VICTORIA DOCK PRIMARY SCHOOL

COMPUTING POLICY

Working together for your children

Updated: Summer 2019

To Be Reviewed: Summer 2021

Introduction

This policy expresses the school's purpose for the teaching and learning of Computing. It sets out the aims; planning of the curriculum and assessment and monitoring. It was developed in February, 2018 by the Computing subject leader, M. Hague, through discussion with teachers and the leadership team and based on Computing programmes of study (POS): key stages 1 and 2 (DfE September 2014). It will be reviewed in Summer 2021~~Autumn, 2018~~.

Purpose

At Victoria Dock Primary School, we believe that an engaging and motivating Computing curriculum will enable our learners to accomplish several goals:

- Use computational thinking and creativity to understand and change the world.
- Make deep links with mathematics, science and design and technology.
- Build knowledge of principles of information and computation, how digital systems work, and how to put this knowledge to use through programming.
- Become digitally literate – able to use, express themselves and develop ideas through information and communication technology.

Aims

- The Computing Subject Leader and leadership team support staff to deliver a high quality computing education.
- Computational thinking – the ability to solve problems in a creative, logical and collaborative way – is developed through repeated programming opportunities and opportunities to build understanding and apply the concepts of computer science.
- Pupils become responsible, competent, confident and creative users of information and communication technology.
- Pupils have a growing awareness of how technology is used in the world around them and of the benefits that it provides. They are supported to evaluate and use information technology, including new or unfamiliar technologies.
- Opportunities for communication and collaboration develop understanding of the purposes for using technology and these are used to bring together home and school learning experiences.
- Technology is used imaginatively to engage all learners and widen their learning opportunities,
- Pupils have access to a variety of devices and resources and are encouraged to reflect on the choices they make to use them.
- We expect our pupils to:
    - Develop computing skills, knowledge and understanding
    - Develop an understanding of the wider applications of computer systems and communication technology in society

- Develop independent and logical thinking through reasoning, decision making and problem solving
- Develop imagination and creativity
- Work independently and collaboratively

Curriculum

Planning for Computing is implemented using two core documents: the National Curriculum Programme of Study for Computing and the Statutory Framework for Early Years Foundation Stage. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.

Long term and medium term planning have been developed using the Rising Stars Switched On Computing schemes of work, demonstrating coverage and progression of the attainment expectations at the end of Key Stage 1 and Key Stage 2 as identified in the Computing POS.

To ensure that children have the opportunity to engage with each of the above learning objectives in a meaningful way, developing cross-curricular links, each year group work through three essential units of work taken from the Switched On Computing scheme (marked in bold in the list below) with the opportunity to study any of the additional three units also.

Year 1

- **1.1 We are treasure hunters**
- **1.2 We are TV chefs**
- 1.3 We are painters
- **1.4 We are collectors**
- 1.5 We are storytellers
- 1.6 We are celebrating

Year 2

- **2.1 We are astronauts**
- **2.2 We are games testers**
- 2.3 We are photographers
- **2.4 We are researchers**
- 2.5 We are detectives
- 2.6 We are zoologists

Year 3

- **3.1 We are ~~progammers~~programmers**
- **3.2 We are bug fixers**
- 3.3 We are presenters
- **3.4 We are bloggers/~~vloggers~~**
- 3.5 We are communicators
- 3.6 We are opinion pollsters

Year 4

- **4.1 We are software developers**
- **4.2 We are toy designers**
- 4.3 We are musicians
- 4.4 We are HTML editors
- **4.5 We are co-authors**
- 4.6 We are meteorologists

Year 5

- **5.1 We are game developers**

- **5.2 We are cryptographers**
- 5.3 We are artists
- **5.4 We are web developers**
- 5.5 We are bloggers
- 5.6 We are architects

Year 6

- **6.1 We are adventure gamers**
- **6.2 We are computational thinkers**
- 6.3 We are advertisers
- 6.4 We are network engineers
- 6.5 We are travel writers
- **6.6 We are publishers**

Early Years Foundation Stage

Pupils build confidence to use technology purposefully to support their learning for all Early Learning Goals as appropriate. Pupils in the Foundation Stage class will have experiences using technology indoors, outdoors and through role play in both child-initiated and teacher-directed time.

