The Dr Sergis Academy

NEWSLETTER

2021-23 Issue 10

‘Education is our Motivation and Learning is your Inspiration’.

The Dr Sergis Academy at the Cyprus Wine Festival 2022

IN THIS ISSUE…

Dr Sergis receiving the Governor's Award from the Mayor, 2014

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A HELLO FROM THE DIRECTOR, DR SERGIS…

I'd like to welcome you to our latest bumper issue of our popular newsletter, highlighting all the exciting and interesting events of the Academy over the last two years! I am also proud to say that all our students managed to pass their exams with excellent grades, including those who sat the exams at the Academy, and that we continue to obtain great Google reviews and testimonials from both students and satisfied parents. I'd now like to say a few words about my background and experience as a teacher and tutor at the Academy, to assure you as parents and/or students of my commitment and dedication in helping you or your children achieve the best in your abilities and obtain the best grades for your chosen subjects.

As a Senior Tutor, teacher and Director of the Academy, I am well qualified and have a wealth of both academic and professional experience to offer students who wish to succeed in excelling in their science, maths and English examinations at all levels of the curriculum. I have taught chemistry, physics, biology, mathematics and English to students of all ages across all examination boards for over 30 years, helping those students do very well in their examinations and to achieve their aspirations and chosen careers. I have been teaching these subjects from elementary, KS2, KS3 and GCSE, A-Level and also at degree level in the case of chemistry and mathematics.

I was a school govenor for 11 years from 2003 to 2014, helping to improve the literacy, numeracy and the science curriculum of three major schools in Enfield. During my period as a School Governor, I also helped to establish and name a new primary school, Keys Meadow, that was officially opened by the late Queen Elizabeth II on 15th October 2003. For my 11 years service in improving the curriculum of schools in Enfield, including Enfield County and Cuckoo Hall Schools, I was awarded a Certificate of Appreciation by the Mayor of Enfield in 2014.

I was also a lecturer at the universities of Greenwich and Westminster, where I taught the BSc degree chemistry courses. I started my research career at King's College Hospital working on methods of reducing rheumatoid arthritis, a debilitating disease afflicting mainly elderly people, resulting in inflamed and painful joints. I was awarded a PhD at the University of Greenwich for my work on the development of novel methods for making potentially important fluorocarbon compounds, such as artificial blood and ozone-friendly aromatic compounds. As a Post-Doctoral Research Fellow, I worked on designing new methods of making potentially important therapeutic compounds and I developed important industrial polymers when I was sponsored by British Petroleum (BP). As a Senior Research Officer at Hammersmith Hospital, I designed new drugs against colon cancer. This

involved my developing new drugs that inhibit the cancer cells and then radiolabelling them with radioactive tracers to examine whether they reach the target cancer cells by placing patients administered with the drug in a positron-emission tomographic (PET) scanner.

Furthermore, I taught at a wide range of primary and secondary schools and colleges in London and outside London and helped to improve their science and maths curriculum. I opened the Academy in 2013 and since then it has helped to improve the grades of many students from a wide range of schools in the borough of Enfield, as well as schools and colleges outside the borough, including West Thames College, St Ignatius' College, Enfield Grammar, Enfield County, St Anne's, Edmonton County, Bullsmoor and Kingsmead Schools.

I always endeavor to inspire my students and give them the benefit of my wide experience in teaching and research. My teaching strategy involves helping students how to reason from the fundamentals when solving problems and the importance of using logical deduction in helping them to understand the fundamentals of their subjects. My teaching methods have proved very successful and helped me to establish a good reputation throughout the borough of Enfield and outside the borough. Consequently, teachers and head teachers of secondary schools have recommended me to parents and students. I am also proud to say that the Academy has been an approved examination centre for the past 5 years and continues to help students achieve excellent grades in both their GCSE and A-Level subjects.

