



The Academy at
St James
Aspire, Achieve, Believe

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COMPUTING POLICY

Reviewed and Approved by:- Governors

Signature:- R Smith (Computing Lead) C Tolson (Headteacher)

Position:- Date:- 21/06/21

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The Academy at St. James

Intent Statement

At The Academy at St James, we want to prepare our children to thrive as responsible, digital citizens. In today's continually evolving digital world, technology plays a pivotal part in our children's lives both at home and at school. We believe that it is therefore imperative that through high-quality teaching, we model and educate our children on how to use technology positively and safely whilst also equipping our children with the skills in order to develop computational thinking and creativity to understand and change the world.

At the Academy at St James we want our children to be independent, confident and competent at implementing the skills and knowledge that they have learnt using a range of technology. Our broad curriculum includes: Computer Science, ESafeguarding, Media, Information Literacy and Data Handling. At the Academy at St James we believe that although computing skills need to be taught explicitly; computing needs to be embedded across the whole curriculum. This not only enhances the teaching of other subjects by making them more creative and accessible; but enables children to have purposeful opportunities to apply and consolidate the skills that they have learnt in order to further deepen their knowledge and understanding. We believe that skills should be taught progressively in well sequenced lessons which builds upon previous learning from throughout school.

At the Academy at St James we aim to inspire children to think about how their computational skills, can be used in the real world. For example, a green screen is used in some filming by the media and programming is how the games and software children use are made. We believe that this is not only supports children to understand the purpose of why they are learning certain skills but it also enables children to have aspirations for later in life.

Christian Values, Cultural Capital and Pupil Premium enhancements

Our Computing curriculum provides opportunities for all to access learning and acquire the important knowledge they need to prepare them for life in the wider world. At the Academy at St James we want our children to be confident digital citizens who have the skills that enable them to access the 'digital world' effectively, purposefully and most importantly safely. We ensure that digital safety is not only shared and encouraged by the children, but with parents and carers also. We invite parents to meet with our local PCSO to inform them of current online issues and are available for any questions parents and carers may have. Parents and carers are also encouraged to speak to the Safeguarding Team if they have any questions or are unsure of how to keep their children safe online.

Some of our children are able to become Digital Leaders, assisting with the organisation of our ICT resources around the school.

Implementation

Subject content for pupils in KS1

Pupils should be taught to:

- Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions
- Create and debug simple programs
- Use logical reasoning to predict the behaviour of simple programs
- Use technology purposefully to create, organise, store, manipulate and retrieve digital content
- Recognise common uses of information technology beyond school
- Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.

Subject content for pupils in KS2

Pupils should be taught to:

- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- Use sequence, selection, and repetition in programs; work with variables and various forms of input and output
- Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs
- Understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration
- Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content
- Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information
- Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.

The Curriculum Innovation Computing Curriculum

Here at the Academy at St James we are currently subscribed to The Curriculum Innovation Computing Curriculum to support our teaching of Computing.

Although computing is traditionally split into three main areas, Computer Science, ICT and Digital Literacy. The Curriculum Innovation Computing Curriculum has split ICT and digital Literacy into two sections each making the five sections below:

- **Computer Science:** Using Computational Thinking to explore, modify, create and debug algorithms and programs.
- **Media:** Make digital creations including text based documents, presentations, 2D and 3D plans and models, films, animations, music and spoken word recordings.
- **Data Handling:** Collect analyse and process data.
- **Information Literacy:** Locate and interpret information from a variety of sources. Be aware of bias, inaccuracy and implausibility.
- **eSafeguarding:** Learn to use digital technologies in a safe and responsible manner and how to respond to risks online.

See Appendix C to see which skills and knowledge children should learn in each year group.

Also see the separate document Progression of Skills in the Curriculum Innovation Computing Scheme of Work

Long Term Plan

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Y1	Computer Science	Media	Data Handling	Information Literacy	Computer Science	Media
Y2	Computer Science	Media	Data Handling	Information Literacy	Computer Science	Media
Y3	Computer Science	Media	Data Handling	Information Literacy	Computer Science	Media
Y4	Computer Science	Media	Data Handling	Information Literacy	Computer Science	Media
Y5	Computer Science	Media	Data Handling	Information Literacy	Computer Science	Media
Y6	Computer Science	Media	Data Handling	Information Literacy	Computer Science	Media
E Safeguarding is delivered during PHSCE lessons with two lessons being taught to every year group during each half term.						