Opportunities for technology as a tool to support learning and teaching in all areas are identified in curriculum planning.

Assessment

Progress is assessed on an on-going basis against statements agreed with schools across the Constellation Trust. These statements are derived from the national curriculum and are appropriate to the children's stage of development.

Children's work is recorded digitally where possible in digital portfolios on Seesaw (https://app.seesaw.me/#/login). Some evidence may be more appropriately gathered in curriculum books dependant on the nature of tasks. This evidence supports teachers' judgements and assessments.

E-Safety

Due to the increasing importance and ever-changing nature of e-safety aspects, a separate e-safety policy has been created, detailing filtering and monitoring procedures along with various other matters.

Using the Rising Stars Switched On Computing scheme of work, our school provides a progressive computing curriculum, which also provides some links to e-safety, allowing pupils to develop skills to keep them safe online. E-safety road maps, developed by Rising Stars, provide details of this coverage and progression for each year group.

In order to ensure pro-active teaching and learning concentrated on developing age-appropriate e-safety skills, each year group will follow the South West Grid for Learning scheme of work for Digital Literacy (https://digital-literacy.org.uk/). Each year group will teach 5 sessions per year from this curriculum, adding extra re-active sessions when opportunities arise.

Opportunities for learning about online safety are part of PSHE and reinforced whenever technology is used. Clear rules for online safety are set out in the form of acceptable usage policies (AUP) which parents and pupils sign when a pupil first starts at the school. The class rules are then signed annually by pupils and shared with parents.

Monitoring

The impact of the Computing curriculum is monitored regularly by the Computing subject leader through pupil discussion, samples of work and discussion with teachers, an electronic portfolio and the use of the NAACE Self Review Framework.

Systematic monitoring of all threads of Computing informs the subject leader and school development plan.

The Computing leader conducts regular audits of the training needs of teachers and teaching assistants to improve their subject knowledge and confidence. Requests for training in Computing can be part of individual teacher's performance management plan.

Equal opportunities

The school maintains its policy of equal opportunities as appropriate for Computing. Computers and related technology are made available to all pupils regardless of gender, race or abilities. The class teacher differentiates work by task, resource or support, to ensure the individual needs of more able and SEN pupils are met. The school is aware that not all pupils have the same access to computers at home and this is considered by staff in the planning and delivery of the curriculum.

Resources

The school has a range of resources to support the delivery of the Computing curriculum, the Early Years Framework and learning across all areas of the National curriculum. Each class has access to 5 student iPads and 1 staff iPad which are on-charge at all times in their classroom. Laptops are kept in two trolleys in a classroom with spare desks so can be used there or in own classrooms. Online tools such as Seesaw and Google Apps for Education are part of the experience for pupils and managed by class teachers and the Computing subject leader.

The Computing subject leader keeps up to date with new technologies and reviews the school's provision, as well as maintaining the existing resources in partnership with the school's technology support provider.

The Computing Action Plan expresses the school's priorities for future expenditure and is reviewed by the Computing subject leader, governors and senior management who consider its impact on all learning.

Roles and responsibilities

The school community works together to ensure the implementation of the Computing policy.

The subject leader is responsible for monitoring curriculum coverage and the impact of learning and teaching~~.~~, and assists colleagues in its implementation.

Subject leaders in other curriculum areas are responsible for recognising the links between computing and English, Mathematics, Science and foundation subjects~~.~~, and planning to use these to support learning across the school.

The Computing subject leader provides an annual report to governors on the impact of the Computing curriculum and how resources are being effectively deployed. Governors may include Computing in their learning walks around the school.

The class teachers are~~is~~ responsible for delivering an effective Computing curriculum and integrating this into their planning for other subject areas where this is appropriate.

The school receives technical support from RM and the technician is responsible for the maintenance of computers, printers, the school network and keeping software up to date. The subject leader liaises with the technician to ensure that the systems are running efficiently.

