

SCHOOLS STEAM PROGRAMME 2021-2022



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BOM is a centre for art, science and technology, dedicated to creative innovation with purpose. We explore how technology can be used as a tool for change and to make society a better place.

BOM's engagement team delivers a range of skills based learning, collaborative projects and professional digital development through our engagement programmes for children and young people.

Our schools STEAM programme is designed to provide alternative and enriching learning experiences, with the goal of giving all learners the time and space to develop enquiring minds. These workshops inspire young people to problem solve, question and explore science and tech. BOM's workshops pioneer intersectional STEAM skills and career pathways, all the while ensuring our programmes are accessible, open sourced and adapted for SEND needs and requirements.

Currently we deliver workshops for up to 15 learners at a time in order to provide the highest quality engagement experience in a safe and responsible way following ongoing Governmental advice.

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BLUE SKIES BIOLOGY

Length:

**3 SESSIONS, 2 HOURS EACH
(2 WEEKS APART)**

Age Range:

KS3 | KS4

**SUGGESTED FOR TOP SET
LEARNERS**

MAXIMUM 15 LEARNERS

Fee:

£360 +VAT

Blue Skies Biology is our programme of workshops exploring astrobiology – the search for life in space. Over three sessions learners will follow the different methods and equipment scientists use to identify life found in extreme environments. BOM are very excited to present this programme at the same time as NASA rover Perseverance touches down on Mars and plans for a new Space Centre in Birmingham are being announced, leading to many opportunities and discussions around future skills needed in space related career pathways.

Workshops include:

Bioprospecting: learners will be taught basic microbiology and use petri dishes to collect microbes from the air by sampling the local environment and using wind socks.

DNA Sequencing: Two weeks later learners will examine their Petri dishes for signs of microbial growth. They will use microscopes and gram staining techniques to observe cultures and analyse what they have found using a Bento Lab and PCR sequencing methods.

Microbes in the World: Using the data collected and images of bacterial growth found by learners they will produce artworks to document findings using resin and craft techniques.

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MUMMIFICATION WITH BACTERIAL CELLULOSE

Length:

**3 SESSIONS, 2 HOURS EACH
(1 WEEK APART)**

Age Range:

KS2 | KS3

MAXIMUM 15 LEARNERS

Fee:

£360 +VAT

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Learners will cover a range of STEM activities which will provide enrichment around Ancient Egypt. Sessions will cover hieroglyphics, writing signatures in a cartouche, and using reed tools and papyrus paper.

Learners will also make model pharaohs and grow sheets of bacterial cellulose from a bacterial culture, to use as a skin which can be mummified through authentic ancient Egyptian processes. During the final session learners will exhume their mummies and design a sarcophagus to intern them.

Through these workshops learners will cover the scientific principles behind growing colonies of bacteria to produce cellulose, the chemistry of using natron salts in mummification, mathematical proportions for model making, and constructing sarcophagi using cardboard.



CODER BEATZ

Length:

4 SESSIONS, 2 HOURS EACH

Age Range:

KS2 | KS3

MAXIMUM 15 LEARNERS

Fee:

