Curriculum Subject Statement: Computing

The principles for River Bank Primary school's curriculum design follows Dylan William's *Principled Curriculum Design* (2013), which are:

- *Balanced*
- *Rigorous*
- *Coherent*
- *Vertically Integrated*
- *Appropriate*
- *Focused*
- *Relevant*

Details of how these have been incorporated into our overall curriculum design can be found on the *River Bank Primary Curriculum Intent Statement document*.

In specificity to Computing some of the applications are further explained, below.

A 'Balanced' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. All learning content for Computing is taken from the National Curriculum programme of study and all statutory objectives are covered throughout KS1 and KS2.
2. Computing has 6 sequences over a half term in each year group, which are taught weekly, and are protected from being replaced by core subjects. An E-safety unit is also taught throughout the school (Think U Know) from Year 1 to Year 6. Curriculum content is not 'blocked', but individual lessons can be extended in cases where more time is essential to understanding.
3. Trips and visits are planned carefully to support curriculum content and to offer children an experience which is both memorable and informative. Trips and visitors are planned carefully to support curriculum content. Examples of this would be: visiting Hazard Alley and learning about online safety (Year 3); seeing the South Pole using VR as part of their North and South Pole topic (Year 6) and its importance to our learning; and having a Great Fire of London workshop and using BookCreator to create their own non-fiction book (Year 2).

A 'Rigorous' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. All of the Computing is taught through a context of computer science, information technology, and digital literacy. This is taught from Year 1 to Year 6.
2. Computer science and competency are sequenced all through the years. For example, in *We are Treasure Hunters* in Year 1, children are learning about directional language and trial and error to make it work. This is further developed in *We are programmers* in Year 2, where children have the opportunity to program and debug Bee-bots. In Year 3, the children have a chance to program and sequence musical notes. This is then developed in Year 4, where children will use their programming skills to program websites and games. In Year 5, the children will then develop games in their *We are game developers* unit. Finally, In Year 6 the children will extend their programming and coding knowledge and will program Crumbles. In all of these the computer science and how the technology works is explored and discussed; and the children's own strengths are explored and celebrated.

3. The concept of E-Safety is equally as rigorous. In addition to the sequencing detailed above, children explore the importance of E-safety and how to use computers safely. This includes how to keep the children safe whilst using search engines and accessing online games. The Think You Know scheme is built into the curriculum for Years 1 to 6. In EYFS, Hector and Friends is used to discuss how to keep personal information safe online.

A 'Coherent' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. The Computing curriculum has been carefully designed and sequenced to build on previous knowledge and have subsequent knowledge built upon. This coherence is designed across curriculum areas. For example, in EYFS, the children are introduced to a desktop computer to familiarise themselves with how to use it. This is developed in Year 1 and 2, in *We are researchers,* where children are applying what they have learnt to be able to type and use Microsoft Word. This is further developed in English, in which the children are researching online to find information and images on the internet safely. Subsequently, non-chronological reports are written in English where this knowledge is implemented. In Art the children research different pictures by Andy Burgess and Megan Coyle for their topic. All of this knowledge is sequenced in a way which is coherent and builds upon and revises key knowledge.

A 'Vertically Integrated' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. Computing material taught at one point in time builds on materials taught earlier, and feeds what is to be taught. An example of this would be: writing a line of code for the Bee-Bot to follow (Year 1). Identifying bugs and how to debug the code (Year 2) and then looking at how to program a web-based application (Year 3). This is developed to programming and running Scratch (web-based) and, looking at the different programming techniques and how to overcome bugs (Year 5) finally, learning to control a circuit connected to a computer using Crumbles (Year 6).
2. A further example of this would be: learning how to use the features of the computer (Year 1). Accessing Safari to be able to download and edit pictures (Year 2). Working with edited pictures to create a video using the software (Year 3). Using iMovie to be able to safely find and access the images (Year 5 and 6). Being able to edit and create media working on skills that have been developed (Year 5 and 6).

An 'Appropriate' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. Computing material is sequenced and taught from the National Curriculum on a 'year by year' basis.
2. Children are not set according to ability in Computing.
3. In Computing, independent learning tasks are set by the teachers using the 'Slope of Difficulty' approach, with any misconceptions / misunderstanding picked up through feedback in the next section. Tasks are differentiated for SEND children, for example one skill is taught with time to practice on the iPad. This can include adding one filter to an image (Year 2). Speech to Text feature can also be used when typing on the iPads.

4. Essential knowledge is tested as part of low-stakes retrieval practice at the start of each Computing session. Skills are tested through immediate feedback.

A 'Focused' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. Computing medium-term planning highlights material we consider essential amongst other important material.
2. The essential Computing knowledge makes up much of the retrieval practice that takes place at the start of each session.
3. Each year, the Computing content is reviewed and refined with teachers, year leaders and curriculum leaders and is reflective of current technology.

A 'Relevant' Computing Curriculum

At River Bank Primary School this is evident in our curriculum design in the following ways:

1. In Computing, children are able to engage with school trips which offer experiences to children and to make learning as concrete as possible. For example: visiting Hazard Alley and learning about online safety (Year 3); having a visitor to discuss VR and its importance to our learning.
2. In Computing the material within our curriculum areas is relevant to the children's own interests and helps our pupils be good citizens of the future. This includes: using a computer responsibly, sharing pictures and videos; using IT safely and online safety; online friendships and staying safe online; using technology to create, organise, store and retrieve digital content; recognising common uses of IT beyond school whilst staying safe.