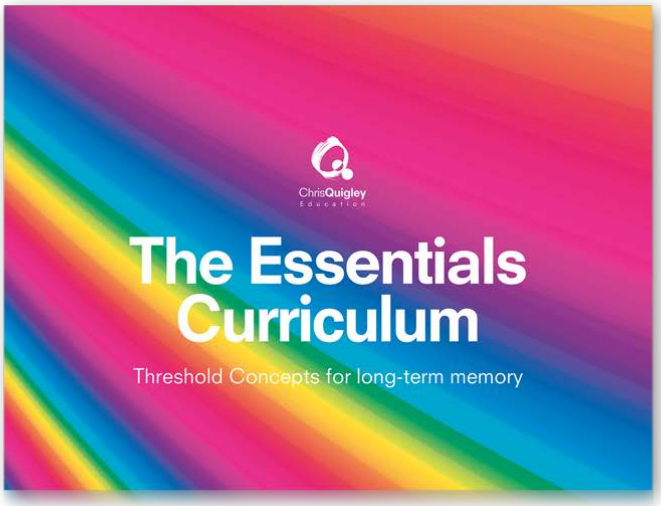
ChrisQuigley
Education
The Essentials Curriculum
Threshold Concepts for long-term memory

Content

Milestone 1

Computing Years 1 and 2

In Years 1 and 2 pupils:

- Control motion by specifying the number of steps to travel, direction and turn.
- Add text strings, show and hide objects and change the features of an object.
- Select sounds and control when they are heard, their duration and volume.
- Control when drawings appear and set the pen colour, size and shape.
- Specify user inputs (such as clicks) to control events.
- Specify the nature of events (such as a single event or a loop).
- Create conditions for actions by waiting for a user input (such as responses to questions like: What is your name?).
- From Year 3 onwards.
- From Year 3 onwards.
- Participate in class social media accounts.
- Understand online risks and the age rules for sites.
- Use a range of applications and devices in order to communicate ideas, work and messages.
- Use simple databases to record information in areas across the curriculum.

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Milestone 2

Computing Years 3 and 4

In Years 3 and 4 pupils:

- Use specified screen coordinates to control movement.
- Set the appearance of objects and create sequences of changes.
- Create and edit sounds. Control when they are heard, their volume, duration and rests.
- Control the shade of pens.
- Specify conditions to trigger events.
- Use IF THEN conditions to control events or objects.
- Create conditions for actions by sensing proximity or by waiting for a user input (such as proximity to a specified colour or a line or responses to questions).
- Use variables to store a value.
- Use the functions define, set, change, show and hide to control the variables.
- Use the Reporter operators
  () + ()
  () - ()
  () * ()
  () / ()
  to perform calculations.
- Contribute to blogs that are moderated by teachers.
- Give examples of the risks posed by online communications.
- Understand the term ‘copyright’.
- Understand that comments made online that are hurtful or offensive are the same as bullying.
- Understand how online services work.
- Use some of the advanced features of applications and devices in order to communicate ideas, work or messages professionally.
- Devise and construct databases using applications designed for this purpose in areas across the curriculum.

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Milestone 3

Computing Years 5 and 6

In Years 5 and 6 pupils:

- Set IF conditions for movements. Specify types of rotation giving the number of degrees.
- Change the position of objects between screen layers (send to back, bring to front).
- Upload sounds from a file and edit them. Add effects such as fade in and out and control their implementation.
- Combine the use of pens with movement to create interesting effects.
- Set events to control other events by 'broadcasting' information as a trigger.
- Use IF THEN ELSE conditions to control events or objects.
- Use a range of sensing tools (including proximity, user inputs, loudness and mouse position) to control events or actions.
- Use lists to create a set of variables.
- Use the Boolean operators
  () < ()
  () = ()
  () > ()
  ()and()
  ()or()
  Not()
  to define conditions.
- Use the Reporter operators
  () + ()
  () - ()
  () * ()
  () / ()
  to perform calculations.
  Pick Random () to ()
  Join () ()
  Letter () of ()
  Length of ()
  () Mod () This reports the remainder
  after a division calculation
  Round ()
  () of ().
- Collaborate with others online on sites approved and moderated by teachers.
- Give examples of the risks of online communities and demonstrate knowledge of how to minimise risk and report problems.
- Understand and demonstrate knowledge that it is illegal to download copyrighted material, including music or games, without express written permission, from the copyright holder.
- Understand the effect of online comments and show responsibility and sensitivity when online.
- Understand how simple networks are set up and used.

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- Choose the most suitable applications and devices for the purposes of communication.
- Use many of the advanced features in order to create high quality, professional or efficient communications.
- Select appropriate applications to devise, construct and manipulate data and present it in an effective and professional manner.

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