



STEM WORKSHOPS

& Specialist Provision For Highly Able Students

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“Workshops provided by Thinkers in Education are by far the most useful and enjoyable STEM ones our students experience.”

N Percy, Director of STEM, Haberdashers’ Girls’ School, Elstree.

Email: stem@thinkersineducation.co.uk
Tel: 01603 555524

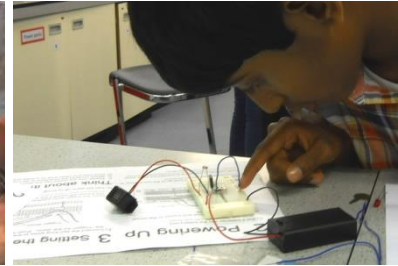
Specialist STEM Workshops



Easy to Manage



Cost Effective



Sensational Learning

Introduction

Current research suggests that 75% of the fastest growing occupations require a skill set best developed through STEM subjects. However, data from the OECD (Organisation for Economic Co-operation and Development) shows a STEM skills deficit around the world.

Specialist STEM Workshops are designed to maximise student engagement with STEM subjects and empower participants with the specific skills so highly valued in the workplace.

The carefully structured, challenging and fun workshops are available throughout the UK during term-time, weekends and holidays. Carefully adapted versions of all workshops are open to students in Years 5-12 and have been recommended by every school hosting an event since 2001.

Benefits of Participation

Students will improve their creative and critical thinking, whilst developing problem solving and communication skills. They will use new equipment, explore new concepts and learn new techniques that reinforce and extend curriculum content.

Simultaneously, teachers can quickly evaluate the impact of the teaching strategies employed and trial new resources for use in their own lessons.

Every school hosting a workshop can request a post event 'Performance Report' detailing the performance of every participant against Bloom's Taxonomy. It enables the school to identify areas of strength and skills requiring future development on an individual level.

Who is it for?

Carefully adapted versions of the workshops are available for different age ranges and abilities, which enables host schools to deliver an extremely effective extension and enrichment opportunity for a wide audience of Yr5 to Yr13 students.

Specific versions of workshops lasting two or more hours are available as focus sessions for highly able and/or enthusiastic learners you feel will benefit from the additional level of challenge, motivation and opportunity to work in ways impossible in a typical school day.

Your establishment can host workshops for your own pupils or act as a host-centre for teams from other local schools as part of a friendly interschool competition. Additionally, these workshops have proven to be an incredibly effective part of interview, transition and induction programmes – giving a valuable insight into the ability and nature of participants.

Who delivers the workshop?

A highly experienced and motivational STEM teacher leads the workshop with support from their specialist classroom assistant. Together they manage the class, maximising activity time and student support whilst adapting the workshop to best suit student ability and school timings. It allows class teachers to observe and discuss strategies to apply in future lessons or supervise other lessons – effectively saving the cost of a cover teacher for the day.

Every member of the presentation team has an up-to-date enhanced disclosure DBS check, can be reviewed on the DBS Update Service and has a certificate available to view on the day. A letter of assurance, detailing vetting procedures, can be provided before the visit.

How is it organised?

Each workshop is delivered to best fit within the school day. Single and Double sessions are repeated for a different groups and typically last one and two hours respectively. Full-day workshops are adapted to the school timings, minimalising disruption to the timetable.

If your school can provide a venue an hour before and after the workshop (a large enough lab, classroom or hall) with enough space, tables and chairs to safely seat the group size required - we can set-up and deliver the event. We bring all audio visual equipment, a screen and workshop resources.

Risk assessments, suggested room layouts and basic organisational guides are emailed to the contact teacher upon receipt of a completed booking form.

What is Included?

- Provision for between 12 to 180 participants in a day – dependent upon workshop.
- Fully planned, expertly delivered sessions by two full-time presenters.
- All travel costs, specialist equipment, risk assessments & organisational guides.
- Certificates of achievement print file – listing skills developed for each participant.
- 'Champion' medals for members of the winning teams on the day.
- Participant evaluations are completed and left with host(s) for immediate reflection.

What does it cost?

- 1x Full-Day (5-Hour) Session costs £795+VAT for up to 30 participants.
 - 2x 2-2.5 Hour Sessions cost £850+VAT for up to 30 pupils per session. (60 pupils/day)
 - 5x Single Sessions cost £950+VAT for up to 30 pupils per session. (150 pupils/day)
 - 1x Full-Day (5-Hour) Session costs £1600+VAT for up to 60 pupils.
 - 2x 2-Hour Sessions cost £1600+VAT for up to 60 pupils per session. (120 pupils/day)
- ❖ Book 2 Consecutive Days to save £100 & Book 3 Consecutive Days to save £225.
- ❖ Add up to six more pupils to each single, double or full-day session for £5, £10 & £15 per pupil for each session respectively.

Half-Day Workshops (from 12:00pm):

- 2x 1-1.5 Hr Sessions cost £575[^]+VAT for up to 30 pupils per session (60 pupils total).
- 1x 2-2.5 Hr Session cost £550[^] +VAT for up to 30 pupils per session.
- 1x 2-2.5 Hr Session cost £900[^] +VAT for up to 60 pupils per session.

[^]Cost for one 2-2.5 hour session or two 1-1.5 hour sessions delivered any time from 12:00pm (only available in certain regions). A group of 37 or more pupils requires a hall or large enough room as a venue and needs to include tables and chairs. Maximum numbers need to be reduced if a suitably sized room is not available.

