

YEAR 7, Coding (Term 2), ICT and Computing (Tech Fac)

Rationale and Context of Unit:	Core curriculum content:	Tier 2 & Tier 3 vocabulary explicitly taught:
<p>The KS2 curriculum is heavily focused on coding but students rarely come to us knowing the proper terminology of what they are doing, if they have even covered coding at their primary school. Schools in the area tend to use coding apps such as Scratch. Students can often complete simple block coding but cannot explain what they are doing with the correct terminology.</p> <p>We use Scratch in this unit to offer some continuity with the primaries.</p> <p>Microsoft office and the basics of computer systems was taught last term and so moving onto the basics of coding is a logical step regarding what must be covered on the KS3 curriculum. This will underpin two further units where we encounter coding.</p> <p>Coding is something which must be covered in the KS3 curriculum and Scratch, while offering familiarity to students, is also an effective platform for enabling students to understand how coding works.</p>	<p>Key knowledge taught: Coding a basic game based around variables. Being able to use the terminology to explain what they are doing. Knowing your target market. Surveying the class using google forms and doing data analysis. Presenting their game idea to the class. The majority of this unit will be new learning.</p> <p>These skills will be used in the next unit which develops coding skills using a text based way of coding. Knowledge around coding will be furthered in a year 9 unit as well.</p>	<p>Duplicate (2) Algorithm (3)</p> <p>NB. Each lesson has a key words list to accompany the students' learning and more words may be explicitly taught than the above but these are obligatory.</p>

Challenge and Support:	World wide learning/ links to 21st century:	Cultural capital/ Industry/ Enrichment:
<p>Each lesson has EDSM descriptors and there are tasks in each lesson which target HAPs.</p> <p>This scheme not only gives students a good understanding of how coding works but also challenges them in terms of presentation skills. Students have to work in a team to produce a prototype game using scratch and present this to the class with a presentation. This encourages team work and oracy skills.</p> <p>Students will be taught how to change the colours of documents. A list of key words/ word bank is available for every lesson with definitions.</p> <p>Tasks are chunked with step by step instructions and the lessons powerpoints are saved on the public area. Students who need to, can save a copy to their areas so they can refer back to it. They can print the document if needed and make notes (or do this electronically).</p> <p>Extra help guides are also available in both electronic and printed out formats for various pieces of software.</p> <p>Students are given plenty of time (a fortnight) to complete any homework tasks. They are encouraged to complete this at lunchtime or at homework club, giving them access to computers, if they do not have IT access at home.</p>	<p>Each lesson has either a ‘real life link’ or a ‘link to careers’ section, depending on which one is relevant to the lesson. Nearly every student of this age plays video games of some sort so it is helpful for them to see how much work and coding a game takes.</p> <p>If there are any budding games designers or programmers in the group, then this will be an excellent introduction for them. Hopefully this unit will inspire students to think about a career in this field.</p>	<p>See previous section for links to careers.</p> <p>As students have to work in a team to produce their game / presentation, teamwork and organisational skills will be paramount in producing an effective game / presentation. These soft skills will be useful in the workplace.</p> <p>Students also have to think about target markets and how companies will try and create games to target different markets. It is useful for them to see companies achieve this.</p>

<p>Lessons will be further differentiated in accordance with SEND and PP passports. Seating plans will be annotated based on passports.</p> <p>To support SEND students further, scaffolding, cognitive and metacognitive strategies, explicit Instruction and flexible grouping are used, along with the aid of technology.</p>		
<p>Historical, Social, Moral, Spiritual, Cultural context:</p>	<p>Cross curricular links/ literacy/numeracy:</p>	<p>Common misconceptions:</p>
<p>Personal development is promoted in this unit by working as a team. This also promotes social skills.</p>	<p>The presentation promotes oracy skills.</p> <p>The data analysis of the survey is a chance to look at how charts and graphs are used / presented.</p> <p>There are plenty of opportunities to read aloud in class and give information from the lesson powerpoint.</p> <p>There is an opportunity for extended writing when writing up the conclusions from the survey conducted in class.</p>	<p><i>“You need to be an expert at maths to code”.</i> <i>“Coding is dull / not very creative”</i></p> <p>Maths and coding are not tightly coupled. There is a lot of creative thinking in creating a program and although there are programming roles which may involve complex maths, there are others which will involve next to no maths at all. Using Scratch to code is an effective way to prove to students that coding can be very creative.</p>
<p>Assessment timeline:</p>		
<ul style="list-style-type: none"> • Intro lesson and baseline test at start of unit. End of unit quiz to see how well students understand terminology and coding. • Baseline test at end of lesson 1. Quiz at end of unit on google forms. • Students also have a project to complete at the end of the unit, which will receive feedback 4 marking. • Examples of finished projects / games made in Scratch are available online. Links in powerpoint. • Assessment scores will be converted into end of unit percentages. A spreadsheet will be generated for every single student and every single answer they gave so I can see which questions / topics they have struggled with and take that into the next unit / recap. 		

Home learning

HMK focusses on PiXL unlock sheets and literacy tasks. One HMK is given per term in KS3 for IT.

Further reading:

<https://scratch.mit.edu/> - Lots of extra projects and ideas on Scratch site

Feedback

In KS3, marking is via self-marking google quizzes. Students will have at least two of these per unit. (Mid unit and end of unit)

Feedback for HMK is given via google classrooms. There is one HMK per term.

Class discussions used regularly. Online Quizzes. Test buddy feedback (peer assessment) used in class with criteria. Students can self-mark against criteria given.

Length of unit (duration indicated in lessons)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Unit: Coding (Term 2 of Year 7)																													