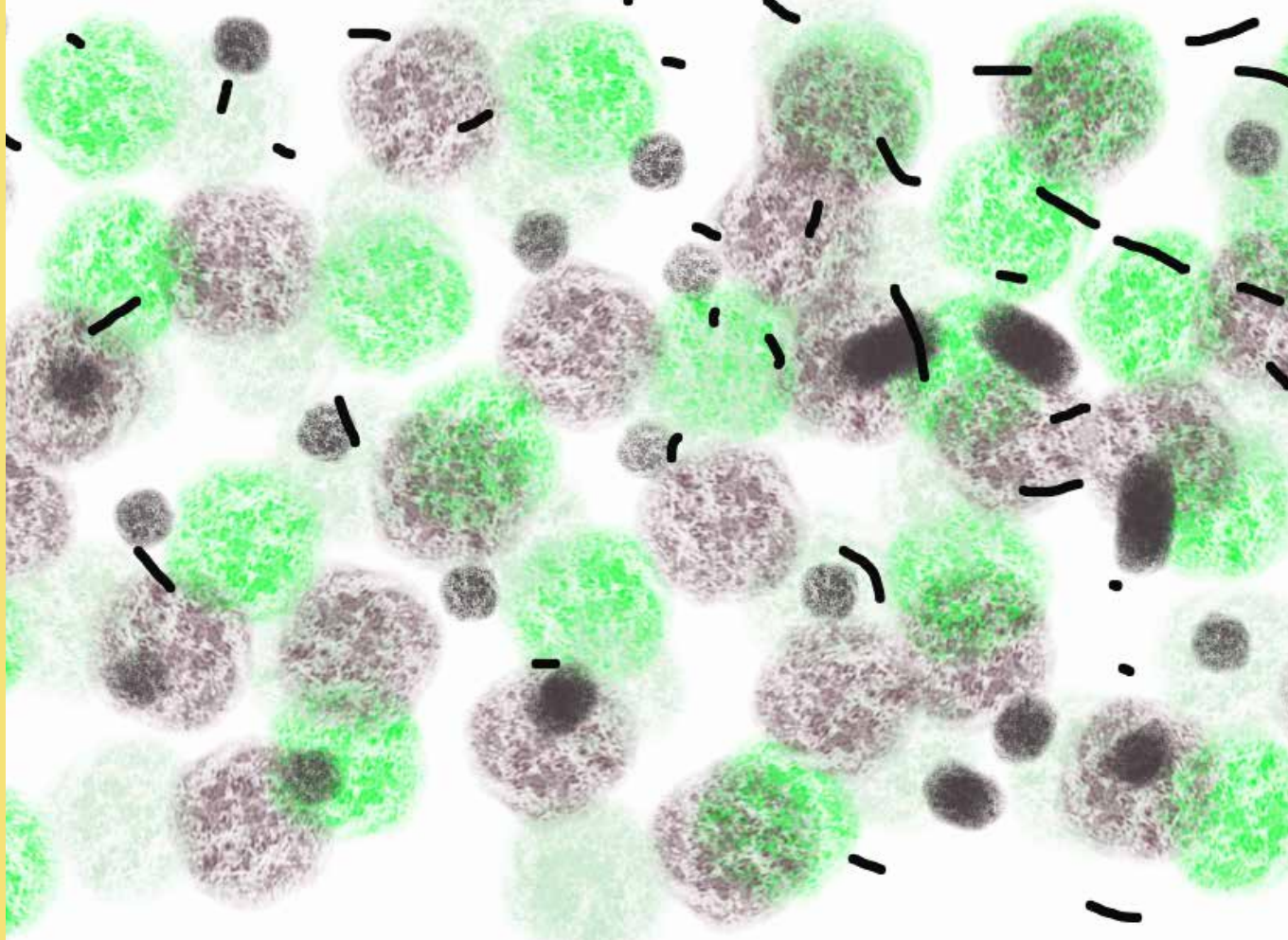
£480 +VAT

This beginner's series of workshops will introduce learners to 'Estuary', an online platform for creating music and visuals through live coding and algorithms.

The sessions will be split across four days; the first two exploring how music is constructed through rhythm and patterns using 'minitidal', and the last two days developing their coding skills through interactive, engaging, and fun activities to create adaptive visuals using 'hydra'.

By the end of this beginners course they will be able to code rhythms, create sound effects, arrange live coding with their animations, and share their visual/musical work collaboratively. Learners will not need any music or tech experience and BOM will provide laptops and headphones for them.

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DIGITAL ART

Length:

2 SESSIONS, 2 HOURS EACH

Age Range:

KS2 | KS3

MAXIMUM 15 LEARNERS

Fee:

£240 +VAT

Learners will develop creative digital skills through a wide range of online applications such as;

- Kleki, digital sketching using a range of effects and brushes
- FlipAnim, composing animated sequence using stop motion and 'onion skinning' to create GIFs
- YouiDraw, mark making illustrations exploring hues and textures
- PhotoMosh, to create glitches and shimmering effects.

From creating GIFs and animations, to designing digital art based on modern art classics, learners will create a portfolio of digitally doodled imagery that can also be used as gamer pics and digital avatars to adorn social accounts. Each two-hour session will include a tutorial and hands on support from the BOM engagement team who will guide learners through each application over two days.

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AUGMENTED REALITY WORKSHOPS

Length:

2 SESSIONS, 2 HOURS

Age Range:

KS2 | KS3

MAXIMUM 15 LEARNERS

Fee:

£240 +VAT

Workshops will introduce learners to the amazing world of augmented reality. They will be able to explore augmented experiences using tablets and interact with amazing creatures and objects that augment in their own classrooms.