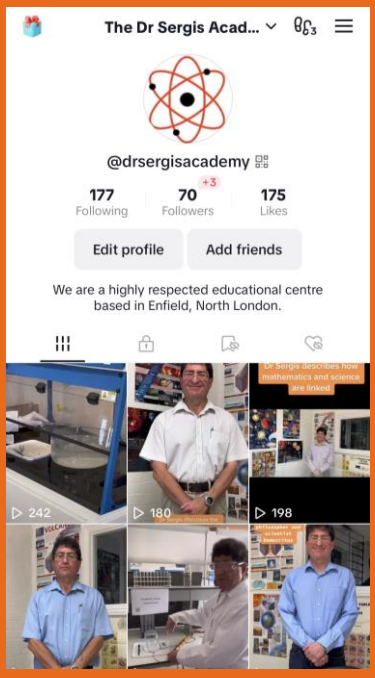
Dr Sergis with the lab technician

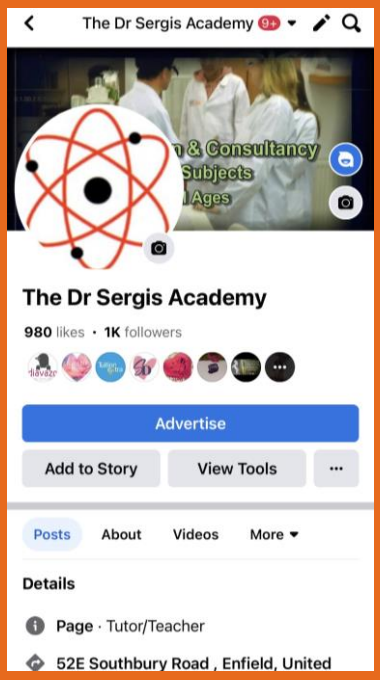
Dr Sergis in his lab at the University of Greenwich during his PhD years

WHAT'S NEW?

The Dr Sergis Academy gets Social Media Savvy

Our social media pages not only give updates on the latest events and closure dates, but they also aim to inspire and intrigue our viewers about the world around them. We post four times a week on various facts on animals, bugs, minerals and on chemical compounds. With Tik Tok up there as being one of the most popular platforms, the Academy has now created a Tik Tok page! Dr Sergis gives small lectures on various topics including the ancient thinkers, mathematics, and science. If you have any suggestions for future videos or posts, we'd love to hear them! Check us out on YouTube, Facebook, Twitter, Instagram and Tik Tok, just search for the Dr Sergis Academy.





In the Spotlight...Garry Kousoulou

The Academy was able to put forward some questions to the great social media man of Enfield, Garry Kousoulou. He gives us a bit of his background in optometry as well as his foray into social media and how important it is for businesses. Dr Sergis has taught two of Garry's children at the Academy.

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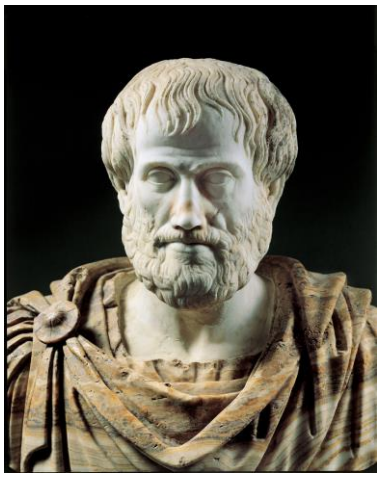
My career started at 16 at Pizza Hut, this gave me some money whilst I was at college. I then went onto university to study a HND in applied biology. Very quickly I discovered that I love talking to people more than I love the Bunsen burner and titrations. I moved into the world of optometry, opening my first opticians in Enfield Town in 2004, called Goodlooking Optics. I realised that I have a talent for social media marketing, and I have been recognised as the first optician in the world to be on Facebook. Twenty years on I now have my own marketing company. Recently I coordinated the Business and Community Awards for Enfield. To create a brand in business you really need an element of social media and artificial intelligence but it's hard to predict what the future holds. People will always need to be reminded of their favourite brands and social media in my mind is the one way of doing that. I personally love keeping in touch with my customers. If you would like to get into digital marketing my advice would be to reach out to digital marketing agencies and offer your time for free. The more experience you get the more you will know which area you want to go into.

To find out more about Garry's business, head over to: www.lovingsocialmedia.com.

WHO WAS ARISTOTLE?



