Computing – Year 6

Computing intent

Aims

- can understand and apply the fundamental principles and concepts of computer science, including abstraction, logic, algorithms and data representation
- can analyse problems in computational terms, and have repeated practical experience of writing computer programs in order to solve such problems
- can evaluate and apply information technology, including new or unfamiliar technologies, analytically to solve problems
- are responsible, competent, confident and creative users of information and communication technology.

Vocabulary

communication, protocol, data, address, Internet Protocol (IP), Domain Name Server (DNS), packet, header, data payload, chat, explore, slide deck, reuse, remix, collaboration, internet, public, private, oneway, two-way, one-to-one, one-to-many.

TinkerCAD, 2D, 3D, shapes, select, move, perspective, view, handles, resize, lift, lower, recolour, rotate, duplicate, group, cylinder, cube, cuboid, sphere, cone, prism, pyramid, placeholder, hollow, choose, combine, construct, evaluate, modify

variable, change, name, value, set, design, event, algorithm, code, task, artwork, program, project, code, test, debug, improve, evaluate, share, assign, declare

Knowledge and skills	Useful Units	Outcomes
Digital Literacy • use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact. • Understand the opportunities networks offer for communication and collaboration. • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content	Communication and Collaboration Variables in Games 3D Modelling	Design and create a computer game Design and create 3D animations Design and create an App Using 3D models Understanding networks
Information Technology • 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. • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Communication and Collaboration Variables in Games 3D Modelling	**Cross-curricular links** **Education for a Connected World links** Managing Online Information • I can identify, flag and report inappropriate content Self-image and identity I can describe issues online that could make anyone feel sad, worried, uncomfortable or frightened. I know and can give examples of how to get help, both on and offline **Relationships Education, Relationships and Sex Education (RSE) and Health Education** Online relationships • Pupils should know how information and data is shared and used online **Art and Design** • To improve their mastery of art and design techniques, including drawing, painting, and sculpture with a range of materials **Design and Technology** • Generate, develop, model, and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams,
Computer Science • 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. • understand computer networks including the internet; how they can provide multiple services, such as the world wide web; and the opportunities they offer for communication and collaboration. • use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.	Communication and Collaboration Variables in Games 3D Modelling	

			prototypes, pattern pieces and computer-aided design **Maths** • Recognise, describe, and build simple 3D shapes, including making nets