Computing Subject objectives

Year 1

Computing systems and networks – Technology around us

Can they identify technology?
Do they know what the main parts of a computer are?
Can they use a mouse in different ways?
Can they use a keyboard to type on a computer?
Can they use a keyboard to edit text?
Do they know how to use technology responsibly?

Creating media – Digital painting

Do they know what different freehand tools do?
Do they know how to use the shape and line tools?
Can they make careful choices when painting a digital picture?
Do they know why they chose the tools that they used?
Can they independently use a computer to paint a picture?
Do they know the differences between painting a picture on a computer and on paper?

Programming A – Moving a robot

Do they know what a given command will do?
Do they know how to follow and give instructions?
Do they know how to make a sequence using the commands 'forwards' and 'backwards'?
Do they know how to make a sequence using four commands?
Do they know how to plan a simple program?
Do they know how to find more than one solution to a problem?

Data and information – Grouping data

Do they know how to label objects?
Do they know that objects can be counted?
Do they know that objects can be described in different ways?
Do they know how to count objects with the same properties?
Can they compare groups of objects?
Can they answer questions about groups of objects?

Creating media – Digital writing

Do they know that it is possible to write on a computer?
Do they know how to add or remove text on a computer?
Do they know that the look of text can be changed on a computer?
Do they make careful choices when changing text?
Do they know why they used the tools that they chose?
Do they know the differences and similarities between writing on a computer and on paper?

Programming B - Programming animations

Do they know which commands link to a given purpose?
Do they know that a series of commands can be joined together?
Do they know how changing a value can have an effect?
Can they explain that different sprites have their own instructions?
Can they design parts of a project?
Do they know how to use their algorithm to create a program?

Computing Subject objectives

Year 2

Computing systems and networks – IT around us

Can they recognise features of information technology?
Do they know how information technology is used in school?
Do they know how information technology can be used beyond school?
Do they know how information technology helps us?
Do they know how to use information technology safely?
Do they know that choices are made when using information technology?

Creating media – Digital photography

Can they use a digital device to take a photograph?
Can they make choices when taking a photograph?
Do they know what makes a good photograph?
Do they know how photographs can be improved?
Can they use tools to change an image?
Do they recognise that photos can be changed?

Programming A – Robot algorithms

Can they describe a series of instructions as a sequence?
Do they know what happens when we change the order of instructions?
Can they use logical reasoning to predict the outcome of a program?
Do they know that programming projects can have code and artwork?
Do they know how to design an algorithm?
Can they create and debug a program that they have written?

Data and information – Pictograms

Do they know that we can count and compare objects using tally charts?
Do they know that objects can be represented as pictures?
Do they know how to create a pictogram?
Can they select objects by attribute and make comparisons?
Do they know that people can be described by attributes?
Do they know that we can present information using a computer?

Creating media - Digital music

Can they say how music can make us feel?
Do they know that there are patterns in music?
Can they experiment with sound using a computer?
Can they use a computer to create a musical pattern?
Can they create music for a purpose?
Can they review and refine their computer work?

Programming B - Programming quizzes

Do they know that a sequence of commands has a start?
Do they know that a sequence of commands has an outcome?
Can they create a program using a given design?
Can they change a given design?
Can they create a program using their own design?
Can they decide how their project can be improved?

Computing Subject objectives

Year 3

Computing systems and networks – Connecting computers

Do they know how digital devices function
Can they identify input and output devices
Do they know how digital devices can change the way we work?
Do they know how a computer network can be used to share information?
Do they know how digital devices can be connected?
Do they know about the physical components of a network?

Creating media - Stop-frame animation

Do they know that animation is a sequence of drawings or photographs
Can they relate animated movement with a sequence of images
Can they plan an animation?
Can they work consistently and carefully?
Can they review and improve an animation?
Can they evaluate the impact of adding media to an animation?

Programming A - Sequencing sounds

Can they explore a new programming environment?
Do they know that commands have an outcome?
Can they explain that a programme has a start?
Can they recognise that a sequence of commands can have an order?
Can they change the appearance of my project?
Can they create a project from a task description?

Data and information – Branching databases

Can they create questions with yes/no answers?
Do they know what attributes are needed to collect data about a project?
Can they create a branching database?
Do they know why it is helpful for a database to be well structured
Can they plan the structure of a branching database?
Can they create an identification tool independently?

Creating media – Desktop publishing

Do they know that text and images convey information?
Do they know that text and layout can be edited?
Can they choose appropriate page settings?
Can they add content to a desktop publishing publication?
Do they know that different layouts can suit different purposes?
Do they now about the benefits of desktop publishing?

Programming B- Events and Actions

Do they know how a sprite moves in an existing project?
Can they create a program to move a sprite in four directions?
Can they adapt a program to a new context?
Can they develop their program by adding features?
Can they identify and fix bugs in a program
Can they design and create a maze-based challenge?

Computing Subject objectives

Year 4

Computing systems and networks – The Internet

Can they describe how networks physically connect to other networks?
Do they know how networked devices makeup the internet?
Do they know how websites can be shared via the World Wide Web (WWW)?
Can they describe how content can be added and accessed on the World Wide Web (WWW?
Do they know how the WWW is created by people?
Can they evaluate the consequences of unreliable content?