Aristotle was a Greek philosopher and scientist, born 384 BC in Stagira in a Northern Greek province of Macedonia, and died alone in 322 BC in Chalkis, in the Greek island of Euboea. He is now regarded as the Father of Modern Science and the Scientific Method, Logic and Biology. He was 62 when he died and at the height of his powers: a scholar whose scientific explorations were as wide ranging as his philosophical speculations were profound; he was a teacher who enchanted and inspired the brightest youth of Greece; a public figure who lived a turbulent life in a turbulent world.

Aristotle bestrode antiquity like an intellectual colossus. No man before him had contributed so much to learning, and no man after him could aspire to rival his achievements. Aristotle studied at Plato's Academy for about 20 years as Plato's student and colleague then left the Academy after Plato died to open his own school and research centre in Athens, called the Lyceum. At the Lyceum, he taught the more specialised technical subjects to his students during the day and in the evenings, he gave public lectures to a general audience. Aristotle taught the young Alexander the Great from the age of 13 for 4 years after an invitation by King Philip II of Macedonia, Alexander's father. Aristotle also taught the children of Macedonian nobles.

Little is known about Aristotle's character and personality. He came from a rich family. He suffered from poor digestion and is said to have been spindle-shanked. He was a good speaker, lucid in his lectures, persuasive in conversation, and he had a mordant wit. His philosophical writings are impersonal and suggest he prized both friendship and self-sufficiency as a scientist. Although we may not hope to know Aristotle as we might know Albert Einstein or Bertrand Russel, as he lived too long ago, one thing however is certain. Throughout his life, Aristotle was driven by one over-mastering desire- the desire for knowledge. His whole career and his every known activity testify to the fact that he was concerned before all else to promote the discovery of truth and to increase the sum of human knowledge.

ARISTOTELIS DE
MORIBVS AD NICOMACHVM
LIBRI DECEM.
Græcis Latina exegionè respondent, interprete DIONY-
SIO LAMBINO cum eiusdem Annotationibus, &
THEOD. ZWINGERI Scholijs.
LIBER PRIMVS.
CAPVT PRIMVM.
Tria ordiri prolegomena declarat: Subiectum scilicet philosophiæ Ethicæ:
Modum suæ rationem cognoscendæ & explicandæ: &
Qualem auditorem esse oporteat.

Aristotle's biological works and research are regarded as a stupendous achievement. His inquiries were conducted in a genuine modern scientific spirit, and he was always ready to admit ignorance where evidence was insufficient. He maintained that when there is a conflict between theory and observation one must trust observation and that theories are to be trusted only if their results conform with the observed phenomena. Aristotle wrote a very large number of books in almost every field of human knowledge, from political theory through to ethics, physics, mechanics, astronomy, mathematics, zoology and biology: choose any field of research and Aristotle laboured on it! To quote Aristotle in one of his surviving works, the Nicomachean Ethics, Aristotle argues that 'happiness, the state of mind in which humans realise themselves and flourish best, consists in a life of intellectual activity.' Aristotle asks, 'is not such a life too godlike for a mere human to sustain?'; he answers: 'no, for we must not listen to those who urge us to think human thoughts since we are human, and mortal thoughts since we are mortal, rather we should as far as possible immortalise ourselves and do all we can to achieve the finest element in us, for if in bulk it is small, in power and worth it is far greater than anything else.' Aristotle has influenced many Western thinkers since the renaissance, including Galileo, Kepler, Newton, Darwin, Einstein and Bertrand Russel, and continues to influence us even now!

DR SERGIS VISITS SHINING STARS NURSERY IN OAKWOOD

Dr Sergis was invited to give an interactive talk to small nursey children at the Shining Stars nursery in Oakwood in May 2021. Einstein the Academy mascot also attended, and Dr Sergis also brought along a selection of our creepy-crawlies and minerals. Karloff, the smaller skeleton also came along. Dr Sergis also wore his lab coat and custom-made top hat. The children were very intrigued and listened well to Dr Sergis and he received great feedback from the nursery's manager.

THE DR SERGIS ACADEMY HAS A STALL FOR BNNL COFFEE MORNING

Business Networking North London (BNNL) is a wonderful business meeting that hosts meetings once a month on every second Wednesday of every month at the Jolly Farmers pub and restaurant in Enfield. Local businesses come together for brunch and promote each other's businesses. BNNL also hosts annual coffee mornings for Macmillan Cancer Support and on this occasion, businesses were able to showcase their services with a stall. The Academy had a nice time chatting to other members and visitors in September 2021 over some delicious coffee and cake.

