

Guidance for working with digital arts and technology

With an increasing number of emerging digital artists and makers, and cultural organisations using technology to bring their collections to life, a wide range of Arts Award projects are now linking to digital arts.

This resource provides guidance for advisers when working with digital arts and technology. The advice is divided into the four key areas of activity that feature in each level of Arts Award. If you're unsure about the meaning behind any digital terms used in this resource, we recommend that you take a look at our **Arts Award digital factsheet** later in this resource for more information.

Taking part in the arts

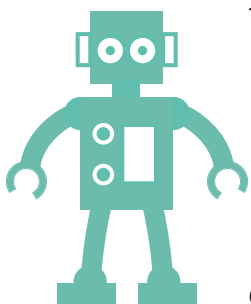
Creative code

One of the most frequent digital activities that Arts Award centres are engaging with is coding.

Activities should focus on coding to make a creative output rather than something functional. This could include visual art and design, music, projections, animation and game design.

Code can be used to create creative outputs, such as using HTML and CSS to craft and layer a range of shapes and colours to produce a piece of visual art. More advanced languages like Python and Javascript could be used to generate images, create games and output conditional stories. An open source tool to start on this could include 'Twine' (twinery.org) which helps you create narrative based stories and can be extended with code.

If the activity is an introduction to coding and does not present much scope for creating something expressive, then young people should be supported to understand how their code would contribute to a wider creative output. For example, if they are experimenting with simple motion script in Scratch, then they should use this to control a basic animation.



Handy Hint



Likening code to other art forms

Remember you don't need to be an expert in an art form to support young people to take part and relate their learning to Arts Award. If you feel confused by code, try to think about it in relation to other art forms. For example, like the crochets and quavers on a musical score or the rows and stitches in a knitting pattern

Copying code

If an activity involves young people copying an existing piece of code, this should be used as a starting point to then support them to develop their skills.

If they are brand new to coding, then a demo activity is a good way to start. They should be able to demonstrate that they have made some creative choices/responses in order to improve their practice and develop their skills, art form knowledge and understanding. For example, a young person copies some pre prepared code to make their BBC micro:bit play a tune. They then develop their skill by creating their own code for a new or different tune.

Vlogging

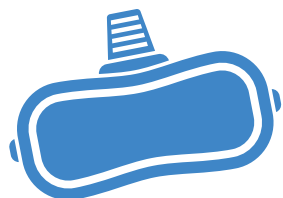
Young people who want to try vlogging as an art form can be supported to focus on skills such as filmmaking, video editing, graphics, sound, music, and creating a brand for themselves as a vlogger. These are often referred to now as 'Content Creators'. The topic of their vlog may not be arts related, but the technical practice of making it should be and their learning development should be about the art form rather than any non arts related vlog topic. There are a range of tools available to support students with media practice – take a look at our suggestions later in this resource.



Being part of the audience

Virtual Reality (VR), Augmented Reality (AR) and Mixed Reality (MR)

There are a growing array of digital tools and software being used by arts and cultural organisations to enhance the visitor experience. Mixed Reality brings the physical and virtual worlds together such as producing holographic material which can be seen in the room around you whilst wearing a headset. Virtual Reality brings real-world experiences to a person wearing a headset (exploring a gallery without leaving home), and Augmented Reality allows you to overlay graphics on an image of a real space using just a phone for example.

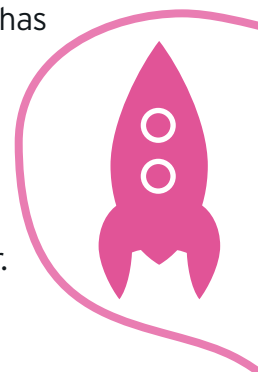


If young people are using VR, AR or MR to explore an arts experience, they should focus on the arts/cultural content rather than

the technology. For example, if they are using an AR app to digitally interact with a room of a museum that they are visiting, they should focus on reviewing the museum collection rather than the AR technology. Of course, they can comment on the technology to describe how it has enhanced their audience experience, but not solely on this.