Learners will find out where to source free 3D programmes to create their own AR scenes. We will show learners how to create different file formats they can use and best practices for using 3D models in webAR. Learners will also create their own models using the 3D scanning app Qlone, a free accessible and fun way to learn the basics of augmented reality.

BOM can also extend these introductory workshops to develop learners' digital skills so they can download their AR onto websites using some code work and a small website fee. With these extended skills QR codes can be established around your school allowing everyone to view learners' augmented reality work.

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ARTS AWARD (BRONZE)

Length:

4 SESSIONS, 2 HOURS EACH

Age Range:

KS2 | KS3

MAXIMUM 15 LEARNERS

Fee:

£480 +VAT

BOM is a registered Arts Award Supporter and have a range of activities and opportunities to help young people complete the Arts Award at Discover, Explore, and Bronze level. BOM has a community of Fellows (artists, technologists, scientists, researchers and producers) who create projects and partnerships at the cutting edge of visual arts, performance, coding, and more. They can then share their practice and work with others.

Learners will explore the arts as a participant through digital and craft activities based around BOM exhibitions and activities. They will experience the arts as an audience member, looking at concepts and ideas about their views on creativity, content, and making links with similar work. Learners will research artist/ craftspeople/ arts practitioners and share skills with others, all recorded in a digital portfolio.

Arts Award is a national recognised arts qualification, accredited by Trinity College London for young people between 12 and 25 years old.

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CLANK, BONK, RATTLE

Length:

2 SESSIONS, 2 HOURS EACH

Age Range:

KS2 | KS3

MAXIMUM 15 LEARNERS

Fee:

£240 +VAT

BOM has commissioned sound artist Sam Underwood to produce a music machine using gears, bells, and instruments based on the movements of the solar system, dubbed the 'Clank, Bonk, Rattle'. Drawing inspiration from this contraption, learners will be asked to plan, problem solve, investigate, and adapt materials to create their own moving musical device.

Using a collection of tools and materials provided by BOM, learners will plan, test, and refine their sound contraptions using bespoke boards specifically designed to build an infinite variety of musical machines using gears, balloons, elastic bands and more.

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WORK EXPERIENCE

Length:

1 WEEK, HALF DAYS

Age Range:

KS3 GROUP OF 6 LEARNERS

Fee:

£600 +VAT

This week's work experience is designed to give SEND learners a holistic and pragmatic approach to understanding the career pathways into the arts and how to deliver projects through collaboration.

Learners will hear from our director, curator, engagement manager and operations manager during the week to understand all the roles within an arts space.

Throughout the week, learners will have the opportunity to 'have a go' at some of the activities we run in schools. By the end of the week their challenge is to work as a team to devise a 'BOMtastic' workshop that could be delivered in their school in the future, looking at budget, science/tech skills that learners will develop, resources needed and mini workshop plan to create a short marketing video.

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ADDITIONAL INFORMATION

BOM strives to make our programme and premises as accessible as possible at every step. Our building consists of an autism friendly cafe and wheelchair accessible gallery space, with co-working spaces on the first floor, as well as basement spaces all connected by a central elevator. Our engagement team can provide virtual tours and introductions to learners from SEND schools, as well as an interactive 360° video capture on the BOM website.

We also provide schools with tailored risk assessments for every workshop, letters home to parents and guardians explaining activities learners will take part in and photo consent forms. BOM will never use learners names in our social media or website and only use photos to encourage schools to participate in our educational programmes and grant award reporting which subsidises all of the above projects.

BOM can support schools with achieving their Gatsby Benchmarks and tailor sessions to suit schools requirements. We offer work experience for groups, guidance and first hand experience of employment and freelance work, and preparing learners with skills for the future job market.

All our fees are competitively priced and calculated to cover facilitation fees, preparatory work, materials, set up and set down time. We subsidise our programme through grant funding from Arts Council England as well as other awards and organisations. VAT will be applied at 20% to our fees.

We look forward to joining you in schools and welcoming learners to BOM. We know that learners get the best out of our workshops when they have continued support from their teachers and teaching assistants who actively participate alongside our enrichment experiences. We ensure that lesson plans and resources are shared with schools so they can continue to support their learners long after their work with us.

BOM is located close to Grand Central Train Station and has a bus drop off point outside opposite BOM on 1, Dudley Street, Southside, Birmingham, B5 4EG.

For further information or to book email: laurie@bom.org.uk

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