included boiled eggs that had been halved, then fried in oil before being dropped into the karri.

'Originally, karri was made using older, slightly sourer

h made it

Public

Year 9 Food Term 1 homework.
Read this article that is in 2 parts. Answer the questions.


MY FAVOURITE DISH

SUMAYYA USMANI'S

SINDHI KARRI

In this series, we're celebrating the world's best comfort food by asking chefs and food writers to share the dishes they love from their backgrounds. Here, food writer and cookery teacher Sumayya Usmani shares hers

I felt this

as told to TONY NAYLOR

There will be a forms quiz on teams that you need to access with the questions on.

You will be told when to complete this task.

Questions:

1. What is/was Sumayya's occupation/job?
2. How did Sumayya learn to cook?
3. What sort of food, meals did she eat growing up?
4. Which countries cuisine influenced her cooking?

ART: KS3 HW

https://www.bbc.co.uk/bitesize/articles/z7thd6f

Meet Tegan, 24, from Wiltshire. She works in London as an architectural apprentice for Gensler, a design and architecture firm.

What is your job?
Architecture is all about **designing buildings**. I do a lot! My job involves figuring out the needs of the client, how we translate that into design and then translating it back to the client. Sometimes I make **site models** for clients, and other times I might be sitting at the computer doing **3D models**, or **2D plans** and **hand sketches**.

What skills do you use in your work?
Knowing how to talk to **communicate** with people in the right way is very important. **Research** is also crucial because it informs the rest of your design decisions. **Time management** is critical because I've had to learn to juggle my coursework at uni, my job here at the office and my disabilities (arthritis and chronic migraines). Also, **presentation skills** – I had to do a big presentation for university recently.

What subjects did you study?
At GCSEs I did **Design & Technology**, and at **A-level I did History, Maths, Physics and Chemistry** (I dropped Chemistry). I got my A-levels and then went to university, but half way through my second year I got quite seriously ill, so I had to pause my studies. Instead of staying in bed recovering, I did an **Art A-level**. After getting back on my feet I finished my degree and now I'm doing my **masters degree**! My illness has left me with some long-term health issues but it hasn't stopped me achieving or doing the job I love.

What subjects do you draw on?
History and **Art** have been the most useful of the A-levels that I've done.

How did you get into your job?
My **lecturer** in my third year of uni **told me about the apprenticeship**, and I was attracted to the fact that this is such a huge firm, so there's worldwide opportunities to move, a wealth of knowledge and a research institute.

Was it a smooth ride?

No! When I started uni, if someone had told me what would happen with **my health** over the next six years, I wouldn't have believed them! I feel like there's good in it happening, because it's changed my perspective on what I'm doing and how I'm going to approach it. It's **made me far more sympathetic to the accessibility issues in architecture.**

Top tips

- I asked my teachers what A-levels they would recommend, but I wish I'd done a little bit more of my **own research**
- **Question everything** and start delving into topics and explore them – figure out what it is you like
- **Look after your health**. When you're at your healthiest you're performing your best.

After completing your education and training, there are many careers open to architects, for example designing new buildings and the spaces around them, and working on the restoration and conservation of existing buildings.

What to expect if you want to be an architect

- **Architect average salary**: £27,500 to £90,000 per year
- **Architect typical working hours**: 35 to 40 hours per week

What qualifications do you need to be an architect?

You could get into this role via a university course, an apprenticeship or working towards the role.

ANSWER THE FOLLOWING QUESTIONS

https://forms.office.com/Pages/DesignPageV2.aspx?origin=NeoPortalPage&subpage=design&id=WnSRoNi3ek2yphNZBT1FECFv4HeDi3pLoWrqdE0O0dhUQTc0SDJRODMxREhWUVU5NjVTTjJBMUVGRy4u

What does Tegan go to help show her clients her design ideas?

Tegan says the following skills are most useful: Communication; Research; Time management and Presentation skills. Choose the one YOU think is most important and say why?

Tegan studied History, Maths, Physics and Art at A Level. Which did she find most useful for her career as an Architect?

What company is Tegan doing her Architecture Apprenticeship with?

Tegan has given 'Three Top Tips'. Which one is the most important for you?

RE

Introduction to Christianity

KEYWORDS

Sin = a wrong action that breaks one of God's laws e.g. stealing or murder.

Conscience = a person's inner sense of right and wrong.

Messiah= someone sent by God that would save the people from the wrong things they had done

Sin = Thoughts of actions which go against God

Forgiveness = A choice to stop blaming someone for doing wrong

Parable = A story with a message, told to teach a lesson

The Creation = the Bible story that tells how God got created (made) the world in 6 days.

Disciple = a follower of Jesus

TRINITY

Tri + unity = trinity

The Bible presents God as a Holy Trinity: one God but having three parts: the Father, Son and Holy Spirit.

Christians feel that belief in the Trinity helps them to understand the different ways that God has shown his presence in the world:

- **God the Father** helps to understand the power and creativity of God and his care for the world. It shows that God creates human life and then looks after it, and cares for it like a father does. Christians can turn to God as they would to a human father when they are in need.
- **God the Son** helps Christians to understand the love of God, and shows them how to live a good life. In his life and teachings, Jesus showed God's love by helping others. In his death he showed how much God loves the world.
- **The Holy Spirit** helps Christians to understand the presence of God in the world today. Christians believe that the Holy Spirit is the means by which God communicates with humans, revealing God's presence in the world.

THE FALL

God had created a world that was perfect.

The Fall is the story of when **Adam and Eve disobeyed God** by eating the **forbidden fruit** in the **Garden of Eden**.

They had been told never to eat from that one tree, but Eve was **tempted** by the Devil, disguised as a serpent, and she then passed it on to Adam.

God asked them about it and gave them a chance to tell the truth, but they both blamed each other instead. God punished them by kicking them out of Eden, and giving punishments that would be for all humans for all time.

This is important to Christians because... it teaches them where evil came from, and that all our actions have consequences.

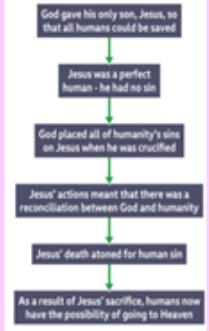
SALVATION

Christians believe that **Jesus** is their **saviour** because he came to Earth to save humankind from sin and mend their broken relationship with God.

Christians believe that when Jesus died on the cross, he was **sacrificed** for the sins of humankind. This allows humans to be reunited with God after death in **Heaven**. This is called **salvation**.

Jesus is often referred to as the 'Lamb of God'. This is because like a lamb, which would traditionally have been sacrificed, he died to make up for the sins of humanity.

Christians believe that Jesus' death and **resurrection** restored the relationship between God and humankind that had been broken by **original sin**.



COMMUNION

Communion is a special ritual that Christians do to remember the Last Supper; the final meal that Jesus had with his disciples the night before he was killed.

Jesus shared two signs with his followers: **bread** as a symbol for his body being broken, and **wine** as a symbol for his blood being spilled when he was crucified. He told his disciples to eat bread and drink wine to remember him.

The word Communion means, simply, 'togetherness' and this is a ritual to show the togetherness of Christians and God.

QUESTIONS

1. How many Gods to Christians believe in?

2. What happened at the Fall?

3. What is a Messiah?

4. What is Communion and why is it important?