“This event was incredible. The students and staff were hooked immediately and were the most engaged I’ve ever seen them. The professionalism, preparation and organisation of this company are exemplary. I can’t recommend enough, an absolutely amazing company!”

Rachel Austin – Assistant HOF, National CoE Academy, Nottingham

Target STEM Thinking Skills

Creative thinking

Hypothesising
Applying imagination
Generating & developing ideas

Communication

Discussing & negotiating
Using specialist vocabulary/notation

Working with others

Working towards objectives
Working in pairs & groups
Leading a team/activity

Enquiry

Asking questions
Obtaining Information

Critical Thinking

Synthesising information
Reasoning & making deductions
Drawing conclusions

Problem solving

Identifying problems & options
Checking if problems have been solved

Information processing

Finding relevant information
Comparing/contrasting information
Identifying and analysing relationships

Application of number

Interpreting results & presenting findings
Using graphs, charts & diagrams

Evaluation

Judging the value of information and ideas
Judging individual & team performance

“A fantastic experience for all our students, regardless of age or ability. The event was exceptional.”

Cara Matthews, Lead Practitioner in Science, The Astley Cooper School, Hemel Hempstead, UK

Underlying Pedagogy

Thinkers in Education design activities to develop *ability, task commitment* and *creativity* - the Joseph Renzulli model for Giftedness (1986) - and deliver them through the gamification of learning. The teaching style has proven to be particularly successful when activities are introduced as 'real-life' problems for teams to solve within a realistic but exciting scenario.

This style of teaching fuels pupils' imaginations and immerses them in a storyline that sets a relevant context. It is an extremely powerful delivery method, allowing the inclusion of numerous areas the curriculum through a series of activities that generate the motivation for pupils to develop and use their abilities to the full.

All activities are delivered within a highly enthusiastic, supportive and yet competitive environment which allows teams to earn 'credits' for every challenge. Pupils are given the option for extra consultation with the teacher (at a credits cost to the team), but must determine their own routes forward based on the information and training provided. Competition between each team results in their preference to think about and discuss the problems set, rather than call on the teacher to immediately explain the answer.

Most importantly, each activity requires pupils to use causal and correlation reasoning to construct their own models for ideas and concepts introduced. Their conceptual understanding is guided by carefully structured questioning, '*open, closed, speculative, analytical, discriminatory and problem-solving*' to progress through the levels of Bloom's taxonomy and focus on higher order thinking skills. Pupils need to remodel and evaluate their ideas, with reference to new information or evidence obtained.

Strict deadlines ensure there is a careful balance between time pressure and time for exploration. Content is delivered through teamwork, pair-work and individual challenge, which ensures that the dynamics of the group constantly change. Pupils may need to teach their peers one moment and learn from them the next. Every action has a consequence and, because of the storyline, pupils genuinely care about the outcome and are eager to progress.

Of course, the longer the workshop the greater the depth and range of skills developed. But, all workshops offer a genuinely exciting way to learn that has proved successful every time over the thousands of events delivered since 2001. It is why our approach has been recommended by 100% of hosting schools.

*"Excellent teachers with astonishing energy levels!
I really cannot think of a single way this programme
could be improved – the kids simply loved it."*

Paul Flynn, Head of Biology, Lymm High School, Cheshire, UK

1Hr Single Sessions

Include up to 150 pupils in a day for £950+VAT

Host 2-5 Sessions of up to 30 pupils at a time for £575-£950+VAT

Exciting scenarios, problem solving, teamwork and hands-on practical for every participant. Adapted for age, ability and school timings - these short sessions are ideal when your aim is to inspire the maximum number of students. Add more pupils for just £5/pupil per session.



Lander Electronics

Age Range: Yr5-13. Duration: 60-75 minutes

Participants design, construct and analyse a range of progressively complex sensors for a Mars Lander. They use numerous components on an electronic breadboard – in a race against the clock and rival teams.



CSI Anthropology

Age Range: Yr5-13. Duration: 60-75 minutes

Human bones and a mysterious code have been found in a box hidden in a partially buried car. Investigating teams must identify, measure and analyse the bones and skull to determine any similarity to profiles of missing persons.



Medical Science: ELISA

Age Range: Yr6-13. Duration: 60-75 minutes

A disease is spreading and emergency teams need to identify the infected, find patient zero and discover those naturally immune. Pupils test simulated samples using antibody-antigen reactions in ELISA plates.



CSI Blood Analysis

Age Range: Yr7-13. Duration: 60-75 minutes

Students analyse blood found at the scene of a murder in order to eliminate suspects and solve the case. They must identify ABO blood types by looking for the agglutination of simulated red blood cells with A, B & Rh Antibodies.

2Hr Double Sessions

Include up to 60 pupils for £850+VAT

Host ONE 2-hour session from 12:00 pm for £550+VAT or earlier for £650+VAT

Two practical activities designed to complement one another perfectly. Double sessions allow for greater detail, higher challenge levels and broader skill development within more elaborate scenarios. Adapted for age, ability and school timings – double sessions are an ideal way to provide for high ability and mixed ability groups on the same day. Sessions can be delivered twice in a day, for up to 30 pupils a time. More places can be added for just £10/pupil per session to bring total spaces up to 36 participants if required.



Space Pioneers

Age Range: Yr5-13. Duration: 120-150 minutes

Students must work as a team to prove they have the right stuff! They must cope with high pressure situations and tight deadlines, designing electronic sensors to ensure a successful touchdown - before analysing the alien surface upon which they have landed. They will learn about the real missions to Mars along the way.