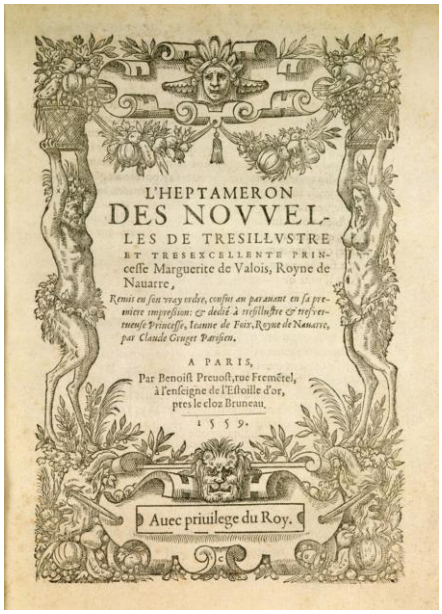
MARGUERITE DE NAVARRE 1492-1549

In this article, we take a look at the life and works of another queen, this time from across the pond in France. Marguerite de Navarre was born on 11th April 1492 to learned parents, who were known to keep large libraries. Although from a privileged background, Marguerite did much for the poor and underprivileged as well as being a religious mediator and later, a respected Renaissance writer and philosopher. Her work, Heptameron, a collection of short stories written in 1558, being the most memorable of her works.

She frequently met with some of the great religious reformers of her time, including Martin Luther and John Calvin. She was also a patron of Leonardo da Vinci, who died in a Chateau owned by Marguerite's brother, King Francis I. A friend to the poor and unwed mothers, she established hospitals, alms-houses, and orphanages. She wrote incessantly; plays and poems as well as religious works whilst still attending to her duties at court. Like Elizabeth I, Marguerite was tutored by scholars from a young age and learned Greek, Latin, Italian, Spanish and later German and Hebrew. She also studied scripture and classical philosophy, often reading the works of Plato, Cicero and Virgil.

Marguerite was particularly drawn to poetry and as a young girl would often practise and share short rhyming verses with her brother. In 1509, Marguerite was married to Charles, Duke of Alençon, her first husband. He was not as learned as her and preferred the hunt to books. Marguerite was notably upset and wept often during the wedding ceremony. However, Marguerite was able to have some of her books from the libraries of Amboise, Blois and Cognac as well as some orders for other books from European printers.

It was during this marriage that Marguerite began her philanthropic work and in the early 1520s she persuaded her brother to found Le Hôpital des Infants Rouges (Red Children Hospital) in Paris for orphaned and abandoned children. The hospital was so named because of the red clothing the children were given to wear. Once opened, Marguerite would continue to be involved (as with all of her philanthropic work) with the hospital and in particular made sure that the rules of hygiene and diet were strictly adhered to.


L'HEPTAMERON
DES NOVVEL-
LES DE TRESILLVSTRE
ET TRESEXCELLENTE PRIN-
ceſſe Marguerite de Valois, Royne de
Nauarre,
Remis en ſon vray ordre, conſus en parament en ſa pre-
miere impreſſion: & deduit à treſillustre & treſ'ex-
cellente Princeſſe, Ieanne de Foix, Royne de Nauarre,
par Claude Gruget Pariſien.
A PARIS,
Par Benoiſt Preuoſt, rue Fremẽtel,
à l'enſeigne de l'Eſtoille d'or,
pres le clos Bruneau.
1559.
Auec priuilege du Roy.

Marguerite's works were numerous. She was a model queen and a great hero of her sex. There is much to be read about this fascinating figure, and I encourage all to go and read about her. Even after she died, many wrote and spoke of her qualities. The French biographer of the sixteenth century Pierre de Bourdeille would say that "she was a great princess, but in addition to all of that, she was very kind, gentle, gracious, charitable and a great disperser of alms and friendly to all." In other words, a truly model queen!

