THE BRITISH SCHOOL
OF NANJING
A NORD ANGLIA EDUCATION SCHOOL

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Computer Science Curriculum Overview

KEY STAGE 3- Year 6

An introduction to devices and software, including:

- Microsoft 365 suite and setting up the Edge browser
- Efficient use of iPad, iMac and cloud storage

An introduction to file sizes, digital media types, extensions and applications, including:

- kilobytes and megabytes conversion
- Common document, image, audio and video formats and extensions
- Default applications and alternative applications for different media

An introduction to digital images, including:

- Using advanced image search tools in browser
- png vs jpg vs svg formats
- bitmap vs vector graphics
- alpha/transparency channels with png's
- the concept of pixels and resolution
- basic bitmap image editing including adding an alpha channel
- basic svg image creation and editing

An introduction to ethics and security, including:

- digital footprints
- cyber bullying
- phishing and pharming
- digital ownership

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An introduction to textural programming, including:

- basic use of an integrated development environment (IDE) to work with HTML code (webpages) and run locally
- working with HTML code through online editors
- using the svg element container to render basic svg shapes on a webpage
- styling svg shapes using fill and stroke
- position svg shapes using the standard computer graphics coordinate system
- animate svg shapes using Synchronized Multimedia Integration Language (SMIL)

An introduction to Computational thinking, including:

- making simple maths related algorithms
- basic flowcharts symbols (start/stop, process, decision and loops)
- converting algorithms into flowcharts
- interpreting flowcharts
- application to simple graphical programming using NXT robot blocks and sensors

Software application: 3D digital design, including:

- navigating in the 3D environment
- extruding 2D polygon mesh to make 3D objects
- face, side and vertex mesh editing
- basic scene lighting and camera set-up
- basic object materials and textures
- basic animation
- basic rendering (stills and video)