Computing		Year 5
Autumn Term	**Spring Term**	**Summer Term**
<u>Data handling</u> *(N.C. Ref: 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)* Children will be introduced to the concept of a database – why do we need to store information? Children will begin by investigating the data on physical cards (such as Top Trumps) and discussing the difficulties in searching for information. Then demonstrate how a database works online: introduce 'fields', getting children to populate a simple database and retrieve information. Discuss how data is only as good as information entered. **Science link:** children can then create their own database using planet data, or data from an investigation. *(Software – J2e J2Data)* **<u>Coding 1:</u> Speed, Direction and co-ordinates** *(N.C. Ref: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve 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)* Children will learn how computers use numbers to represent things such as how fast things are moving, and where they are Using various inputs to make objects move, speed up and slow down Using tablet accelerometers to control movement Recap conditional events Create an app with changes in speed and direction based upon controls and variables Debug programs that do not work in an expected way *(Software – Espresso Coding Year 5a)*	**<u>Coding 2:</u> Random numbers and simulations** *(N.C. Ref: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts; use sequence, selection, and repetition in programs; work with variables and various forms of input and output)* Children will learn how computers can generate random numbers and how these can be used in simulations. Children will write sequences of code to make objects change direction randomly Write code where the actions of one object are dependent on an interaction with another Create an app with random numbers, movements and actions dependent on other events *(Software – Espresso Coding Year 5b)* **<u>Presenting Information</u>** *(N.C. Ref: 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)* Using iPads to record video to present information as part of topic. Skills developed include: storyboarding to plan recordings, direction, recording, speaking and listening, video editing using Movie Maker. *(Software – Movie Maker on iPad)*	**<u>Email and online safety</u>** *(N.C. Ref: use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact)* Building on previous learning, children will look at different scenarios to reinforce the message of not sharing personal information, being aware of scams and hoaxes, looking after passwords and data and treating other online users with respect. They will also learn to use internal email software to message each other in a secure environment. *(Software – LGfL email; Be Internet Legends "Parentzone" resources)* **<u>Coding 3:</u> *Scratch (full version)*** *(N.C. Ref: design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts; use sequence, selection, and repetition in programs; work with variables and various forms of input and output)* Children will begin by learning the basic commands in Scratch to move a 'sprite', building to making objects move when touched or keys pressed. Introduce sound, speech, changing character images to create the illusion of movement and learn that objects can be moved to given coordinates. *(Software – Scratch 2 or J2code – visual programming)*