Nebula

Respect | Excellence | Ambition | Pride

Sheffield Springs Academy
The best in everyone™
Part of United Learning

Introducing

Nebula

Dear Parent/Carer

Nebula is Sheffield Springs Academy's STEM Stream.

There is huge demand for graduates in STEM (Science, Technology, Engineering and Mathematics) fields in the modern world, as these subjects teach students to think analytically, solve complex problems and develop excellent communication skills. As a result, there are a vast number of exciting academic and employment opportunities for young people who excel in STEM subjects.

The Nebula programme provides an opportunity for gifted young people to gain greater levels of experience, in order to achieve outstanding qualifications in the STEM subjects.

Students joining the Nebula programme will study additional science and product design, enjoy a broad and exciting extra-curricular provision and have regular contact with experts working and studying in the world of STEM.

Please do not hesitate to contact me with any queries about Nebula.

Mr Church

STEM Coordinator and Nebula Lead

The aim of this programme is to ensure your child is academically successful both at Sheffield Springs Academy and when they leave us at the end of Year 11. Our hope is that members of the Nebula programme will meet the following outcomes in STEM subjects:

Outcome 1:

Achieve all GCSE qualifications at Grade 7—9 or equivalent.

Outcome 2:

Continue into further education, with 95% completing A levels.

Outcome 3:

90% of students continue to university, with 20% attending Russell Group institutions.

Outcome 4:

Achieve in the top 10% within all United Learning schools on all mid and end of year assessments.

Respect | Excellence | Ambition | Pride

Sheffield Springs Academy
The best in everyone™
Part of United Learning

Year 7

- Students can apply for the Nebula programme and will then be selected based on the results of a baseline test.
- Students will complete several programmes throughout the course of the academic year, designed to extend their learning beyond the normal curriculum and prepare them for university/high paying careers.

After-school programme

Students will attend a compulsory after-school programme, comprising both STEM learning activities and skills development. We recognise that students will have other interests and passions outside of STEM, so encourage students to take part in a broad range of activities and can be flexible if students want to attend other clubs and events. STEM activities may vary from year to year, but examples include:

Debating—students will learn and practice the art of constructing a logical argument and build confidence in public speaking.

STEM learning project—a variety of engaging, hands-on practical projects, including chemistry investigations, engineering challenges and robotics.

STEM lecture series—students will attend talks from visiting experts, including academics from the Universities of Oxford, Cambridge and Sheffield, employers, students and STEM ambassadors, either in person or online. They will have the chance to interact and ask questions.

Microbiology—an exciting project looking into the fascinating world of microscopic organisms, run by researchers from the University of Sheffield.

Medical Mavericks Academy—an online learning platform enabling students to explore the huge variety of careers in the NHS and to carry out mind-blowing medical experiments.

Maths challenge—additional maths lessons focused on problem solving and deductive reasoning, as well as the opportunity to compete in the UKMT Junior Maths Challenge.

Video game development—students will develop their programming skills while coding simple video games using the Scratch online platform.

Trips and events

Medical Mavericks—an exciting interactive workshop giving students the opportunity to use real medical equipment and learn about careers in the NHS.

STEM Roadshow—a live STEM show in collaboration with BAE Systems, the Royal Navy and the Royal Air Force.

Sheffield High School partnership—we collaborate with Sheffield High School on a variety of cross-curricular trips and events, which have included geology, classics, maths and art.

Year 8

After-school programme

Practical chemistry—students work on mastering their practical laboratory skills.

STEM learning project—a variety of engaging, hands-on practical projects, including chemistry investigations, engineering challenges and robotics.

STEM lecture series—students will attend talks from visiting experts, including academics from the Universities of Oxford, Cambridge and Sheffield, employers, students and STEM ambassadors, either in person or online. They will have the chance to interact and ask questions.

Early neurodevelopment—a fascinating course on the changes taking place in the developing human brain.

Debating—students will continue to practise their public speaking skills.

AMETEK Business Challenge—in collaboration with a global engineering firm, students work in teams to design solutions to a real-life engineering challenge and then pitch their ideas to company executives.

Maths challenge—additional maths lessons focused on problem solving and deductive reasoning, as well as another opportunity to compete in the UKMT Junior Maths Challenge.

Climate change project—students research and present their findings in relation to one of the biggest issues facing humanity.

Trips and events

Get up to speed with STEM—a STEM careers extravaganza at the Magna Science Adventure centre, giving students the opportunity to engage with hundreds of STEM employers and training providers.

Debate Mate—an intensive workshop building confidence in public speaking, culminating with a formal debating competition.

Faraday Challenge—teams of students compete to design and build the best engineering solution.

Respect | Excellence | Ambition | Pride

Sheffield Springs Academy
The best in everyone™
Part of United Learning

Year 9

After-school programme

STEM learning project—a variety of engaging, hands-on practical projects, including chemistry investigations, engineering challenges and robotics. These will become progressively more sophisticated and build skills required for GCSE science required practical work.

STEM lecture series—students will attend talks from visiting experts, including academics from the Universities of Oxford, Cambridge and Sheffield, employers, students and STEM ambassadors, either in person or online. They will have the chance to interact and ask questions.