Virtual visits

As above, if a young person is using the web to access a virtual tour of a museum, gallery or another arts experience, they should focus their review on the arts/cultural content rather than the technology, although they can comment on the technology to describe how it has enhanced their audience experience. For those relying on virtual visits rather than live experiences at Silver and Gold levels, evidence could be strengthened by adding a conversation with a curator or similar.



Vlogging

When watching a vlog as an arts event, the approach will depend on the content of the vlog. This is most simple if the vlogger commentates on music, film, a video game or another art form. A non-arts related vlog subject/context could also be used if it provides a creative impact. For example, a vlog could be about wildlife but the review focuses on the presenter's broadcasting skills.

Young people should always be encouraged to review particular arts based aspects of the vlog, for example reviewing the presenting skills and entertainment value, the script writing and narrative, how this enhances the audience experience, a bit like they would do if reviewing a radio show. The review should not simply be a summary of the vlog, it should also comment on the arts elements within the vlog.

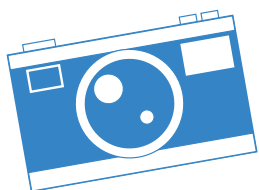
Gaming

Arts Award acknowledges that in most cases, in order to review a video game, young people will need to participate in playing it first. In these cases, the content of the review should focus on the artistic quality and creative impact of the game (such as the graphics, characterisation, storyline, soundtrack) rather than the level that the young person reached or the points they won and tricks they used when playing the game. In the same way, the review should not simply be a description of the game, it should also comment on the arts elements within the game.

Arts inspiration/ researching artists

Digital artists

If young people choose to find out about the life and career of a coder, they should be able to evidence that the person codes for creative outputs as per our advice given above under 'Creative Code'. They should focus on how



the coder is making creative decisions as part of their digital art form, rather than making functional code only.

Vloggers

When researching vloggers, it is recommended that the focus is on their career as a performer, entertainer and filmmaker. In some cases, this may include, someone who has used their exposure to diversify their arts skills and brand, for example a vlogger who has gone on to set up their own fashion label or music career.

Focusing on their life and career in the context of their vlogging and arts skills, should support young people to broaden their research beyond their celebrity status.

Technology enabled creative careers

A young person may want to explore the career of an individual working in the creative sector whose role has been enabled or enhanced by the development of technology. For example those who design lighting or sets for shows. Many will now use Computer Aided Drawing programs for example and it would be important for a young person to

understand how this forms part of the creative process, where they might have learnt these digital skills, and how it translates to supporting the creative output of the role.



Sharing skills/leadership

Showing/sharing with others

If young people choose to share their coding skills with others as part of a skill sharing session or leadership project, their planning and delivery should evidence the creative output and decision making that is made as a result of the activity (as well as the functional coding). For example, showing a friend how to programme some basic code that results in a short piece of music or animation, rather than only showing them the input options, how to move a character up and down or how to make a note louder and softer. This could be likened to visual editing or music production in which a young person would share with others how to create something rather than just what the buttons and tools can do.

Sharing through a vlog

Young people may wish to create an instructional film or vlog to share their skills with others. There are two ways in which they might do this:

- By creating a vlog as a way of sharing other arts skills, for example a vlog that teaches others how to sing.
- By creating a vlog that is based on the skills involved in filmmaking, editing and narrative, teaching others how to create a vlog.

Handy Hint



Links between taking part and sharing skills

When showing others how to code or a similar digital activity, it is important that the evidence collected stands alone, without the need for it to be supported by creative content in another part. For example, if a young person is delivering a coding workshop for Bronze Part D then their evidence for this part should show the creative work produced as a result of the workshop. They should not signpost to any creative code already evidenced in Part A.

3D Modelling

Increasingly popular for young people, in its own right, as a basis for animation work, and as a tool for theatre designers to create models of sets, characters and even environments, 3D modelling is a great entry to the usefulness of Computer Aided Design in many careers. Some of the software available for this includes:

- **Blender** blender.org



- **Sculptris** sculpteo.com/en/glossary/sculptris-definition
- **Trimble SketchUp Free** sketchup.com/en/plans-and-pricing/sketchup-free

3D printing

The ability to create components for physical visual arts projects, props and items for shows, whole sculptures and so much more is now available to students with access to 3D modelling software and 3D printers.