Includes:

- Electronic Sensors & Alarms
- Micro Chemistry (Yr8+) / Mars Sand Investigation (Yr5-8)
- Personal Voting Systems & Space Pioneers Quiz



CSI: Body in the Box

Age Range: Yr5-13. Duration: 120-150 minutes

Partial human remains are found in a box hidden within a partially buried car. CSI teams are called in to investigate. They must analyse the bones to determine any similarity to profiles of long-term missing persons and conduct DNA tests to match against possible relatives in an attempt to identify the body. It's a different person in each session.

Includes:

- Human Skull & Bone Analysis
- DNA Electrophoresis or DNA Extraction
- Personal Voting Systems & Case Quiz



2Hr Double Sessions

Include up to 60 pupils for £850+VAT

Host ONE 2-hour session from 12:00 pm for £550+VAT or earlier for £650+VAT

New for 2024! The workshop options below have been carefully adapted from activities in our 3+ day programmes. We are excited to release these as standalone workshops.



CSI: The Heist

Age Range: Yr6-13. Duration: 120-150 minutes

One of world's most secure vaults in one of the largest Diamond districts was burgled. Participants need to carefully study the evidence, identify the suspects and process latent and ink fingerprints like a professional if they are to solve the case. But will they catch all of the thieves or will someone get away with millions?

Includes:

- Professional Powder Fingerprinting
- Ink Fingerprinting & Analysis
- Personal Voting Systems & Courtroom Quiz



Go Engineering!

Age Range: Yr6-13. Duration: 120-150 minutes

The UK's Greenbird held the land speed record for a Land Yacht from 2009 to 2022. Australian engineers set a new record in 2022. Now the race is on! Your students will learn to use a modelling machine to design, build and race prototype designs using high levels of engineering skill – where problem solving and accuracy are essential.

Includes:

- Machine Training
- Land Yacht Design & Build
- Land Yacht Racing



2Hr Double Sessions

Include up to 60 pupils for £850+VAT

Host ONE 2-hour session from 12:00 pm for £550+VAT or earlier for £650+VAT

The workshop options below can also be delivered to larger groups of up to 72 students in each session, allowing up to 144 participants per day. See pages 20 & 21 for details.



The Pandemic

Age Range: Yr6-13. Duration: 120-150 minutes

Demystify the pandemic procedures by learning the real science. Pupils will learn to conduct antibody testing and blood testing when an outbreak occurs. Their ELISA tests determine who is infected. But, to end the pandemic they must trace the point of origin and develop a convalescent blood treatment from people with immunity.

Includes:

- Simulated Outbreak & ELISA Testing
- Simulated Blood Typing & Analysis
- Personal Voting Systems & Pandemic Quiz



CSI: Blood Pool

Age Range: Yr6-13. Duration: 120-150 minutes

A dead person is found and with blood at the crime scene, forensic scientists must analyse blood types and DNA to identify the prime suspect. A mistake could contaminate the evidence and lead to a miscarriage of justice. Pupils need to think critically, like detectives, to solve the case. A different case is delivered in each session.

Includes:

- Simulated Blood Typing
- DNA Electrophoresis
- Crime Scene Analysis & Courtroom Quiz





Target: Mars

Full-Day Workshop

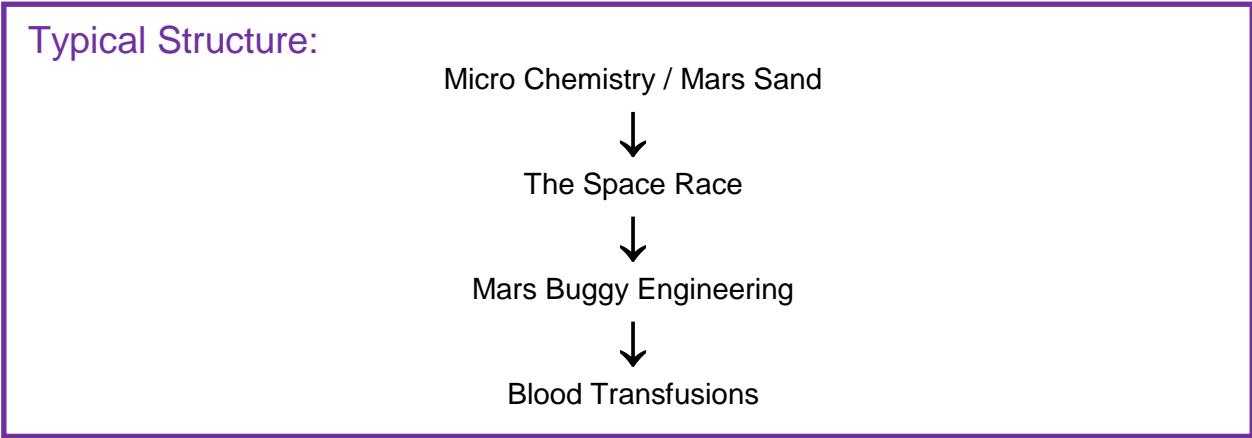
Include 30 Pupils for £795+VAT

Teams of pupils represent different nations in the race to explore and colonise Mars! They will need to cooperate to ensure success but only one team can claim final glory! Success in experiments and problem solving tasks is essential. Pupils will use techniques and equipment used in engineering and research laboratories to design prototype vehicles, identify mysterious compounds and analyse blood types - ready for a dangerous Martian expedition! Each individual plays an essential role in an exciting adventure story designed to motivate and encourage our true Pioneers of the future!

