The Computing Curriculum Parents' Workshop

9th June 2015

Welcome to the Computing Curriculum

What will we teach?

Overall there is now a greater emphasis on using programming and computer systems within the new Computing curriculum.

We will still address all of the currently taught areas of ICT, including video editing, presentations, data analysis. Many of these areas however will be taught across the curriculum and embedded in other subjects.

Why the shift to Computing?

Computing is about how computers and computer systems work, and how they are designed and programmed.

Computational thinking allows us to solve problems, design systems, and understand the power and limits of human and machine intelligence. It is thought, pupils who can think in this way are better able to conceptualise, understand and use computer-based technology, and so are better prepared for today's world and the future.

The Computing Curriculum

- Digital Literacy
- E-Safety
- The application of IT
- Computer Science

Digital Literacy

The element of Digital Literacy includes the effective use of search engines and knowing how to refine searches to reach an appropriate source of data.

<u>Key stage 1</u>

 To recognise the common uses of information technology beyond school - What different types of computers are there? What is the internet?

Key stage 2

- To understand the opportunities networks and the internet offers for communication and collaboration *Learning how emails, websites, blogs work.*
- To be discerning in evaluating digital content <u>Should you</u> <u>believe everything you read online?</u>

E-Safety

It is good to see that for the first time, E-Safety is now a statutory requirement. Over the years, many schools have developed good systems to safeguard children using computers but one main difference is the requirement to ensure that pupils recognise and can deal with inappropriate contact.

<u>Key Stage 1</u>

- Use technology safely and respectfully, keeping personal information private;
- Know where to go for help and support when they have concerns about material on the internet.

<u>Key Stage 2</u>

- Use technology safely, respectfully and responsibly;
- Know a range of ways to report concerns and inappropriate behaviour.

The application of IT

The application of IT is still in the curriculum however, the new order focuses upon developing independent and autonomous use of a range of applications to achieve a specific outcome.

Key Stage 1

 Use technology purposefully to create, organise, store, manipulate and retrieve digital content

<u>Key Stage 2</u>

• 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

Computer Science (The scary bit!)

What is coding?



Computer Science KS1

- 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

Algorithm

An algorithm is a list of rules or instructions to follow in order to solve a problem (e.g. instructions on how to make a sandwich) When you write an algorithm the order of the instructions is very important.



Debugging

When you write code, it's easy to make a mistake. Coding mistakes are called **bugs**.

Imagine you have written some code to make a game. You want your robot to move forwards when you press the arrow key, but the robot goes backwards!

When your code goes wrong, you need to check your algorithm and then check your code. When you have found and fixed your mistakes you can try the game again. This is debugging!



Beebots



Hour of code



Coding apps



Tynker

Computer Science KS2

- Design, write and debug programs that accomplish specific goals, including controlling physical systems; solving 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















Purple Mash



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iPad Apps

- Daisy the Dino
- Cato's Hike
- A.L.E.X
- Cargo Bot
- Petteson's Inventions
- Kodable













Now it is your turn!

Thank you for listening.