

CURRICULUM OVERVIEW 2018-19



Computer Science Years 7 and 8

Success for All through Achievement, Challenge & Enjoyment



Curriculum Overview 2018-19

Year group: KS3 (Years 7 and 8)

Computer Science

YEAR 7

Term	Topics studied Add dates and any assessments included	Extended learning opportunities (homework, controlled assessments, field work, trips etc.)	How parents could support students
Autumn Term	<p>Year7 Programming Fundamentals and E-Safety (8 weeks) Introduction to JavaScript (13 weeks)</p> <p>Assessment – Google Form at end of each Topic</p>	<p>Over View of EXTENDED LEARNING CONTENT: Programming Fundamentals and E-Safety: Students learn the basics of computing using a block based language, allowing them to focus on the logic and problem solving skills rather than the syntax of a text-based language. Throughout the unit, students cover key e-safety terminology and good practice.</p> <p>EXTENDED Learning Posted on Google Classroom – summaries on daily summary come through to all parents (once accepted invitation)</p>	<p>LINKS ARE FOR PARENTS TO USE TO SUPPORT</p> <p>https://www.thinkuknow.co.uk/8_10/stay-safe/ https://www.thinkuknow.co.uk/11_13/Need-advice/Digital-footprint/ https://www.bbc.com/bitesize/guides/zrtrd2p/revision/1 https://www.bbc.com/bitesize/guides/zrxncdm/revision/2 https://code.org/educate/curriculum/cs-fundamentals-international https://studio.code.org/s/express-2018</p>
Spring Term	<p>Year 7 Introduction to JavaScript (13 weeks)</p> <p>Building our own Animation (using conditional statements) (10 weeks)</p> <p>Assessment – Google Form at end of each Topic</p>	<p>Over View of EXTENDED LEARNING CONTENT: Introduction to JavaScript and Planning: Students start to learn the basic syntax of a text based language (JavaScript) using khan academy as an IDE, as well as how to plan programs. Throughout the unit students will apply the logic of the last unit, while focusing on building up debugging skills and the research based skills to design text based programs to a wide variety of specifications.</p> <p>EXTENDED Learning Posted on Google Classroom – summaries on daily summary come through to all parents (once accepted invitation)</p> <p>TRIPS: Big Bang Science Fair (Silverstone)</p>	<p>LINKS ARE FOR PARENTS TO USE TO SUPPORT</p> <p>https://www.khanacademy.org/computing/computer-programming/programming/animation-basics/a/what-are-animations</p> <p>https://www.khanacademy.org/computing/computer-programming/programming/interactive-programs/pt/mouse-interaction</p> <p>https://www.khanacademy.org/computing/computer-programming/programming/text-basics/pt/terrific-text-part-one</p>

Summer Term	<p>Year 7 Building our own Animation (using conditional statements) (10 weeks)</p> <p>The Microbit (5 weeks)</p> <p>Assessment – Google Form at end of each Topic</p>	<p>Over View of EXTENDED LEARNING CONTENT:</p> <p>Building our own Animation Students use everything they've learned in the first two units to design and build their own animation using java Script. Students will have the choose as to what they animate and to what degree they add user interaction (mouse/key) to showcase their story.</p> <p>Microbit Students use the BBC Micro Bit to explore how hardware and software interacts to build physical devices. Students have a choice if they want to use a java Script or block based IDE to showcase the logic and their programming skills.</p> <p>EXTENDED Learning Posted on Google Classroom – summaries on daily summary come through to all parents (once accepted invitation)</p> <p>TRIPS: Visit to the Buckingham University's applied computing department.</p>	<p>LINKS ARE FOR PARENTS TO USE TO SUPPORT</p> <p>https://microbit.org/guide/features/</p> <p>https://www.khanacademy.org/computing/computer-programming/programming/logic-if-statements/a/review-logic-and-if-statements</p> <p>https://microbit.org/guide/features/#radio</p> <p>https://makecode.microbit.org/pkg/Microsoft/pxt-microturtle</p> <p>https://makecode.microbit.org/projects/hack-your-headphones</p>
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YEAR 7: All unit length depends on the individual class, as a result concepts/lessons are subject to extension/shorting as needed.

Each scheme has extended learning: This is dependent upon the progress of each group and bespoke with videos and questions posed on google classroom. Each week team leaders will review extended learning (peer assessment) with teacher feedback every 3 weeks. Examples of each extended learning project are visible in the final column.

YEAR 8

	Topics studied Add dates and any assessments included	Extended learning opportunities (homework, controlled assessments, field work, trips etc.)	How parents could support students
Autumn Term	<p>Functions (10 weeks)</p> <p>Conditional Statements and Game Logic (11 weeks)</p> <p>Assessment – Google Form at end of each Topic</p>	<p>Over View of EXTENDED LEARNING CONTENT: Students learn how to design and build their own custom functions - this unit is the building blocks of the game making unit that year 8 students produce. Students are walked through how to build a function and are given plenty of time to practice the high level programming in JavaScript.</p> <p>EXTENDED Learning Posted on Google Classroom – summaries on daily summary come through to all parents (once accepted invitation)</p> <p>TRIPS: Bucks Skill Show (showcase microbit project) Moon Night (looking at computing in planetary sciences)</p>	<p>LINKS ARE FOR PARENTS TO USE TO SUPPORT</p> <p>https://www.khanacademy.org/computing/computer-programming/programming</p> <p>https://www.khanacademy.org/computing/computer-programming/programming/functions/pt/functions</p>
Spring Term	<p>Conditional Statements and Game Logic (11 weeks)</p> <p>Building our own graphical game (12 weeks)</p> <p>Assessment – Google Form at end of each Topic</p>	<p>Over View of EXTENDED LEARNING CONTENT: Conditional Statements and Game Logic: In this unit students practice and learn the necessary skills to build “smart” interactive programs, with a focus on building complex if statements using Boolean Algebra that allow multi-stage programs. Throughout the unit, students will also learn how to use a count controlled loop to simplify their program.</p> <p>EXTENDED Learning Posted on Google Classroom – summaries on daily summary come through to all parents (once accepted invitation)</p>	<p>LINKS ARE FOR PARENTS TO USE TO SUPPORT</p> <p>https://www.khanacademy.org/computing/computer-programming/programming#logic-if-statements</p>
Summer Term	<p>Building our own graphical game (12 weeks)</p> <p>Robotics (4 weeks)</p> <p>Assessment – Google Form at end of each Topic</p>	<p>Over View of EXTENDED LEARNING CONTENT: In this unit students design and implement their first game, it builds upon the techniques learned in year 7 and 8, in particular the use of functions and logic. The game includes moving between levels, a start and end screens as well as a host of additional options for customization.</p>	<p>LINKS ARE FOR PARENTS TO USE TO SUPPORT</p> <p>https://www.khanacademy.org/computing/computer-programming/programming-games-visualizations/programming-scenes/a/what-are-scenes</p> <p>https://4tronix.co.uk/blog/?p=1490</p>

		<p>EXTENDED Learning Posted on Google Classroom – summaries on daily summary come through to all parents (once accepted invitation)</p> <p>Trips/Activities Primary Festivals – Computing Students support and lead</p>	https://www.l33t.uk/bitbot/
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