Teachers are encouraged to focus upon the specific aspect that is applicable for each half term (e.g. Autumn 1- Computer Science) during their discrete teaching of Computing. However, other skills should be regularly practiced, developed and applied through cross-curricular teaching. Computing can be used widely to support and enhance the teaching of other subjects.

EYFS

Although technology is no longer an Early Year Goal in the new EYFS Framework; we believe that our children still need to learn the basic underpinning skills in order for them to thrive in KS1. In EYFS, we model how to use technology for a purpose, how to research using the internet to find out more information, use Green screen and talk about the technologies that they can find at home. Although this is heavily modelled initially, children are able to develop these skills and gain independence, which enables them to have the early skills needed in order to flourish later on throughout school. Children are also encouraged to use and experiment with a wide range of technologies such as Beebots, iPads, remote controls and computing software which is accessible through the smartboard screen or Chromebook.

Impact Statement

Our approach to the curriculum results in a fun, engaging, and high-quality computing education. The quality of children's learning is evident on Google Drive, a digital platform where pupils can share and evaluate their own work, as well as that of their peers. Evidence such as this is used to feed into teachers' future planning, and teachers are able to revisit misconceptions and knowledge gaps in computing when teaching other curriculum areas. This supports varied paces of learning and ensures all pupils make good progress.

A Digital Portfolio has been set up on Google Drive for each teacher to upload images/evidence to support the teaching of one of the skills listed in the Curriculum. These will be clearly labelled with direct links to The Curriculum Innovation Computing Curriculum (CS1). This will enable leaders to ensure that the all skills Computing Curriculum are being taught. In addition to this, pupil's individual portfolios, learning walks and pupil interviews can also be used to support the monitoring of our Computing curriculum.

***Please see Appendix A -Saving Computing Evidence
Please see Appendix B Pupil Audit Questions.***

Equipment and its effective use.

At the Academy at St James, we have a range of equipment that is available to support the teaching of computing in our school. This includes: iPads, laptops, interactive Smartboards, Chromebooks, Beebots, recording devices, Kindles and a Green Screen room as well as portable equipment. All equipment is booked out using online booking software. Anyone who has booked out equipment is expected to return it to the strong room and ensure that it is stored correctly. This includes putting devices back on charge.

Damages or issues with the functioning of any equipment is logged on the Primary Technology jobs list so that the technician can resolve these issues as soon as possible. This enables us to have the most effective use from our equipment, which therefore supports our children's learning to the highest potential. Currently we have a Primary Technology technician on site for 2 ½ days a week and have access to their helpdesk for issues that can be resolved remotely.

Our next project is to work alongside Primary Technology to create a long term plan for the replacement of our existing technology.

The role of digital leaders.

During this academic year, we have appointed 12 digital leaders from upper KS2 who have supported to deploy equipment and ensure that it is stored correctly. We hope to develop their roles further in the future to include delivering presentations or other sessions in assemblies around online safety.

Health and Safety

Equipment is PAC tested **annually**. All damaged or broken equipment is reported immediately on the Primary Technology jobs page and moved to the strong room to await review from the technician. The technician will then either resolve the issue or arrange for the device removal. Any damages that are unable to be moved are reported to a senior leader to ensure pupil safety.

Links between school and home.

All staff, pupils and parents are required to sign an Acceptable User Policy when they start our school. Parents are invited to attend online safety training in school and are encouraged to seek further support from the safeguarding team in school if required. All devices that are used by children out of school are monitored through Smoothwall filter

Appendix A

Saving Computing Evidence

Unplugged activities including paper based	Take a photo or video. Upload onto child's account on Google Drive.
Work on iPads that can be saved as an image or a video.	Upload onto child's account on Google Drive.
Work on iPads that can only be saved in the app (Scratch Junior).	Take screenshot(s). Upload onto child's account on Google Drive.
Program files saved to server such as Word, Excel, PPT or Scratch offline files (if using Scratch offline).	ve to the server in pupil's areas.
Scratch Online	Set one teacher account to generate accounts for children. Set up classes. Save work online. Share with the teacher. Save examples of finished work to the class studio. See the guide here (log in first) .
Google Docs, Sheets, Slides, Forms, Drawings etc.	Can be shared using Google Classroom or simply shared with the teacher's user name.

Appendix B

Pupil audit questions

Generic questions

Can you tell me about your last Computing lesson?

What equipment did you use?

Where did you save your work?

Did you get any feedback about your work (verbal or recorded).

How often do you use the PCs/ iPads/Chromebooks?