Creating media - Audio production

Do they know that sound can be recorded?
Can they explain that audio recordings can be 2.3 edited?
Can they recognise the different parts of creating a podcast project?
Can they apply editing skills independently?
Can they combine audio to enhance their podcast project?
Can they evaluate the effective use of sound?

Programming A – Repetition in shapes

Do they know that accuracy in programming is important?
Can they create a program in a text-based language?
Do they know what 'repeat' means?
Can they modify a count-controlled loop to produce a given outcome?
Can they decompose a task in small steps?
Can they create a programme that uses count-controlled loops to produce a given outcome?

Data and information – Data logging

Do they know that data gathered over time can be used to answer questions
Can they use a digital device to collect data automatically?
Can they explain that a data logger collects 'data points' from sensors over time
Can they recognise how a computer can help us analyse data?
Can they identify the data needed to answer questions?
Can they use the data from sensors to answer questions?

Creating media – Photo editing

Can they explain that the composition of digital images can be changed?
Can they explain that colours can be changed in digital images?
Can they explain how cloning can be used in photo editing?
Do they know that images can be combined?
Can they combine images for a purpose?
Can they evaluate how changes can improve an image?

Programming B – Repetition in games

Can they develop the use of count-controlled loops in a different programming environment?
Do they know that in programming there are infinite loops and count controlled loops?
Can they develop a design that includes two or more loops which run at the same time?
Can they modify an infinite loop in a given program?
Can they design a project that includes repetition
Can they create a project that includes repetition

Computing Subject objectives

Year 5

Computing systems and networks - Systems and searching

Do they know that computers can be connected together to form systems'?
Can they recognise the role of computer systems in our lives?
Can they experiment with search engines?
Do they know how search engines select results?
Do they know how search engines are ranked?
Can they recognise when the order of results is important and to whom?

Creating media - Video production

Do they know what makes a video effective?
Can they identify digital devices that can record video?
Can they capture video using a range of techniques?
Can they create a storyboard?
Do they know that a video can be improved through reshooting and editing?
Do they know the impact of the choices made when making and sharing a video?

Programming A – Selection in physical computing

Can they control a simple circuit connected to a computer?
Can they write a program that includes count-controlled loops?
Do they know that a loop can stop when a condition is met?
Do they know that a loop can be used to repeatedly check whether a condition has been met?
Can they design a physical project that includes selection?
Can they create a program that controls a physical computing project?

Data and information – Flat-file databases

Can they use a form to record information?
Can they compare paper and computer-based databases?
Do they know how to answer questions by grouping and sorting data
Do they know that tools can be used to select specific date?
Do they know that computer programs can be used to compare data visually?
Can they use real world database to answer questions?

Creating media – Introduction to vector graphics

Do they know that drawing tools can be used to produce different outcomes?
Can they create a vector drawing by combining shapes?
Can they use tools to achieve the desired effect
Do they know that vector drawings consist of layers?
Can they apply what they have learnt about vector drawings?

Programming B – Selection in quizzes

Can they explain how selection is used in computer programs?
Do they know that a conditional statement connects a condition to an outcome?
Do they know how selection directs the flow of a program?
Can they design a program which uses selection?
Can they create a program which uses section
Can they evaluate their program?

Computing Subject objectives

Year 6

Computing systems and networks - Communication and collaboration

Do they know the importance of internet addresses?
Do they know how data is transferred across the internet?
Do they know how sharing information online can help people to work together?
Can they evaluate different ways of working together online?
Do they know how we communicate using technology?
Can they evaluate the different methods of online communication?

Creating media – Web page creation

Can they review an existing website and consider its structure?
Can the plan the features of a web page?
Do they know about ownership and the use of images (copyright)?
Do they know about the need to preview pages?
Can they outline the need for a navigation path?
Do they know about the implications of linking to content owned by other people?

Programming A – Variables in games

Do they know that a 'variable' is something that is changeable?
Do they know why a variable is used in a program?
Can they choose how to improve a game by using variables?
Can they design a project that builds on a given example?
Can they use their design to create a project
Can they evaluate their project?

Data and information – Spreadsheets

Can they create a data set in a spreadsheet?
Can they build a data set in a spreadsheet?
Do they know that formulas can be used to produce calculated data?
Can they apply formula to data?
Can they create a spreadsheet to plan an event?
Can they choose suitable ways to present data?

Creating media – 3D Modelling

Do they know that you can work in three dimensions on a computer?
Do they know that digital 3D objects can be modified?
Do they know that objects can be combined in a 3D model?
Can they create a 3D model for a given purpose?
Can they plan their own 3D model?
Can they create their own digital 3D model?

Programming B - Sensing movement

Can they create a program to run on a controllable device?
Do they know that selection can control the flow of a program?
Can they update a variable with user input?
Can they use a conditional statement to compare a variable to a value?
Can they design a project that uses inputs and outputs on a controllable device?
Can they develop a program to use inputs and outputs on a controllable device?