“Excellent delivery. Great range of tasks that tested all students. They were engaged throughout the whole day. Some difficult concepts made really fun and easy to understand.”

L O'Donoghue, Head of Year 9, Harlington School, London.

- **Type of Event:** Single-Day STEM Event
- **Age Range:** (Yr 5-13)
- **No. Participants:** 12 – 30 (Additional places cost £15/student up to a group size of 36)
- **Difficulty Level:** Adapted from Medium – Very High
- **Basic Cost:** From £795 + VAT
- **Subject Focus:** Science, Technology & Maths
- **Duration:** 4.5 – 5 Hours (adapted to fit within host-school timings)



We reserve the right to amend the content and structure of the programme as appropriate – particularly for younger students

Activity Overview:

Micro-Chemistry – Mars Sand (Teamwork Task): (Approx: 80 min)

Introduce your pupils to Micro-Science and the techniques used in research laboratories. This experiment allows pupils the rare chance to reduce an Oxide using Hydrogen Gas. This is an exciting experiment allowing pupils to develop practical skills and analytical reasoning. Pupils will analyse three different reactions using logic and scientific knowledge to identify the substance – whilst working as a whole team to be the first to complete the analysis. This can be replaced with a Mars Sand investigation researching the suspected hydrophobic properties of the sand.

The Space Race – Analysis & Synthesis (Individual Challenge): (Approx: 30 min)

Pupils go head-to-head against one another to become the lead scientists for the mission using electronic voting systems. It ensures greater anonymity, total inclusion and lots of fun. They need to apply and analyse the concepts discussed as a team in order to explain the findings of the Substance I.D practical. Students need to demonstrate their ability to learn, problem-solve and apply existing knowledge under pressure if they are to synthesise their own conclusions in the race to Mars.

Mars Buggy Engineering (Individual Challenge): (Approx: 100 min)

Participants progress through a training programme that teaches them the basics for using a new modelling machine. Their attention to detail and ability to learn new skills is challenged to the full as they must use their new modelling techniques and understanding of air resistance to design, build and prepare to race their Mars Buggy against other national teams.

Mars Explorers (Teamwork Task): (Approx: 30 min)

Teams must plan the optimum routes to different target areas on the surface of Mars by allocating mission routes to each member of the team. They will need to calculate the speeds of travel over varied terrains, accurately interpret distance vs time graphs to find a stranded vehicle and plot their routes. Then they will race their best performing Mars Buggies over the surface of Mars to discover which space agency is first to claim each of the regions of interest.

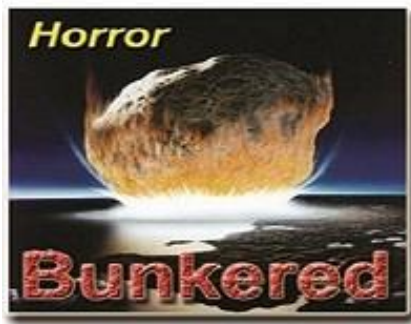
Blood Transfusion (Teamwork Task): (Approx: 60 min)

Following a Mars expedition, teams must analyse blood samples from their injured crew, using synthetic blood, to arrange transfusions. Time is short and if they fail to work within the deadline or incorrectly identify blood types, they will lose valued team-mates! This final activity requires effective teamwork, skilful practical technique, accurate result analysis and superb problem solving skill. Can the teams prove they have identified their own skill sets and those of their team mates?

Assessment & Performance Report:

We use electronic voting systems to monitor every participant's response to a wide range of challenges throughout the event. We assess the results according to 'Bloom's Taxonomy' and can collate them into a 'Performance Report' for the school.

Please email us with any further queries: stem@thinkersineducation.co.uk



Bunkered

Full-Day Workshop

Include 30 Pupils for £795+VAT

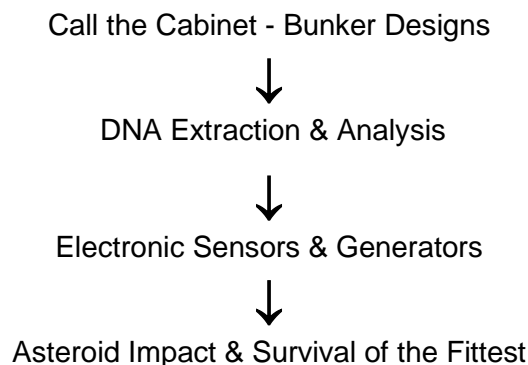
An asteroid, as monitored by the real-life NEO programme, is on collision course with Earth! Governments need to plan to save lives, but what factors will influence their decisions about who to save and how to do it? Teams of students represent different countries solving these wide ranging problems. They will finance and design the bunkers to bury the most valued members of society – having analysed the value of each life in terms of skill sets, age, gender and genetics. Can they save humanity when faced with the ultimate deadline?

"Dynamic and inspiring presenter. Challenging and exciting (and purposeful) STEM tasks – both practical and theoretical. You could hear a pin drop when the results came in. A tour-de-force!"

P Lobo, Head of Scholars, Bristol Grammar School, Bristol

- **Type of Event:** Single-Day STEM Event
- **Age Range:** (Yr 5-13)
- **No. Participants:** 12 – 30 (Additional places cost £15/student up to a group size of 36)
- **Difficulty Level:** Adapted from Medium – Very High
- **Basic Cost:** From £795 + VAT
- **Subject Focus:** Citizenship, Mathematics & Science
- **Duration:** 4.5 – 5 Hours (adapted to fit within host-school timings)

Typical Structure:



We reserve the right to amend the content and structure of the programme as appropriate – particularly for younger students

Assessment & Performance Report:

We use electronic voting systems to monitor every participant's response to a wide range of challenges throughout the event. We assess the results according to 'Bloom's Taxonomy' and can collate them into a 'Performance Report' for the school.