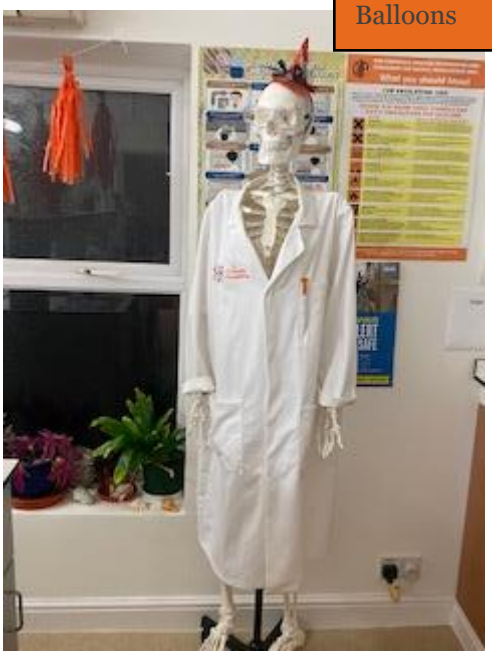
HALLOWEEN COMES TO THE DR SERGIS ACADEMY

On the 29th October 2021, the Academy held a Halloween-themed Open Day. As with every Open Day, there were plenty of scheduled experiments in the lab as well as varied activities in the classrooms, such as leaf painting and slime making. A raffle with prizes was also held on the day. Dr Sergis conducted the experiments which included explosively reactive elements and the Salty Circuit. The Academy was also decorated in a Halloween theme to get everyone in a spooky spirit!

Raffle Prize Table and Halloween Decorations

The Academy Roller Banner and Halloween Balloons

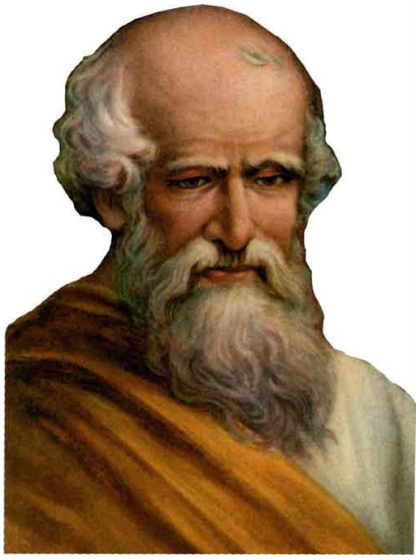
Dr Sergis in the lab explaining how the Plasma Ball works.



Boris the skeleton in the lab

Students and the Plasma Ball

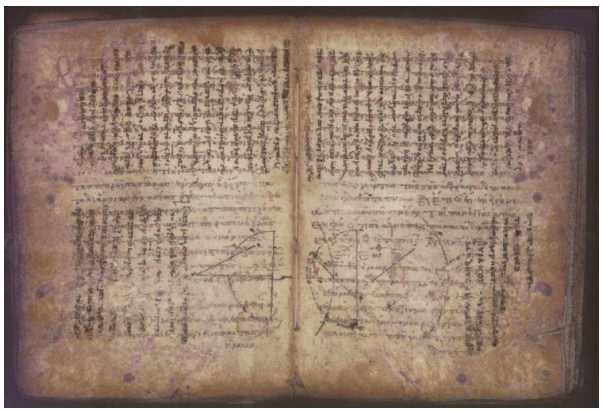
ARCHIMEDES, THE SCIENTIST AND INVENTOR



Archimedes (287BC-212BC) was a Greek mathematician, scientist, and engineer. Born in Syracuse, Sicily, Archimedes was the son of the astronomer Pheidias. Archimedes ranks as one of the greatest mathematicians (if not the greatest ever) who ever lived. His mathematical work and inventions were so modern in spirit and technique that they were barely distinguishable from those of modern times. Among his mathematical achievements, Archimedes developed a general method (integration) for finding areas and volumes, and he used the method to find areas bounded by parabolas and spirals and to find volumes of cylinders, paraboloids, and segments of spheres. He gave a procedure for approximating π. Archimedes was most proud of his discovery of a method for finding the volume of a sphere- he showed that the volume of a sphere is two-thirds the volume of the smallest cylinder that can contain it. At his request, the figure of a sphere and a cylinder was engraved on his tombstone.

