Curriculum Leadership – Subject Vision

Subject / Curriculum Area: Computing

Vision

At Dovers Green we want the use of technology to be the cornerstone of our education. We aim to provide an engaging, relevant curriculum that will enable children to be resilient learners and fluent users of technology. Staff will be enabled, through access to technology, to ensure meaningful learning takes place with clear progression.

What does this subject area offer the Dovers children?

An opportunity to explore different technology and use this in different ways.

An opportunity to understand coding and how some technology works.

How does this subject enhance the curriculum?

It gives the children a different way of recording their learning.

It gives children further opportunities to problem solve.

What use is it to children later in life?

Children will have a good understanding of the IT skills they will often need in further education or in jobs.

It also supports them with problem solving/debugging helping with their acceptance of 'marvellous mistakes'.

What are the main skills and knowledge (overarching objectives) that are focused on?

Children need to be able to:

- Explore how things work. (EYFS)
- Understand what algorithms are; how they are used as programs on digital devices; and that programs work by following precise 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.

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Intent
What is being taught?

EYFS:

In Early Years the children have access to a variety of technological devices (i.e. laptops, iPads, walkie-talkies and metal detectors) to engage with independently during learning time. The children are taught how to use the resources available to them during adult focus activities. In Autumn Term the focus is on learning how to use and store the walkie-talkies and accessing the laptop. In Spring Term the children are supported to use the iPad to take photos of their learning and access different apps. They are also introduced to the Code-a-Pillar. As the children's knowledge of resources develop we provide them with further resources to prepare them for the Key Stage 1 curriculum in Summer Term, providing them with opportunities to use coding with the BeeBot and Coding Mats.

Year 1:

In Autumn term the children are taken in small groups to develop their Information Technology skills, using Microsoft Word on the iPad to record learning. Through Spring Term, the children focus on programming Blue Bots using a tactile reader, evaluating their algorithms and debugging when needed. In Summer Term the children focus on using Scratch Jnr to further develop their skills in Computer Science.

In class the children focus on Computer Science at the start of the year including unplugged activities. In Spring Term they record their learning using the iPads by videoing each other and retrieving their video to show a friend. In Summer Term they focus on recording their topic learning using Microsoft Word on the iPad.

Throughout the year iPads are used to support learning in Information Technology by recording and accessing their learning.

Year 2:

To start the year, the children are taken in small groups to learn how to use technology to record their learning using PowerPoint on an iPad. Through Spring Term and Summer Term the children focus on creating animations using plasticine models and linking what they produce to their topic.

In class the children focus on Computer Science at the start of the year including unplugged activities. In Spring Term they have a focus on Digital Literacy and continue developing their understanding of Computer Science using Scratch Jnr. In Summer Term the focus is on Information Technology, recognising uses of technology in and out of school.

Throughout the year iPads will also be used to support learning through researching, recording learning and sharing learning.

We also have a dedicated time to think about digital literacy - in particular online safety. Each year we mark Online Safety Day and complete activities linked to it and watch videos from 'ThinkUKnow'.

How does it cater for PP/SEND and higher attainers?

Visual resources are used to support learning in Computing as well as step by step plans that break learning down into small achievable tasks. Children are also encouraged to build their resilience by 'giving it a go' before asking for support from a peer or an adult.

Implementation

Learning in Computing follows a whole school overview that has split the Key Stage 1 curriculum into age appropriate skills for each year group. Teachers have been shown the resources and technology that are available to deliver the curriculum, this includes unplugged schemes of work. Computing is taught weekly across all Key Stage 1 by a specialist TA. Planning and resources are prepared for her and she records the children's achievement in the session on the planning sheet to enable feedback to teachers. The learning is also differentiated with further support and a challenge for those that are demonstrating a deeper understanding of the skill being taught.

Technology in Early Years is available to use during continuous provision and opportunities are planned in specifically i.e. taking photos of their models.

In Key Stage 1, Computing in the classroom happens in block weeks each term and technology is also used to record their learning in other subjects. Block weeks are an effective way to teach Computing in the classroom because it allows the children to become fully immersed in that subject for a sustained amount of time. It is also easier to plan a sequence of lessons and to adjust and adapt them in the moment for that week depending on how the children's knowledge and understanding develop through the week. Block weeks also allow all subjects to have an equal amount of teaching time through the year.

Planning in Early Years follows the statements from Development Matters as well as thinking ahead to their learning in Key Stage 1 to incorporate some Computer Science into their learning opportunities. They also learn about Digital Literacy to ensure they are staying safe online.

Across the Key Stage the curriculum skills have been differentiated according to guidance from training and ensures all the skills are covered and revisited across the two years. Guidance is taken from school computing organisations such as 'Schools Computing', 'STEM' and 'NCCE' to review what is being taught as well as for developments in the subject.