Activity Overview:

Call the Cabinet (Teamwork Task): (Approx: 20 min)

Three Ministers are called into a secret meeting with the Prime Minister. They will need to analyse scientific predictions in order to discuss the logistics and strategies their government will employ in an attempt to preserve human life on Earth. However, they must ensure national security is a top priority.

Bunker Design (Teamwork Task): (Approx: 75 min)

Engineers must design different styles of bunker, balancing the cost of materials and construction against the number of 'survivors' the bunker can hold. Financial planning, mathematical skill and logic-based problem-solving are essential for success.

DNA Extraction & Analysis (Individual Challenge): (Approx: 75 min)

Bunkered candidates must have their DNA analysed to determine eligibility for the bunker! Pupils have the opportunity to conduct the extraction of their own DNA or that of a fruit for this purpose. They will see condensed DNA strands, which can be kept as a keepsake. Teams are challenged to use their problem-solving and modelling skills to analyse DNA fingerprints to determine which personnel may carry 'defective' genes or inherited diseases!

Electronic Sensors (Challenge for selected team members): (Approx: 45 min)

Pupils learn to use various electronic components to construct different alarms and sensors to help monitor living conditions inside and outside the bunker. They use the circuit boards used in GCSE and A'level electronics to explore the functions of transistors, potentiometers, resistors, LDRs etc. .

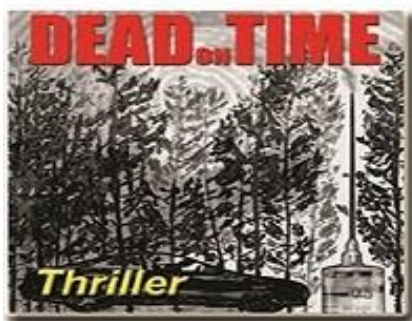
Generators (Challenge for selected team members): (Approx: 45 min)

This is a construction challenge, with various levels of complexity. Pupils must balance safety and reliability with performance requirements. They will measure the efficiency of the generators they repair and use them to provide the power for electronic sensors they build.

Asteroid Impact & Survival of the Fittest (Individual Challenge): (Approx: 30 min)

The final challenge sees the survivors face the most challenging of logic problems. In order to succeed they will need to demonstrate their problem-solving skills and, more importantly, their ability to synthesise information from all challenges of the day! We use our electronic voting systems to monitor every participant's response.

Please email us with any further queries: stem@thinkersineducation.co.uk



Dead on Time

Full-Day Workshop

Include 30 Pupils for £795+VAT

A dead man is found in a secluded car park on the outskirts of a town. The death will be investigated by teams of pupils representing crime scene investigators. They must analyse crime scenes, conduct forensic tests, interpret evidence and scrutinise statements made by suspects. Pupils will use techniques spanning the ages of detection, from fingerprinting through to DNA electrophoresis. As the complex story unfolds pupils must ensure they work together to analyse all the information in order to draw a conclusion that fits the evidence.

“A fantastic day! Organised to the max, fully engaging and students on the edge of their seats the whole way through. Varied techniques explore and very relevant to our specification.

V Thatcher, Teacher of Criminology, City of Portsmouth College, Portsmouth

- **Type of Event:** 1-Day Science / BTEC or WJEC Criminology Lv3
- **Age Range:** (Yr 5-13)
- **No. Participants:** 12 – 30 (Additional places cost £15/student up to a group size of 36)
- **Difficulty Level:** Adapted from Medium – Very High
- **Basic Cost:** From £795 + VAT
- **Subject Focus:** Science, Maths & Critical Thinking
- **Duration:** 4.5 – 5 Hours (adapted to fit within host-school timings)

Typical Structure:



We reserve the right to amend the content and structure of the programme as appropriate – particularly for younger students

Assessment & Performance Report:

We use electronic voting systems to monitor every participant's response to a wide range of challenges throughout the event. We assess the results according to 'Bloom's Taxonomy' and can collate them into a 'Performance Report' for the school.

Activity Overview:

Crime Scene Interpretation (Individual Challenge): (Approx: 20 min)

Photographs from the crime scene and eyewitness accounts enable teams of pupils to form initial impressions. They must be observant enough to form a range of theories to explain the mysterious death and astute enough to ask the critical questions.

Toxicology (Teamwork Task): (Approx: 45 min)

Attention to detail, analytical and communication skills will be tested to the full. Pupils will test drug samples (simulated) from the crime scene whilst ensuring they follow protocols to avoid contaminating evidence. Which toxicology lab will offer the most accurate results in the shortest time?

Latent Fingerprinting (Teamwork Task): (Approx: 75 min)

Pupils will learn to analyse the minutiae of fingerprint ridge detail in order to identify prints from the crime scene. They will dust and lift latent prints from the scene using a range of real-life fingerprint brushes and techniques before taking ink prints to enable them to find a match. They must ensure they do not destroy or misinterpret vital evidence if they are to use it to build a case.

The Investigation (Individual Challenge & Teamwork Task): (Approx: 60 min)

Initially, pupils work individually to extract and interpret evidence from statements from two witnesses. Then, they work as a team of investigators to uncover and analyse further suspect profiles and criminal records. They will need to employ mathematical skills to analyse the maps of routes travelled by suspects in order to construct a timeline. Teams may need to reassess their first impressions.