In addition to mathematics, Archimedes worked extensively in the development of mechanics and hydrostatics. Archimedes actually created the discipline of hydrostatics and he used it to find the equilibrium position for various floating bodies. Almost every schoolchild knows Archimedes as the absent-minded scientist who, on realising that a floating object displaces its own weight of liquid, leaped from his bath and ran naked down the streets of Syracuse shouting, “Eureka!”, “Eureka!”- meaning, “I have found it!” Archimedes laid down the fundamental laws of mechanics, discovered the laws of levers and calculated centres of gravity for various flat surfaces and solids. In the excitement of discovering the mathematical laws of the lever and various machines, he is said to have declared, “Give me a place to stand and I will move the Earth!”

Although Archimedes was apparently more interested in pure mathematics, he was an engineering genius. He invented super catapults that showered the Romans with rocks weighing a quarter of a ton or more, giant parabolic mirrors that set the Roman ships ablaze and fearsome mechanical devices with iron “beaks and claws” that reached over the city walls, grasped the ships, and spun them against the rocks. The Roman general Macellus called Archimedes a “geometrical Briareus (a hundred-armed mythological monster) who uses our ships like cups to ladle water from the sea”. Archimedes held the Roman fleet at bay for more than three years before a Greek traitor allowed the Roman Army into the city one evening. Contrary to Macellus’ specific orders, the 75 year-old Archimedes was killed by a Roman soldier when he cast a shadow on a mathematical problem that he was working on; the annoyed Archimedes yelled, “Don’t disturb my circles!”, which made the soldier fly into a rage and cut the old man down.



Although Archimedes wrote many books, only nine works have survived to the present day. His treatise, ‘The Methods of Mechanical Theorems’, was discovered in Constantinople in 1906 (pictured right). In this treatise, Archimedes explains how he made his discoveries using reasoning based upon the integral calculus of modern times! Mathematicians are now becoming increasingly aware, that Archimedes actually discovered integration more than 1800 years before Newton and Leibniz had! Furthermore, it is suspected that the Antikythera mechanism, a complex differential mechanical system, that was the first ever computer discovered in a sunken ship at the bottom of the sea, off the island of Antikythera, is believed to have been invented by Archimedes to calculate solar and lunar eclipses and constructing calendars based on the relative position of stars and may also have been used for navigation!

THE ACADEMY VISITS THE ANNUAL LABORATORY EXHIBITION IN 2021 AND 2022

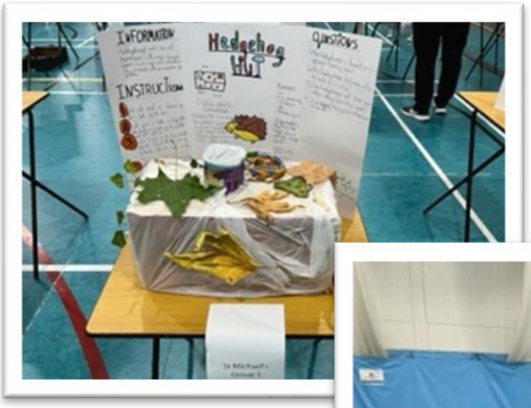
The Academy went to visit the annual laboratory exhibition at the NEC in Birmingham in 2021 and in 2022 for the 10-year anniversary of the exhibition. Dr Sergis attends each year in hopes of finding the best lab equipment and services for his research. There are hundreds of stalls and there are live lectures that take place throughout the day. Of course, Einstein also attended, and he also got to meet the various businesses. Happily, we were able to secure a great price for a rotary evaporator which is now nicely situated in the Academy laboratory. During the day there are various refreshments available as well as lots of freebies. For the 10-year anniversary there was also free cake and live music! Often, there are set ups of the different equipment on sale, including a robotic arm which often eliminates time consuming and monotonous jobs in the biological sciences. We always look forward to next year!

THE DR SERGIS ACADEMY ATTENDS THE CYPRUS WINE FESTIVAL

In June 2022, the Academy attended the annual Cyprus Wine Festival at the Lee Valley Athletics Centre in Edmonton. It was a chance for us to network with other Cypriot businesses. There is lots to eat, see and do at the festival as well as live music with a final show near the end of the evening which is usually a Cypriot musician or singer. We met with a few familiar faces as well as some new ones. It is always an enjoyable experience, and anyone can attend.

