Newport Girls' High School

Learning Overview

Subject:	Computer Science	Lead Teacher:	Mr Ley	Year:	8

Curriculum organisation

Students are taught in mixed groups of 30 for 1 hour per week, each with a computer to use.

Overview of Topics & Key Information

Term	Unit(s) of Work	Key Enquiry Questions	Key Content/ Terminology	Skills developed	How will your child be learning?
Autumn Term	8.1 AppShed	• What should be the subject of my app? • What kind of apps are there? • How do I design my app? • How do I enhance my app?	• Screens • Web apps • Native apps	• Presenting information • Designing apps • Creating an app	By developing their own app on the online app development site; AppShed.
	8.2 Python	• How do I input and output data in a Python program? • What are the main data types for? • How do I use an if statement? • How do I use loops in python?	• Input/output) • Data types • if statements • for loop • while loop	Basic programming skills: • Use of variables • Use of IF statements • Use of loops • Sequencing	By building up a program in Python to calculate the cost of turfing a lawn.
Spring Term	8.3 Blockly	• What can I do to make my App more interactive? • What input forms should I use? • How do I process the interaction in my app using Blockly? • How do I output? • How do I publish my app?	• Input forms • Buttons • Variables • IF statements • Output • Message box • Text area	Applied programming skills: • Use of variables • Use of IF statements • Use of loops • Sequencing	By programming the interactive element of their app in Blockly.
Summer Term	8.4 Binary	• What is binary? • How convert decimal/denary into binary and vice versa? • How can I add in binary? • What does a binary shift do?	• Binary • Denary • Binary shift	• Converting to and from binary numbers • Adding binary numbers • Calculating a binary shift	By doing set exercises and following teacher led presentations and demonstrations.
	8.4 Small Basic	• How do I draw with the turtle? • How can I create a shape? • How can I use a loop and a formula to create a shape? • How can I create a complex shape using a loop inside a loop?	• Turtle • Graphics Window • Variable • For Loop • Nested Loops	• Basic programming skills: • Creating graphics by programming • Advanced programming skills: nested iteration	By Creating programs in Microsoft Small Basic

Equipment needed for lessons	How will learning and progress be assessed?
• Windows Personal Computer (provided)	• Peer and self-assessment • End of topic assessments (subject skills focus) • Whole School assessment week (May)

Extension & Enrichment opportunities	What can you do to support your child?
• Coding club and Digital Leaders (club) • Computer rooms open most lunchtimes • National Competitions (CyberFirst Girls and BEBRAS)	• Ensure there are digital resources they can use. (A normal windows PC is ideal). • Get your daughter to help you with digital tasks.

Inclusion
• Teachers follow student passports to ensure that the needs of all students with SEND are met.
• Work is enlarged to the necessary size for visually impaired students.
• Teachers will ensure that classrooms are quiet learning environments where possible and will dim lights to support students with sensory needs.
• Students have the use of laptop if they have a SEND need whereby use of a laptop supports them.
• Hearing impaired students are supported through use a radio aid and teachers ensure that students can lip read at all times during lessons.
• Dyslexic students are encouraged to use coloured overlays when they are required to read long passages.
• Use of dyslexic friendly fonts and coloured backgrounds used in PowerPoints/resources.
• Students with ADHD are given movement breaks, fidget toys and lessons are 'chunked' to aid concentration.
• Students are seated according to their needs, students work with the SENDCo to decide upon this.
Additional Inclusion for Computer Science
• Computer monitors can be adjusted for brightness and contrast to support students with sensory requirements
• Spell check in Word gives support to Dyslexic students

If you have any questions about this Learning Overview, please contact the named Teacher above.