DNA Fingerprinting – Using Electrophoresis (Teamwork Task): (Approx: 60 min)

Pupils will learn how to analyse DNA samples extracted from hair, blood cells or skin cells found at the crime scene to compare with the DNA extracted from various suspects in this model of PCR amplification. They will prepare their own gel bed, cast and load the gels to run DNA samples in the electrophoresis tanks. Then, pupils will measure, compare and evaluate DNA fingerprinting patterns. Teams must consider the evidence and compare the strengths and limitations of DNA profiling if they are to use the results to pinpoint a prime suspect!

Case Conclusions (Individual Challenge): (Approx: 30 min)

The final challenge of the day requires pupils to assess all the evidence found in order to construct events leading up to, during and after the death of the victim. They must highlight any motives the suspects may have and determine if their alibis are genuine. Critical thinking and communication of ideas is essential – if teams are to solve the case! However, every individual will need to submit their own conclusions.

Please email us with any further queries: stem@thinkersineducation.co.uk

Maximum Enrichment

Consecutive 2-3 Day Workshops



Target Mars

CAN YOU SURVIVE?

THE SPACE ADVENTURE

Science & Engineering in an exciting competition

Alarming Electronics
Micro Chemistry
Blood Analysis

Find Out More:
thinkersineducation.co.uk/TM

In the year 2035, astronauts aim to set foot on Mars. Players will build prototype vehicles, analyse Mars soil and learn life-saving techniques in order to succeed.

Take part in an amazing adventure game and become a pioneer of the future!

"The best thing I have ever done. I made loads of new friends. Great experiments!"
Aaron Wickens, Slough



DEAD..TIME

CAN YOU SOLVE IT?

CSI Forensics

Use real-life techniques in an exciting competition

Fingerprinting
DNA Analysis
Toxicology

Find Out More:
thinkersineducation.co.uk/csi

A body has been found in a car on the outskirts of the city. Competitors will learn to use real forensic techniques and think like a detective in an attempt to solve the case!

Take part in a thrilling mystery - the ultimate interactive reality-game experience.

"Awesome. It was so good! Lots of fun and a great story. Intriguing, innovative, intelligent - I loved it"
Joy Hamilton, Manchester



Our flagship events are specialist 2-3 day workshops that allow schools to deliver the very best enrichment and extension activities during term-time or holiday periods. Each one is carefully designed to greatly develop the skill sets explored in the single-day CSI Thriller and Space Adventure events in order to maximise the experience for every participant.

If you can provide a venue from 8:00 am to 4:00 pm (a science lab, hall or large enough classroom with tables, chairs and toilet access) - we can deliver any of our events.

"The presenters did a fantastic job. The structure and demand of the activities was motivating and accessible but also had challenge. Year 10 loved it. All of the instructions were crystal clear and well paced practical activities were supported by theory and application. Really impressive organisation and design of activities and resources. The mix of team vs individual achievement celebration was fantastic. You could really see confidence and leadership skills grow over the week. There is nothing I could suggest to improve the experience and we will definitely be rebooking."

E Payler, Head of Science, St Paul's Girls' School, Brook Green, London.

2-3 Day Workshop – Option 1



The race is on to colonise Mars. Can they survive? Teams of pupils represent different nations in an international mission. They will need to cooperate to ensure success but only one team can claim final glory! Success in experiments and problem solving tasks is essential. Pupils will use techniques and equipment used in industry and research laboratories to help survive explosive situations, a disease outbreak and dangerous Mars expeditions! Each individual plays an essential role in an exciting adventure game designed to challenge, entertain and encourage the pioneers of the future!

“The event literally gets the absolute best out of every individual. The children loved it!”

M Wadsworth, G&T Coordinator, Saddleworth High School, Oldham.

- **Type of Event:** 2-3 Day Able & Ambitious / STEM Event
- **Age Range:** Year Groups 5-12
- **No. Participants:** 12 – 30 (Add places for £15/student/day up to a group size of 36)
- **Difficulty Level:** High – Very High
- **Subject Focus:** Science, Technology, Maths & Creative Thinking
- **Duration:** 4.5 Hours/Day

Activity Options: *(Delivered in addition to team-building and research activities)*

- Micro Chemistry Investigation
- Designing Mars Landers
- Launch Pad - Rocket Technology
- Alarming Electronics
- Robot Rovers
- Designing a Martian Buggy
- Towering Ambition
- Outbreak – Modelling ELISA
- Martian Sand Investigation
- Mars Base Design
- Investigating Solar Power
- Investigating Wind Power
- Transfusion: Blood Analysis
- Fuel Cell Technology
- Crossing the Chasm
- Mars Explorers & Colonisation

We will discuss the content and structure of the programme we feel best utilises the duration of the workshop booked

Assessment & Performance Report:

We use electronic voting systems to monitor every participant's response to a wide range of challenges throughout the event. We assess the results according to 'Bloom's Taxonomy' and can collate them into a 'Performance Report' for the school.

2-3 Day Workshop – Option 2



A man is found dead in a secluded car park on the outskirts of town. The death is treated as suspicious and investigated by teams of pupils representing crime scene investigators in an ultra-realistic scenario. They must analyse crime scenes, conduct forensic tests, interpret evidence and scrutinise suspects. Pupils will use a vast array of real-life techniques spanning the ages of detection, from fingerprinting through to DNA fingerprinting. As the complex story unfolds pupils must ensure they work together to analyse all the information in order to draw a conclusion that fits the evidence! Can they solve it?