How often do you log in to Purple Mash/ Discovery Coding?

Do you log into any accounts at home?

Which different program do you use in Computing?

How often do you work on anything with a partner or a group in Computing?

	Computer science	Cross curricular	Online safety
Y1	Can you tell me what an algorithm is?	Ask children to tell you if they have ever Created a poster Recorded a piece of digital music/ sound recording. Created an animation. Recorded a short film. Delivered a presentation Designed 2d or 3d drawings. For more details look at the objectives for the Media and Data Handling strands for the relevant year group.	Can you tell me who your trusted adults are?
Y2	What does it mean if you predict what code will do?		Who should you share passwords with? Why must you be careful when talking to people online?
Y3	Give me an example of an input and an output device Can you give me an example of repetition in everyday life?		Can you tell me two kinds of personal information? Why must you be careful when clicking on links people send you? How would you report online bullying?
Y4	Can you give me an everyday example of selection from your own life? Start your sentence with If.		How would you report online bullying? Give an online and an offline example.
Y5	Can you explain to me what a variable is? Can you give me an example of decomposing a problem?		What are copyright free images and where could you find them? What should you do/ not do if you are being bullied online?

Y6	Can you tell me how you'd use selection and variables in a program?		What is a digital footprint and what advice would you give to people about theirs? What are the dangers of not having a balanced lifestyle? What do you understand by the term fake news?
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Appendix C

A user in year one should be able to:

- Understand what an algorithm is
- Create and debug algorithms.
- Create and debug programs.
- Log on to devices by entering user names and passwords.
- Create simple documents.
- Take photos, videos and record sounds.
- Create pictograms.
- Locate information from a single source.
- Identify their trusted adults and ask for help if online content concerns them.

A user in year two should be able to:

- Create and debug programs and algorithms.
- Use logical reasoning to predict the behavior of programs and algorithms.
- Create and format documents.
- Take and edit video and photos.
- Create simple animations.
- Present information as graphs and pictograms.
- Understand why passwords should be kept secret.
- Children find information from child friendly search engines and online encyclopedias.

A user in year three should be able to:

- Understand what inputs and outputs are.
- Understand the concept of repetition in Computer Science.
- Create programs that use inputs and outputs.
- Create programs and algorithms that use repetition.
- Create documents using more advanced formatting tools.
- Add sounds to short films or slideshows.
- Create simple stop motion animation.
- Collect and present information as charts, graphs (and databases if you have J2e or Purple Mash).
- Find information online using child friendly sources and present it in digital form.
- Understand what online bullying is and how to report it.

A user in year four should be able to:

- Be able to explain the concept of selection in Computer Science.
- Modify, create and debug programs that use selection and repetition.
- Convert code into everyday language.
- Decompose existing programs.
- Understand different camera shots and combine them to make a short film.
- Create longer stop motion animations and add titles and credits.
- Combine layers of sound to make audio productions.
- Combine 2D shapes to create plan views.
- Use spreadsheets to perform simple calculations.
- Use keywords effectively in searches. They also check results for relevancy and accuracy.
- Create and use strong passwords and learn to communicate respectfully online.

A user in year five should be able to:

- Understand the concept of variables in Computer Science.
- Modify, create and debug programs that use repetition, selection and variable.
- Experience programming using physical devices
- Create animations, films and slideshows with further features such as animations and transitions.
- Create and deliver presentations.
- Create short films that use approaching and retreating shots.
- Create basic objects using 3D design software.
- Create longer multi track audio productions.
- Create and use formulae in spreadsheets.
- Cross-reference information from a variety of sources to check for bias and implausibility.
- Understand strategies to prevent and report online bullying.

A user in year six should be able to:

- Plan and create programs for purpose and audience using sequence selection, repetition, and variables using abstraction, algorithms and decomposition.
- Create more complex programs and projects using physical computing devices.
- Use 3D design software to create a more complex representation of an object.
- Combine a variety of media which may include video, sound, animation, images and text to create a product.
- Plan record and edit an audio production using several audio layers.
- Collect large amounts of information then use databases or spreadsheets to sort and filter.
- Create and test hypotheses using spreadsheets or databases.
- Check for bias and implausibility and develop their own criteria for checking information online.
- Talk about the importance of a balanced digital life.
- Explain the importance of a positive digital footprint.

Please see the 'Progression of Skills in the Curriculum Innovation Computing Scheme of Work' document to see how the skills develop within each area of the Computing Curriculum.