Young people can document the process of 3D printing, including concept development, modelling, and printing stages as part of their creative development. Use software like the above and 3D printers available from many retailers.

Artificial Intelligence (AI)

Integrate AI algorithms for generating artwork, music compositions, or interactive experiences, showcasing experimentation with new technologies. Use AI-powered tools for image enhancement, style transfer, or content creation, adding innovative elements to creative projects. You'll find some of the digital tools mentioned throughout this resource leverage AI.

As well as artistic creation it is possible to use AI-driven analytics and data visualisation tools to analyse audience engagement and feedback for project evaluation and documentation.

Audio editing

For those interested in putting their own audio together, as an output, for rehearsals, or simply as a way to present their portfolio there are numerous software programs available such as:

- **Audacity** offers a wide range of features for recording, editing, and mixing soundaudacityteam.org
- **Ardour** is a free digital audio workstation (DAW) that provides professional-level tools for recording, editing, and mixing music and sound including combining multiple tracks and adding sound effects ardour.org
- **Helm** is a software synthesizer that offers a wide range of features for sound synthesis and manipulation tytel.org/helm



Augmented Reality (AR)

A view of the real-world where elements are supplemented by computer-generated sensory input such as sound, video or graphics. The result is to enhance your current view of reality.

AR happens in real time, making the real world become interactive and digitally manipulable. Young people can create AR experiences using software like:

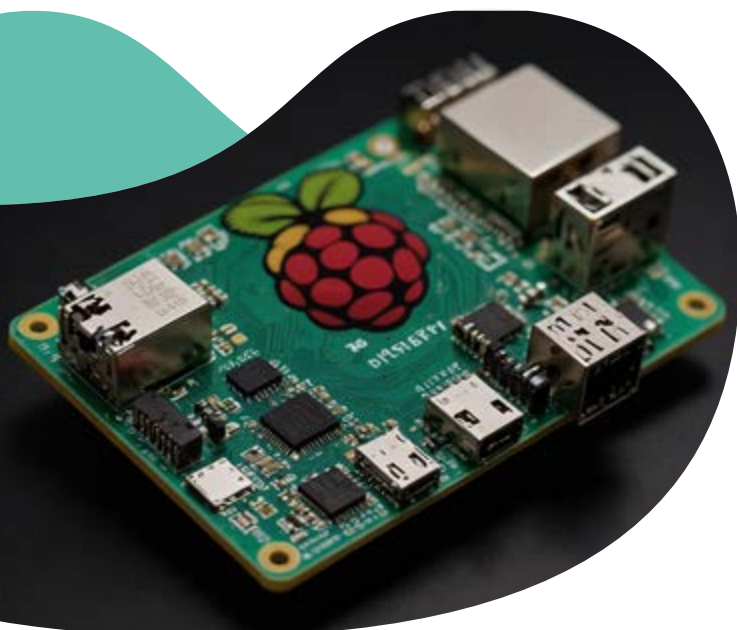
- ▶ **Adobe Aero** adobe.com/uk/products/aero.html
- ▶ **AR Core** (Google) developers.google.com/ar
- ▶ **AR Kit** (Apple) developer.apple.com/augmented-reality

Internet of Things (IoT) devices

Covering a wide array of possibilities, you can use IoT devices to experiment with sensors, actuators, and programming to create responsive and immersive experiences like interactive artworks, kinetic sculptures, or live art such as sensor controlled music responding to dance movement.

Some of the devices (and software) that could be used as the basis to creating these include:

- ▶ **Arduino** arduino.cc
- ▶ **Micro:Bit** microbit.org
- ▶ **Raspberry Pi** raspberrypi.com



Coding

This means computer programming. It is the process of designing, writing, testing, troubleshooting, and maintaining the source code of computer programmes. This could include coding a game, an animation or a piece of music.

- ▶ **Notepad++** notepad-plus-plus.org
- ▶ **TextMate** macromates.com
- ▶ **Visual Studio Code** code.visualstudio.com



Computing

In September 2014, Computing replaced ICT as a **national curriculum subject** in schools at all key stages. At the same time, computing and coding lessons were also introduced to the primary school curriculum.