“Outstanding week. Our students were fully engaged. The course was dynamic, competitive and informative. The breadth and variety of study areas was impressive. The presenters were amazing.”

Jan de Caux - Events Manager, Queen's College, Taunton

- **Type of Event:** 2-3 Day Science / BTEC & WJEC Criminology Lv3
- **Age Range:** Year Groups 6-13
- **No. Participants:** 12 – 30 (Add places for £15/student/day up to a group size of 36)
- **Difficulty Level:** High - Very High
- **Subject Focus:** Science, English, Maths & Critical Thinking
- **Duration:** 4.5 Hours/Day

Activity Options: *(Delivered in addition to team-building and research activities)*

- Crime Scene Investigation
- Fingerprinting Professionals
- Blood Stain Analysis
- Blood Splatter Investigation
- Karyotyping Technology
- DNA Extraction & Analysis
- DNA Fingerprinting
- Suspects & Alibis
- Forensic Anthropology
- Hair & Fibre Analysis
- Micro Combustion Distillation
- Chemical Analysis
- Soil Analysis
- Photo-Fit Identification
- Statement Analysis
- Motive, Method and Opportunity

We will discuss the content and structure a programme we feel best utilises the duration of the workshop booked

Assessment & Performance Report:

We use electronic voting systems to monitor every participant's response to a wide range of challenges throughout the event. We assess the results according to 'Bloom's Taxonomy' and can collate them into a 'Performance Report' for the school.

What's Included?

- Provision for up to 30 participants - with options for early drop-off & late pick-up
- Fully Planned, Expertly Delivered Sessions - by at least two full-time presenters
- All Specialist Equipment, Risk Assessments & Organisational Guides
- Digital promotional flyers - to distribute to prospective participants and parents
- Certificates of Achievement – listing skills developed and presented to all participants
- 'Champion' medals & prizes for members of the winning team
- All travel and accommodation costs

Optional Extras

- Add more student places for £20/student/day up to a maximum group size of 36
- Printed promotional flyers - to distribute to prospective participants and parents
- Thinking Skill Report – data records of pupil performance against Bloom's Taxonomy
- 'Achievement' medals for every participant to celebrate everyone's efforts
- 'Event DVDs' – a fantastic keepsake for every participant (3+ day events only)

What does it cost?

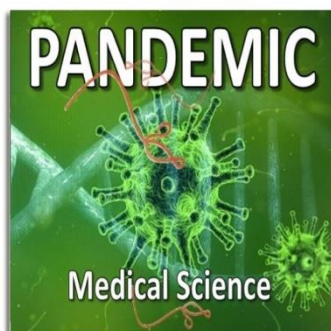
- **2-Day Workshop:** **Save £100** = **£1490** +VAT
- **3-Day Workshop:** **Save £225** = **£2160** +VAT

Costs are based on 30 participants each day.

Up to SIX additional students can be added for £15 per student per day to allow for a total of 36 participant places.

“This is the best external company we have ever used. The level of analysis of pupil performance was second to none. A thoroughly amazing experience.”

Kathryn Key, Gifted & Talented Coordinator, Perins School, Arlesford, Hants



Larger Group

The Pandemic

Medical Science

Demystify pandemic procedures by allowing participants to learn the medical science concepts and techniques used in real life. Pupils will be taught how to conduct antibody testing and blood testing when an outbreak occurs. Their simulated ELISA tests, exploring antibody-antigen reactions, determine who is infected. But participants must accurately apply the demonstrated techniques and determine how to best use the biotech multi-well tray to ensure minimal contamination and maximum reliability. Then, to treat those infected, participants must develop a convalescent blood treatment from people with immunity and ensure precise blood testing. To end the pandemic players must use their results to trace the point of origin and apply their scientific knowledge against time and under pressure. Which nation will cope best?

"Superb! Students were motivated and engaged throughout, showing team work and independence. I can't recommend TiE enough!"

J Stevens, Yr10 Progress Lead, The Magna Carta School

- **Type of Event:** Two 2-2.5 Hour STEM Workshops
- **Age Range:** (Yr 8-13)
- **Difficulty Level:** Medium – Very High
- **Subject Focus:** Biology, Mathematics & Critical Thinking

Two 2-2.5 Hour Medical Workshops (For up to 144 pupils per day)

Includes:

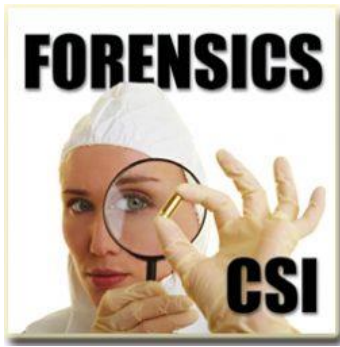
- Ebola Case Study (Yr8+)
- Modelling Transmission
- ELISA Testing (Simulated)
- Tracking & Tracing
- Blood Testing
- Controlling The Pandemic Quiz

Costs:

- 37 - 42 Pupils/Session: £1035 +VAT
- 43 - 48 Pupils/Session: £1155 +VAT
- 49 - 54 Pupils/Session: £1275 +VAT
- 55 - 60 Pupils/Session: £1395 +VAT
- 61 - 66 Pupils/Session: £1515 +VAT
- 67 - 72 Pupils/Session: £1635 +VAT

We will require a hall large enough to contain up to 12 team pods (typically 2 standard classroom desks pushed together to make a square or one large dining room table) for 6 people per team plus 7 tables for the presentation team. With large events, we need to consider safety, organisation and practicality. Please allow enough room for safe pupil movement.

