



Computing

Introduction

A high-quality computing education equips pupils to use computational thinking and creativity to understand and change the world. Computing has deep links with mathematics, science, and design and technology, and provides insights into both natural and artificial systems.

(National Curriculum 2013)

We acknowledge that the computing curriculum is about all pupils developing the ability to use IT equipment, and to develop a greater understanding of how this equipment works. For pupils at Stephen Hawking School, who are working at the earliest levels of development, we need to look at how this can be adapted to meet their specific needs. Consequently, for pupils at Stephen Hawking School it is more appropriate to focus on each child's ability to recognise that technology is being used around them and to be able to select and use this equipment appropriately.

Legal Requirements

At Stephen Hawking School, computing is taught within all areas of the National Curriculum and children have access to technology to support their learning and development throughout the day as appropriate to the individual child. All the children at Stephen Hawking School are working below the National Curriculum, with the vast majority working at pre-subject specific level. The programmes of study for the Foundation Subjects will be delivered via a topic.... (NEED TO FINISH!)

Aims & Objectives

All pupils will:

- use IT equipment effectively and creatively to access and understand their immediate environments;
- use IT equipment to solve problems which may include communication difficulties, issues with access to environments or within their play;
- understand that consistent and repeated use of IT equipment will help to improve and develop IT skills;
- understand who to contact when IT equipment doesn't work effectively; and
- recognise that a range of technology is used in places such as homes and schools and select and use technology for particular purposes (EYFS).

The Naace document 'Computing in the National Curriculum – a Guide for Primary teachers' (Nacce 2013) describes three aspects of the computing curriculum:

- Computer Science
- Information Technology
- Digital Literacy

Computer Science:

Naace defines this as an understanding of algorithms and how they are implemented as programs on digital devices. This includes the need for these algorithms to be precise and unambiguous. Computer science also includes the ability to create and debug simple programs and to understand and the behaviour of simple programs.

Information Technology (IT):

Naace defines this as the use of technology to purposefully create, organised, store, manipulate and retrieve digital materials.

Digital Literacy

Naace defines digital literacy as the ability to recognise common uses of technology out of school along with the capability to keep use technology safely and respectfully. Digital literacy also includes the ability keep personal information private and to know who to contact if they have concerns about the content of materials, including information from the internet.

Implementation

It is important for children to develop a greater understanding of the computing curriculum, as defined by the National Curriculum, to ensure that they are able to access the rapidly changing world of technology. As part of this it is important for children to take greater responsibility for their learning and to develop their ability to organise their ideas and produce work of a high standard. All work in computing at Stephen Hawking School will be cross curricular and at a level appropriate to individual children's needs.

In the early stages of learning, pupils may encounter IT and digital literacy around them. This may include experiences they have both in school and at home with their families. New experiences will be introduced carefully and will include consideration of the role of the adult and the strategies employed.

Children at these early stages of learning will begin to develop their understanding of computing using their immediate environment and this will include frequent repetition and a framework that provides routine to their experiences. Familiarity with specific IT equipment will raise the child's awareness. Via this raised awareness the child will then begin to give consistent responses to programs and cause and effect toys along with other IT equipment in their immediate environment e.g. iPads. Throughout these early stages of learning the adult may have to support each pupil to discover with purpose.

As pupils develop their knowledge they will be supported and helped to engage in co-active exploration. As a result, they will be provided with the foundation to develop an awareness of computing, IT and digital literacy. In order for the pupils to develop this understanding, they will need clear and limited access to specific programs and IT equipment and need to be encouraged to explore in different ways.

Across the whole school the planning and guiding of children's activities will be via topics that are used to deliver the whole curriculum.

Early Years Foundation Stage:

In addition, in the Early Years Foundation Stage, it will focus on aspects outlined in the EYFS Characteristics of Effective Learning, within the Specific Area, Understanding the World: Technology and within the Prime Areas of Physical Development and Communication.

Characteristics of Effective Learning with particular relevance to computing are:

- **playing and exploring** - children investigate and experience things, and 'have a go';
- **active learning** - children concentrate and keep on trying if they encounter difficulties, and enjoy achievements; and
- **creating and thinking critically** - children have and develop their own ideas, make links between ideas, and develop strategies for doing things.

Assessment

Assessment of all areas of computing will be carried out in line with the methods outlined in the school's assessment recording and reporting policy.

Review

This policy will be reviewed in line with the school's agreed review schedule.