Digital literacy

According to Ofsted, it is the ability to effectively, responsibly, safely and critically navigate, evaluate and create digital artifacts using a range of digital technologies.

Free lesson support materials are available from **Digital Matters** internetmatters.org/digital-matters

Digital maker

The maker culture is a contemporary culture that uses digital technology to tinker with existing software to create new projects.

Document sharing and editing

Increasingly young people will use collaborative documents or require digital space to edit and store the documents they're using for their portfolio or to collaborate on leadership projects. As well as paid solutions like **Office365** and **Dropbox** (which also have free versions) there is software like:

- ▶ **Google Drive** and **Google Docs/Sheets/Slides** – free to use editing and online storage
- ▶ **LibreOffice** (open source, free, office file editor) libreoffice.org

Digital reading

Joining a virtual book club, curating a personal library and sharing your recommendations are great ways to explore an affinity to literature. Tools that can help with digital engagement include:

- ▶ **Fable** fable.co
- ▶ **Goodreads** goodreads.com

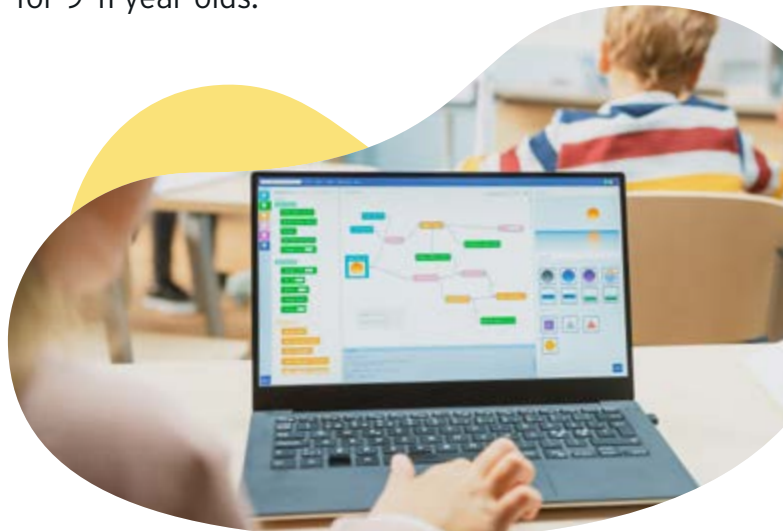


Hack

An activity that involves altering some computer programming to make changes, or to solve a problem. In today's digital culture, this is less about illegal activity and more about creative problem solving, personalising and changing something.

Html, Scratch, python, Microsoft Block Editor

These are all types of computer programming language used for creating code. These are all basic varieties and are widely used in schools and through the national **Code Club** initiative for 9-11 year olds.



Lighting control

For students learning the art and science of lighting control for live events or exhibitions, they could try any number of software packages, with a few available including:

- ▶ **ChamSys MagicQ** chamsyslighting.com/pages/magicq-downloads
- ▶ **D::Light** getdlight.com/en
- ▶ **Open Lighting Architecture (OLA)** openlighting.org/ola

Mixed Reality (MR)

Young people can experiment with spatial design, interactivity, and narrative storytelling in MR environments. They can also document experiences, overlays, or interactions through screen recordings, photographs, or video captures, presenting them as part of their portfolio. Some apps and devices to support Mixed Reality creation include:

- ▶ **Adobe Substance 3D** adobe.com/uk/creativecloud/3d-ar.html
- ▶ **Microsoft HoloLens** (to experience MR) microsoft.com/en-gb/hololens
- ▶ **Spatial** (game development) docs.spatial.io

Interactive storytelling

Build a narrative around a story that you might have put together. Every good story has pictures and ways to interact with it, Technology is ever evolving.

- ▶ **Dorian** home.dorian.live
- ▶ **Episode** home.episodeinteractive.com
- ▶ **Twine** twinery.org

It's also possible to put together linear stories that include multimedia using free slideshow software (like **Apple Keynote** and **Google Slides**) and tools available online like **Book Creator** bookcreator.com

Minecraft

A popular computer game with creative and building aspects that enable players to build constructions out of cubes in a 3D generated world whilst learning to code. Other activities in the game include exploration, resource gathering, crafting, and combat. Almost anything can be created in **Minecraft** (minecraft.net/en-us), including for example, whole rooms of the British Museum and entire imaginary worlds.