DR SERGIS VISITS CHACE COMMUNITY SCHOOL FOR THE STEM SCIENCE FAIR

Dr Sergis was invited to judge the STEM science fair projects at Chace Community School for the second time in July 2022. The theme of 2022 was growth, with many creating wonderful growth themed biology projects. There were lots of good candidates and all entries were made by primary schools in and around Enfield including Capel Manor Primary School and Chace Side Primary School. There was first, second and third prize winners. Thank you to Chace Community School for the opportunity. Dr Sergis hopes to return in 2023.



DR SERGIS VISITS GREEN PARK TO PAY RESPECTS TO OUR LATE QUEEN

On the 8th September 2022 it was announced that Queen Elizabeth II had passed away peacefully at Balmoral Castle. She was the longest reigning British monarch, a reign spanning 70 years. What followed her passing was a sense of disbelief and outpouring of thanks and admiration from the public. The late Queen had dedicated her life to the people and on her 21st birthday in 1947 declared "that my whole life whether it be long or short shall be devoted to your service and the service of our great imperial family to which we all belong". Many took to placing flowers and writing heartfelt notes which were left outside Buckingham Palace and surrounding parks. Dr Sergis paid a visit to Green Park to lay flowers.

Some facts about Queen Elizabeth II:

- The late Queen loved corgis and owned over 30 during her reign.
- She met with every US president since Harry Truman, except for Lyndon B. Johnson.
- She travelled to more than 120 countries throughout her reign.
- She had a strong interest in horseracing and was a successful breeder and owner of racehorses.
- She had four children, eight grandchildren, and ten great-grandchildren.
- She also had a passion for photography and took many pictures throughout her life.
- She was the only person in the UK who was allowed to drive without a license.
- The Queen's late husband, Prince Phillip, was born in Greece and is a descendant of Greek and Danish royal families.
- The Queen's favourite flower was said to be the carnation.

THE DR SERGIS ACADEMY ATTENDS BNNL'S NINE YEAR ANNIVERSARY

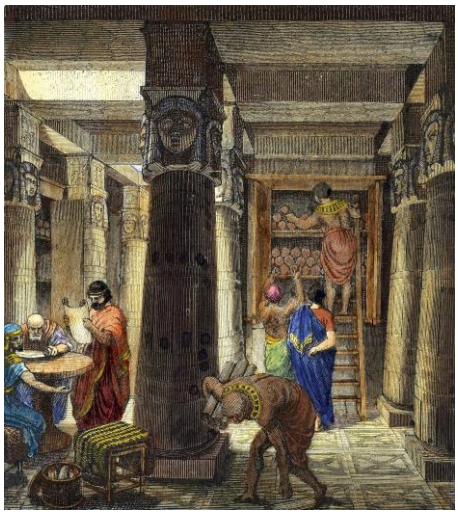
In April 2023, the Academy attended the Business Networking North London group's nine-year anniversary. It was nice to celebrate with current members as well as new visitors, and Dr Sergis had a nice chat with the then Mayor of Enfield, Doris Jiagge. There were refreshments and a delicious buffet on offer as well as some great steel pan music. Congratulations to Maha who won our pamper hamper after buying lots of raffle tickets!

Later in May, the Mayor paid a visit to the Academy where she received a tour of the Academy as well as refreshments.

HYPATIA, FEMALE GREEK MATHEMATICIAN, ASTRONOMER AND PHILOSOPHER

Hypatia, born around 355 AD in Alexandria, Egypt, and died in March 415 AD, was a Greek mathematician, astronomer and philosopher who lived in a very turbulent era in Alexandria's history. She is the earliest female mathematician of whose life and work is known in reasonable detail. Hypatia was the daughter of Theon of Alexandria, himself a mathematician and astronomer and the last attested member of the Alexandrian Museum, which was a great library, teaching and research centre, rather like a modern university. Theon is best remembered for the part he played in the preservation of Euclid's 'Elements', but he also wrote extensively and commented on Ptolemy's great astronomical work, 'Almagest' and 'Handy Astronomical Tables'.

