Enriching lives every day; enabling our school community to learn, achieve and flourish through living 'life in all its fullness'

Innovation

Subject: Computing

Year group: 2

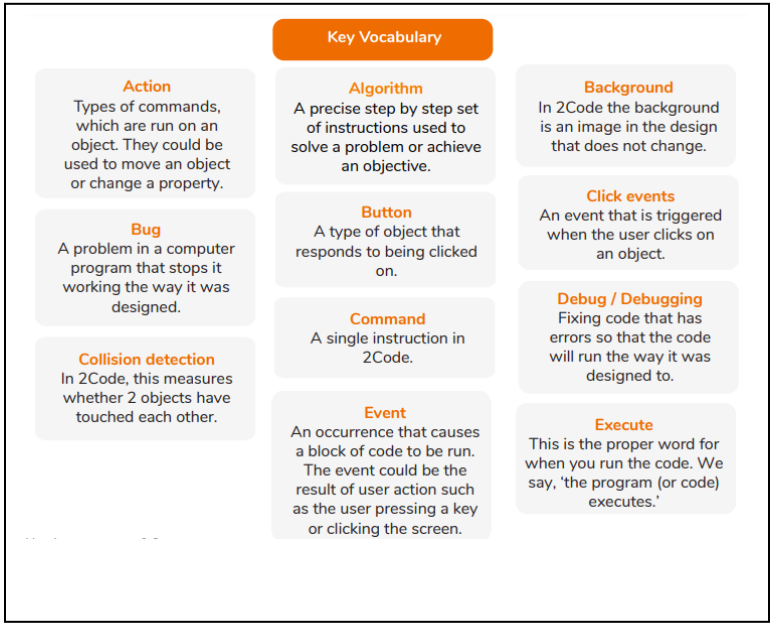
Term: Spring term

Unit name: Coding 2:1 (Purple Mash) (CS)

Respect

Do for other people the same things you want them to do for you.

Matthew 7:12



Big idea: **To understand and use a sequence of commands to create games.**

To create and debug simple programmes (using Chimp on Purple Mash)

Progression of skills:

Children will recap their understanding of key computing terminology associated with computer science such as algorithm, bug, debug, and command. Learners will understand the collision detection event. They will create a computer programme using a given design. This will be their first opportunity to programme using software.

Prior learning:
EYFS
In **EYFS,** children will have experience of following algorithms through unplugged activities. They will have practical experience of solving problems and they will be familiar with using programmable toys such as Code-A-Pillar and Coding Critters.

In Year 1, Children will have experience of programming Bee Bots or Code & Go mice after completing unplugged activities to ascertain how algorithms work. They will begin to understand the terminology action, algorithm, and debug. The children will be confident in programming directions and how to correct their actions.

National Curriculum links :

- 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.

Subject knowledge:
Please use Purple Mash to familarise yourself with 2Code Chimp.

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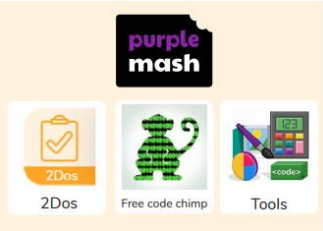
Implementation:

Children will be accessing the 2Code activities through Purple Mash. Set tasks as 2Do as evidence. Recording can be done by identifying that the work is saved in the child's Purple Mash folder. Print outs /Screen grabs could also be used in books.

Key learning assessment statements :

• To understand what an algorithm is. • To create a computer program using an algorithm. • To design an algorithm that follows a timed sequence. • To understand what different events do in code. • To understand and debug simple programs.



Creative outcomes:-Children save their progress on Purple Mash. The children can extend their creativity by using Free Code Chimp to design their own algorithms, tinkering with the capabilities of the programmes.

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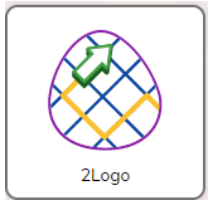

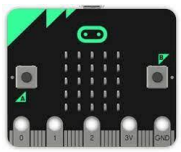

Progression in programming- Year 2 to Year 6

Future learning:

Year 3- Sequence in Music (CS)

Within this unit, children will move on to using Scratch for the first time. They will relate what they have learnt about objects, actions, and block coding in KS1 to a new programme. They will programme an object to play a tune, debugging as they go.

Year 4- Repetition in Shapes (CS)

Within this unit, children will use the 2Logo software on Purple Mash to create a series of instructions to enable their "turtle" to create repeated shapes. This will involve repetition and link to work in maths about angles and position and direction. NCCE unit or 4.5 Logo unit on Purple Mash.

Year 5-Selection in Physical Computing (CS)

Learners use physical computing to explore the concept of selection in programming using the Crumble programming environment. Learners will be introduced to a microcontroller (Crumble controller) and learn how to connect and program components (including output devices- LEDs and motors) through the application of their existing programming knowledge. Learners are introduced to conditions as a means of controlling the flow of actions and explore how these can be used in algorithms and programs using an input device (push switch).

Year 6- Variables in Games (CS)

Children explore the concept of variables in programming through games in Scratch. They will create a simulation of a scoreboard.

Year 6-Sensing (CS)

This unit brings together elements of all the four programming constructs: sequence from year 3, repetition from year 4, selection from year 5 and variables, introduced in year 6. Children will use Micro:bits as a physical device.

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