Health and safety

Age appropriate class and safety rules are displayed in the learning environment and on the school laptops at startup.

Equipment is maintained to meet agreed safety standards.

From Foundation Stage, pupils are taught to respect and care for technology equipment.

Further guidance can be found in the school's Hhealth and Ssafety Ppolicy.

Review

This policy will be reviewed annually by the Computing subject leader and leadership team on an annual basis, and shared with the school community.

Appendix 1: Rising Stars Switched On Computing Scheme Curriculum Coverage

Year 1	1.1 We are treasure hunters Using programmable toys	1.2 We are TV chefs Filming the steps of a recipe	1.3 We are painters Illustrating an eBook	1.4 We are collectors Finding images using the web	1.5 We are storytellers Producing a talking book	1.6 We are celebrating Creating a card digitally
understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Y	Y		Y		
create and debug simple programs	Y					
use logical reasoning to predict the behaviour of simple programs	Y	Y				
use technology purposefully to create, organise, store, manipulate and retrieve digital content		Y	Y	Y	Y	Y
recognise common uses of information technology beyond school	Y	Y	Y	Y	Y	Y
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.			Y	Y	Y	Y

Year 2	2.1 We are astronauts Programming on screen	2.2 We are games testers Exploring how computer games work	2.3 We are photographers Taking better photos	2.4 We are researchers Researching a topic	2.5 We are detectives Collecting clues	2.6 We are zoologists Collecting data about bugs
understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions	Y	Y				
create and debug simple programs	Y	Y				
use logical reasoning to predict the behaviour of simple programs	Y					
use technology purposefully to create, organise, store, manipulate and retrieve digital content			Y	Y	Y	Y
recognise common uses of information technology beyond school		Y	Y	Y	Y	Y
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.		Y	Y	Y	Y	Y

Year 3	3.1 We are programmers Programming an animation	3.2 We are bug fixers Finding and correcting bugs in programs	3.3 We are presenters Videoing performance	3.4 We are vloggers Making and sharing a short screencast presentation	3.5 We are communicators Communicating safely on the internet	3.6 We are opinion pollsters Collecting and analysing data
design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Y	Y				
use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Y	Y	Y			
use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Y	Y				
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				Y	Y	Y
use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content				Y		
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	Y		Y	Y	Y	Y
use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.			Y	Y	Y	

Year 4	4.1 We are software developers Developing a simple educational game	4.2 We are toy designers Prototyping an interactive toy	4.3 We are musicians Producing digital music	4.4 We are HTML editors Editing and writing HTML	4.5 We are co-authors Producing a wiki	4.6 We are meteorologists Presenting the weather
design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Y	Y			Y	
use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Y	Y	Y			Y
use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Y	Y				Y
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			Y	Y	Y	
use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content			Y		Y	
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			Y	Y	Y	Y
use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.			Y	Y	Y	

Year 5	5.1 We are game developers Developing an interactive game	5.2 We are cryptographers Cracking codes	5.3 We are artists Fusing geometry and art	5.4 We are web developers Creating a website about cyber safety	5.5 We are bloggers Sharing experiences and opinions	5.6 We are architects Creating a virtual space
design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Y					
use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Y		Y			
use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Y	Y	Y			
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		Y		Y	Y	
use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content				Y	Y	Y
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	Y		Y	Y	Y	Y
use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.		Y		Y	Y	

Year 6	6.1 We are adventure gamers Making a text-based adventure game	6.2 We are computational thinkers Mastering algorithms for searching, sorting and mathematics	6.3 We are advertisers Creating a short television advert	6.4 We are network technicians Exploring computer networks including the internet	6.5 We are travel writers Using media and mapping to document a trip	6.6 We are publishers Creating a yearbook or magazine
design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts	Y	Y				
use sequence, selection, and repetition in programs; work with variables and various forms of input and output	Y	Y				
use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs	Y	Y				
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				Y	Y	Y
use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content			Y		Y	Y
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			Y		Y	Y
use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.			Y	Y	Y	Y