Humanities—a multi-week project exploring topical social issues.

Ultimate STEM Challenge—an inter-school competition which challenges students to solve real world issues relating to sustainability and the environment.

Bio-fest—a creative project fusing biology and art in order to raise awareness of some of the great challenges facing humanity.

Archaeology—in collaboration with Wessex Archaeology, students will investigate the importance of chemistry in learning about the past. They will also plan lessons to deliver to younger students, building their confidence and communication skills.

Maths challenge—additional maths lessons focused on problem solving and deductive reasoning, as well as an opportunity to compete in the UKMT Intermediate Maths Challenge.

Trips and events

North Star—a series of STEM workshops and talks held at Gulliver's Valley Theme Park, including a keynote lecture from Professor Brian Cox.

Access to Sheffield—eligible students will be able to join this innovative three-year programme at the University of Sheffield, aimed at widening participation and encouraging students to consider applying to university.

Respect | Excellence | Ambition | Pride

Sheffield Springs Academy
The best in everyone™
Part of United Learning

Year 10 and 11

After-school programme

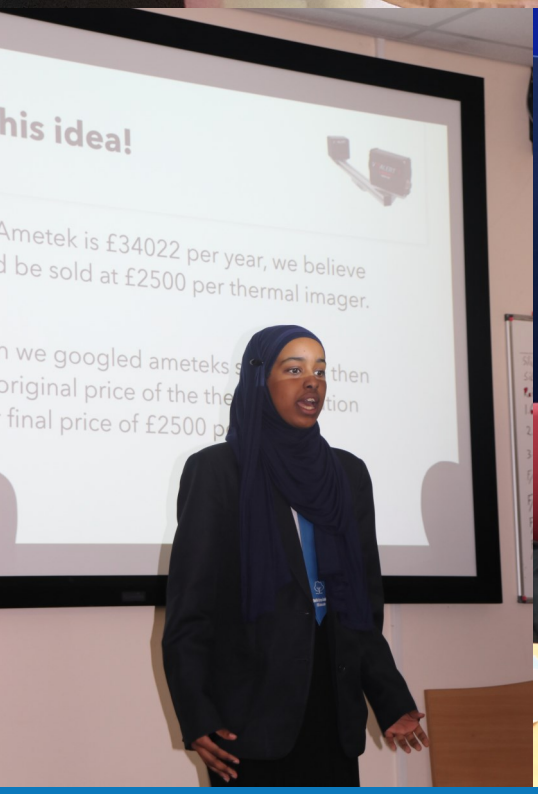
As students begin their GCSE courses, the Nebula programme will focus on ensuring students are well prepared for achieving exceptional results in their examinations. Students will be expected to attend regular revision classes after school, as well as participating in STEM sessions as both participants and mentors to younger students.

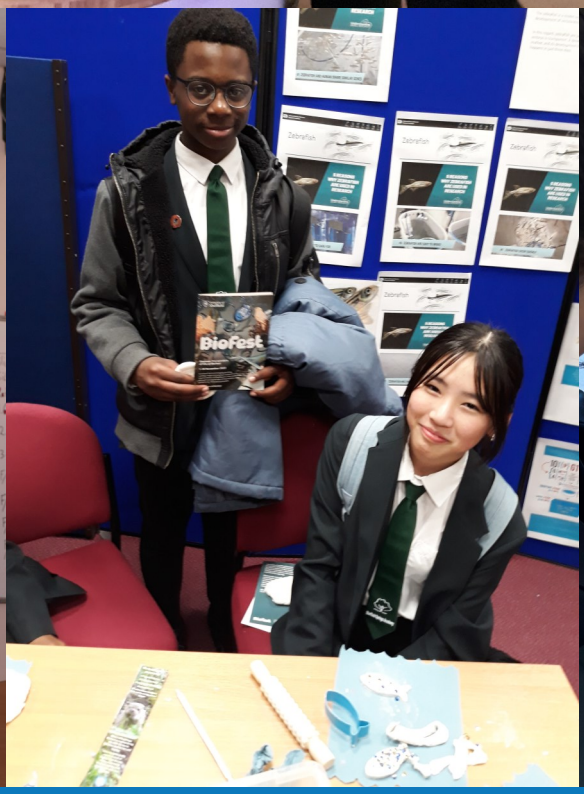
There will also be a variety of events focusing on further education and careers, student leadership opportunities and continued participation in the Access to Sheffield programme for eligible students.

It is expected that most students on the Nebula programme will take Triple Science at GCSE, but we will communicate with students to ensure that their courses are suitably aligned with their abilities and career aspirations.

Respect | Excellence | Ambition | Pride

Sheffield Springs Academy
The best in everyone™
Part of United Learning





Respect | Excellence | Ambition | Pride

Sheffield Springs Academy
The best in everyone™
Part of United Learning

Scan the QR codes and follow us on social media to keep up to date with our Nebula programme.

@sheffieldspringsacademy

@springsacademy1

STEM Coordinator: Mr M Church

Principal: Ms C Cartledge

Respect | Excellence | Ambition | Pride

Sheffield Springs Academy

The best in everyone™

Part of United Learning