Screen and creative writing

Tools can be used for formatting scripts, managing scenes, and organizing characters. They can also be used to help develop stories and check the coherency of writing. Some options include:

- ▶ **Hemingway Editor** hemingwayapp.com
- ▶ **Reedsy Book Editor** reedsy.com/write-a-book
- ▶ **Trelby** trelby.org

Transcriptions

A helpful AI meeting note taker can simplify the recording of information. One such tool is **Otter AI** (otter.ai). It can be used to record transcriptions and audio recordings of interviews. This can be helpful for individuals who are interviewing arts practitioners for their Arts Award as it will ensure efficient note taking and the individual can feel comfortable in the flow of the interview without having to worry about their notes. **Teams** and **Zoom** also offer transcription options for online meetings

Photo editing/visual design

Increasingly young people are amending images, and may put together posters or social media graphics for their projects. If they have access to Adobe Suite then this is a great set of tools for all of this (including **Lightroom**), but if you don't have access to such software then free to use alternatives are ideal to use and include:

- ▶ **Apple Photos** and **Google Photos** (native to iOS/macOS and Android devices) **Canva** canva.com
- ▶ **GIMP** (GNU Image Manipulation Program) gimp.org
- ▶ **InkScape** inkscape.org
- ▶ **Krita** krita.org/en
- ▶ **LibreOffice Draw** libreoffice.org/discover/draw
- ▶ **SnapSeed** (for Windows and Android and iOS devices) snapseedofficial.com

Video editing

There is a large array of software available to help young people edit videos together to showcase their leadership project, compile their career research or as a creative outlet. The options can include:

- ▶ **CapCut** (also does pictures, can be used to change backgrounds, add captions etc) capcut.com
- ▶ **DaVinci Resolve** blackmagicdesign.com/products/davinciresolve
- ▶ **iMovie** (Apple standard) apple.com/imovie
- ▶ **Shotcut** shotcut.org

Virtual Reality (VR)

Young people might develop immersive virtual reality (VR) experiences to showcase interactive artworks or performances. Experiencing the arts using headsets allows young people to be fully immersed in a VR experience exploring a wide range of cultural institutions.

One headset option is the **Meta Quest**
meta.com/gb/quest

Another (lower cost, using a phone with it) is the **Google Cardboard**
arvr.google.com/cardboard

Other available headsets include **Playstation VR2, HTC VIVE Flow VR, PICO 4**.



Vlog

A video blog or video log, usually shortened to vlog, is a form of blog for which the medium is video, and is a form of web television. Vlogs often combine video with text, images, graphics and other narrative.

Many vloggers like to make videos about interesting topics, their opinions and points of views or just recording their daily life.

Voice Magazine inc DIY media tools

Voice Magazine can host young people's reviews and blogs in a free to access space where others can comment on the work. It also hosts over a thousand interviews with artists and organisations for industry research.

There are also guides and links to tools that help young people complete an Arts Award, including the DIY media page at: voicemag.uk/diy-media

Video sharing

A video sharing website allows users to upload, view, rate, share and comment on videos. Available content includes video clips, TV clips, music videos, film trailers and other content such as vlogging, short original videos, and educational videos. Some of the platforms available include:

- ▶ **YouTube** youtube.com
- ▶ **Vimeo** vimeo.com

Online communication platforms

In an increasingly virtual world, young people might interview artists remotely – enabling them to connect on a global scale and not just with local arts professionals. They might also find managing a leadership project easier if they can meet their team remotely. Utilising 'telepresence' software like **Zoom** for free can enable this. Other options include:

- ▶ **Discord** discord.com
- ▶ **Google Meet** meet.google.com
- ▶ **Slack** slack.com
- ▶ **Teams** microsoft.com/en-gb-microsoft-teams/group-chat-software
- ▶ **Zoom** zoom.com