If you have any queries, please email: stem@thinkersineducation.co.uk or call: 01603 555524



Larger Group CSI Forensics

Every student will use the best forensic science equipment and techniques - in thrilling CSI workshops for large group sizes. Hands-on DNA Electrophoresis and Blood Typing experiments enable students, representing CSI teams investigating a murder, to use high-level scientific evidence to reach a conclusion. Each participant selects a role of within the team and will work alone, in pairs and with the full team at different times in the day. As forensic scientists, pupils will ensure all team players conduct their processing of evidence accurately. As detectives, they will scrutinise suspects and crime scene photos in the search for clues. As a team, they must evaluate their evidence, determine its relevance and reach a conclusion before facing the pressure of the courtroom. One mistake may see a murderer walk free. Can the teams use their scientific techniques and problem solving skills to solve the case?

"A great event. Students thoroughly enjoyed it and remained engaged throughout. Everything was well thought out. Superb organisation."

S Macpherson – Head of Science, Watford Girls Grammar School

- **Type of Event:** Single-Day STEM Event
- **Age Range:** (Yr 6-13)
- **Difficulty Level:** Medium - Very High
- **Subject Focus:** Science, English, Mathematics & Critical Thinking

We offer two versions of the event:

Two 2-2.5 Hour CSI Workshops (For up to 144 pupils per day)

Includes:

- Crime Scene Video
- Blood Typing
- DNA Electrophoresis
- Suspects Analysis
- Courtroom Evidence Quiz

Costs:

- 37 - 42 Pupils/Session: £1035 +VAT
- 43 - 48 Pupils/Session: £1155 +VAT
- 49 - 54 Pupils/Session: £1275 +VAT
- 55 - 60 Pupils/Session: £1395 +VAT
- 61 - 66 Pupils/Session: £1515 +VAT
- 67 - 72 Pupils/Session: £1635 +VAT

One 5-Hour CSI Workshop (For up to 72 pupils per day)

Includes:

- Crime Scene Photo Analysis
- Blood Typing
- Powder Fingerprinting
- Ink Fingerprint Analysis
- DNA Electrophoresis
- Searching For Suspects
- Courtroom Evidence Quiz

Costs:

- 37 - 42 Pupils/Session: £1035 +VAT
- 43 - 48 Pupils/Session: £1155 +VAT
- 49 - 54 Pupils/Session: £1275 +VAT
- 55 - 60 Pupils/Session: £1395 +VAT
- 61 - 66 Pupils/Session: £1515 +VAT
- 67 - 72 Pupils/Session: £1635 +VAT



Larger Group Killer Coaster

Creativity & Engineering

Killer Coaster is a highly focused Enterprise and engineering challenge for up to 72 pupils per session. The event is specifically designed to develop creative thinking, teamwork, and communication skills. Teams complete 'construction training' in order to learn structural requirements and building techniques. They must apply these skills together with their imagination and problem solving ability to design, build and market the Funfairs created. Teams are also challenged to identify the forces and energies experienced by passengers on each ride in their park. Teams must aim to build the most exciting theme park in the world – but they must ensure they are not the owners of a 'Killer Coaster!'

“Workshops provided by TiE are by far the most useful and enjoyable STEM ones our students experience...whether its Killer Coaster or CSI.”

N Percy, Director of STEM, Haberdashers' Girls' School, Elstree.

- **Type of Event:** Creativity & Engineering Event
- **Age Range:** (Yr 5-13)
- **Difficulty Level:** Medium - High
- **Subject Focus:** Design Technology, Science & Mathematics

We offer two versions of the event:

Two 2-2.5 Hour Workshops (For up to 144 pupils per day)

Includes:

- Construction Training
- Ride Selection & Build
- Meeting a Deadline
- The Energy Of Funfairs Quiz

Costs:

- 37 - 42 Pupils/Session: £1035 +VAT
- 43 - 48 Pupils/Session: £1155 +VAT
- 49 - 54 Pupils/Session: £1275 +VAT
- 55 - 60 Pupils/Session: £1395 +VAT
- 61 - 66 Pupils/Session: £1515 +VAT
- 67 - 72 Pupils/Session: £1635 +VAT

One 5-Hour Workshop (For up to 72 pupils per day)

Includes:

- Construction Training
- Ride Design & Build
- Purchasing & Trading
- Meeting a Deadline
- Creating the Theme
- Marketing and Investment
- The Energy Of Funfairs Quiz

Costs:

- 37 - 42 Pupils/Session: £1035 +VAT
- 43 - 48 Pupils/Session: £1155 +VAT
- 49 - 54 Pupils/Session: £1275 +VAT
- 55 - 60 Pupils/Session: £1395 +VAT
- 61 - 66 Pupils/Session: £1515 +VAT
- 67 - 72 Pupils/Session: £1635 +VAT



To Host a STEM Workshop

Step 1

Please request the dates of your choice via our website forms
<https://www.thinkersineducation.co.uk/availability-calendar/>

or contact us via email:
stem@thinkersineducation.co.uk

Step 2

Once an available date has been agreed we will hold it for you on a provisional basis for 7 days and send you a link to our secure online booking form to confirm your booking.

Step 3

Our Event Manager will email you upon receipt of your booking form to confirm details and send through risk assessments and guides to help you prepare for the workshop(s).

