

Computing in Year 3

Topics: Connecting computers, Stop-Frame Animation, Sequencing sounds, Branching databases, Desktop Publishing, Events & Actions in Programs

Connecting Computers

National Curriculum Statements:

- Use sequence, selection and repetition in programs; work with variables and various forms of input and output.
- 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.
- 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.

Knowledge:

- Relationship between inputs, processes, outputs and how applies to devices.
- Recognise how digital devices can change how we work and explore how digital devices can be connected.
- Recognise physical components of a network.

Implementing Skills:

- Follow a process.
- Identify & classify input and output devices.
- Create pieces of work on non-digital and digital devices and compare and contrast approaches.

Assessment:

- Can they describe similarities and differences between using digital devices and using non-digital tools?

Stop-Frame Animation

National Curriculum Statements:

- 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 technology safely, respectfully and responsibly; recognise acceptable and unacceptable behaviour, identify a range of ways to report concerns about content and contact.

Knowledge:

- Use simple animation techniques and explain that animation is a sequence of pictures.
- Know how to create a storyboard with a clear beginning, middle and end.
- Know how to make improvements.

Implementing Skills:

- Movement between slides is smooth.
- Use onion skinning to help make changes between frames.
- Edit and improve animation.
- Add some additional media e.g. music, text.

Assessment:

- Can the children create a storyboard for an animation?
- Is the transition between slides smooth?
- How did they enhance their animation?

Sequencing Sounds

National Curriculum Statements:

- 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 connect errors in algorithms and programs.
- 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.

Knowledge:

- Identifying attributes of sprites and know how to program them.
- Know how to join blocks of codes together.
- Know how to combine motion and sounds in one sequence.

Implementing Skills:

- Create movement for at least 1 sprite by designing and implementing their code.
- Design, plan and create their own project by joining blocks of code together.
- Experiment with sequences to combine motion and sounds and to change the appearance of a sprite and change the background.
- Create a musical instrument in Scratch.

Assessment:

- Can the children create a code to move a sprite?
- Can they create a sequence to move a sprite?
- Can they add sound, movement, background to their project?

Branching Database

National Curriculum Statements:

- 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 technology safely, respectfully and responsibly; recognise acceptable and unacceptable behaviour, identify a range of ways to report concerns about content and contact.

Knowledge:

- Know how to split a collection of objects into groups using questions with yes/no answers.
- Learn how to arrange objects into a tree structure.
- Know how to create branching database.
- Compare the efficiency of different branching databases.

Implementing Skills:

- Identify and compare objects using a tree diagram.
- Use yes or no answers to create a tree diagram.
- Create a branching database and compare how well it works compared to their peers.
- Consider real-world applications for branching databases.

Assessment:

- Can they create questions to use in a branching database?
- Can they suggest real-world uses for branching databases?

Desktop Publishing

National Curriculum Statements:

- Use search technologies effectively, appreciate how results are selected and ranked and be discerning in evaluating digital content.

- 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.

Knowledge:

- Understand that text and images need to be used carefully to communicate messages clearly.
- Understand advantages and disadvantages of using text, images, emojis or both text.
- Know how to use different features in Microsoft Publisher to create a publication.
- Know how to use desktop publishing in the wider world.

Implementing Skills:

- In a publication (invitation) make choices regarding font size, colour and type and use punctuation marks.
- In a publication use placeholders to divide the page, add text and images and format the text.
- Describe the benefits of desktop publishing and how different layouts suit different purposes.

Assessment:

- Can they give an example of when using text, images or emojis online could be misinterpreted?
- Can they choose an appropriate layout for a given scenario?

Events & Actions in Programs

National Curriculum Statements:

- 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 connect errors in algorithms and programs.
- 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.

Knowledge:

- Able to explain how a sprite moves in a project and use this to move a sprite in their own project.
- Know how to adapt a program to a new context.
- Can develop their program by adding features.
- Know how to identify and fix bugs in a program.
- Can design and create a maze-based challenge.

Implementing Skills:

- Investigate how characters can be moved using 'events' and use this to control multiple sprites.
- Create a code to move a sprite in one direction before duplicating and modifying to move in all four directions and successfully navigate a maze.
- Choose blocks to set up a program and choose suitable keys to turn on additional features.
- Identify and fix errors in a program.
- Design and create own project to move sprite around a maze.

Assessment:

- Can the children create a program to move a sprite in four directions?
- Can they develop program by adding features?
- Are they able to design and create a maze-based challenge and fix bugs in their program?