Hypatia lived in an era when Alexandria was a Roman province under the new Eastern Christian Roman Empire. She continued with her father's program, which was a determined effort to preserve the Greek mathematical and astronomical heritage in extremely difficult religious times. Hypatia lectured widely in mathematics, astronomy and philosophy to students from her home. Her lessons also included methods of constructing an astrolabe, a kind of portable astronomical calculator. Hypatia donned an academic outfit and is described as being articulate and logical in her speech and actions, as well as public-spirited, and most of the city of Alexandria gave her a suitable welcome and accorded her special respect.



Theophilus, the Roman Greek-speaking archbishop who destroyed the last of Alexandria's great library, was succeeded in 412 AD by his nephew, Cyril, who continued in his uncle's hostilities towards other faiths. With Cyril, the head of the main religious body of the city government, a fight began over who controlled Alexandria. Under such religious fanaticism, Hypatia, who wasn't Christian, became a target of Christian fanatics. One day on the streets of Alexandria in Egypt, in the year 415 or 416 AD, a mob of Christian zealots led by Peter the Lector, accosted Hypatia's carriage and dragged her from it and into a church, where they stripped her and beat her to death with roofing tiles. They then tore her body apart and burned it.

Hypatia, almost alone and virtually the last Greek academic, stood for intellectual values, ascetic Neoplatonism, the crucial role of the mind, and the voice of temperance and moderation in civic life, as one of her commentators, Deakon wrote. She may have been a victim of religious fanaticism, but Hypatia remains an inspiration to women of science and mathematics, even in modern times!

Picture Perfect

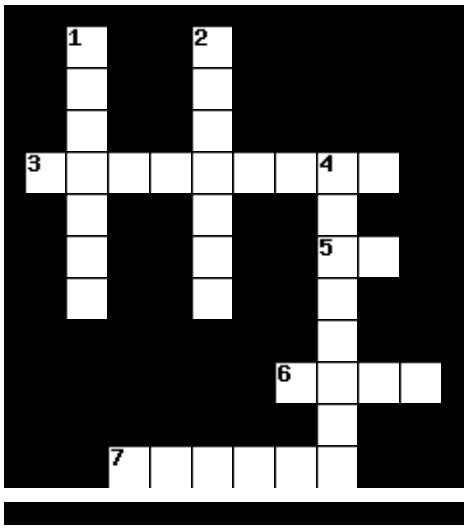
View of the sea and boats at Bexhill-On-Sea, East Sussex.

Academy Wordsearch 3

P	B	S	B	I	R	I	W	V	Q	V	J	M	H	D
G	A	M	M	A	G	L	B	R	U	K	Z	G	B	A
B	B	O	O	K	S	O	I	O	I	O	J	E	Y	N
Z	E	R	Y	U	G	W	S	H	N	T	C	S	E	C
Y	P	T	V	E	F	O	C	Z	S	N	I	L	Y	I
O	L	U	A	S	D	T	U	P	R	E	E	N	E	E
X	A	C	A	N	K	D	I	N	E	C	S	S	G	N
Q	N	Q	L	G	S	T	T	L	T	C	V	T	V	T
D	T	Y	P	I	H	K	S	R	S	G	T	N	G	P
W	S	L	H	S	E	C	O	U	O	J	E	E	V	X
T	Q	G	A	U	Q	N	N	W	P	W	H	S	A	Q
G	S	R	E	P	A	P	U	T	L	K	T	E	R	W
N	O	T	E	S	S	T	E	E	W	S	D	R	Q	D
R	D	I	T	I	V	M	Z	N	L	W	F	P	Z	N
C	I	T	R	E	T	J	P	J	S	W	C	J	Q	O

BISCUIT
TEA
PRESENTS
SWEETS
PLANTS
SIGNS
OWL
ANCIENT
ALPHA
BETA
GAMMA
ELECTRON
PAPERS
WRITING
NOTES
POSTERS
BOOKS

Atoms and Matter



Across

3. Negatively charged particles that circle the nucleus.
5. The name of one of the types of quarks found in protons and neutrons.
6. The name of one of the types of quarks found in protons and neutrons.
7. Protons and neutrons are made up of these particles.

Down

1. The central part of the atom.
2. Positively charged particles found in the nucleus of the atom.
4. Neutral particles found in the nucleus of the atom.