Curriculum Overview for Information Technology and Computing - Year 7

When?	What?	Why?	How?	Support
Autumn Half Term - 1	**7.1 Introduction to the Network**	We will be providing students with the skills and software knowledge they will need to be able to focus on the content of computing lessons, rather than how to use the systems at school. Students should be gaining a sense of ownership over the subject and feel confident in what they will be expected to do within lessons.	Students will be introduced to how IT & Computing lessons are run at Thorpe and what is expected of them in the lesson. They will also be provided with the basic skill set they need to be successful in the subject. Systems studied: ● *The School Network* ● *Google Mail* ● *Google Drive* ● *Google Classroom* ● *Show my Homework*	In each of the boxes below there are different strategies for you to help support students that relate to **all learning in school.** Each strategy related to the schools '*5 Ps approach',* we have also added a very important strategy in IT & Computing to the list: Perseverance. ***Strategy One: Prepare*** - This half term preparation is particularly important, students should practise logging in at home, this will help them in lessons to be more efficient. Homework during this half term will be focused on students logging into Google Mail and using Google Drive and Google Classroom to complete and hand in pieces of work.
		If students do not have access to the internet at home for any reason the LRC can be used for homework at lunchtime. In addition, they can come and use the computers in the IT&C Excellence Block to complete homework, practise before lessons or catch-up on missed work.		
Autumn Half Term - 2	**7.2 Computer Systems**	Students are likely to use computer systems a lot in their everyday lives: from mobile phones, to tablets, to microwaves and music player. But do they actually know how they work, rather than just how to use them? This unit allows students to build a base for the lessons in forthcoming years and gain an appreciation and understanding for the technology that has changed the way we live our lives daily.	This unit is a theoretical part of the curriculum, this means these lessons will not be spent creating software but learning and understanding the facts about how computer systems work. As part of this unit students will also learn about how to keep their data safe on computer systems. Topics covered: ● *Hardware and Devices* ● *The CPU (Processor)* ● *Storage* ● *Memory* ● *Software* ● *Cyber Security*	In students computing lessons they will use what we call an '*eBook'.* This is an online version of an exercise book and where students make notes, complete work, complete homework and revise from. eBooks can be accessed via *Google Classroom*. ***Strategy Two: Perfect -*** The second of the 5 Ps is that students should look to check the work they have done in lessons and check their understanding. eBook allow students to check their work anywhere they have an internet connection. To support the students you could check their understanding of the content of their eBook. If they are not sure of anything from the lesson key knowledge sheets are posted on the 'About' tab of Google Classroom.

Curriculum Overview for Information Technology and Computing - Year 7				
When?	**What?**	**Why?**	**How?**	**Support**
Spring Half Term - 1	**7.3 Data Representation**	In this theory unit students will learn about how data is used within the computer systems from the previous unit. Data includes any letters, numbers, symbols, sounds and images. These are all stored on and sent between devices that we all use everyday.	Students should be able to understand the basics about how computer systems store and send data, as well as more technical details. This unit will fall into : ● File Sizes ● Compression ● Binary ● Images ● Sound	Students often find it difficult to link what they have done in the lesson to real life. In all the units in IT & Computing topics are based on knowledge students need to be able to use any digital device effectively, as well as some more technical knowledge. You can support students by showing them how the knowledge they learn in lessons can be seen in everyday life. *Strategy Three: Prioritise* - In all units students will be given a grid with all of the knowledge they should be able to demonstrate at the end of a topic. Students can self-assess on this grid by colouring it green (They are happy with this knowledge) or Purple (This is what they need to work on). Any areas they are struggling with should be the focus of their homework and class time.
Spring Half Term - 2	**7.4 Networking and the Internet**	For computer systems to work effectively they must be able to communicate with each other. The internet is the largest form of the internet that everyone will need to purchase and be able to understand in their lives. Networks are smaller and more business centered however students use a network every day at school.	Students firstly learn what the internet is, with common misconceptions being teased out and corrected. Next they learn how data is broken up and transported through networks/the internet. Finally a lesson focuses on what Internet Service Providers (ISPs) are and how to compare them.	At the end of each unit students will have some time working on 'how to revise' and as part of the schools 'key knowledge homework' strategy students will be focusing on this in their homework time. They should be aiming to find the method of revision that works best for them and help them perform to their best ability in each subject, not just IT & Computing. *Strategy Four: Perform -* As with every unit students will be tested on their knowledge at the end of each unit. All notes should be written in their eBook and key knowledge sheets on Google Classroom however additional information on each subject can be found on websites such as: www.bbc.co.uk/education/subjects/zvc9q6f www.teach-ict.com/2016/ks3/ks3_home (Login details can be collected from teachers)

Curriculum Overview for Information Technology and Computing - Year 7				
When?	What?	Why?	How?	Support
Summer Half Term - 1	7.5 Computational Thinking	Often programming is thought of as an unnecessary skill except for those going into the industry however the skills students learn include: ● *Problem Solving* ● *Algorithms* ● *Debugging* ● *Pattern Recognition* ● *Decomposition*	Pupils are introduced to the main programming strategies that students will use as they make their way through the other key stages. They will learn programming principles such as: *Sequencing, Variables, Conditional Statements and Loops.*	Students will be assessed by the work they have achieved in each individual lesson. Student can improve their work at home after the lesson if they want to try and reach a higher grade. *Strategy Five: Perseverance* - This skills is something that students often lack the confidence to pursue. In computing things often go wrong and the best programmers are never those who do things correctly the first time, they are those who learn from their mistakes. This is something we hope that parents will help students to understand about our subject.
Summer Half Term - 2	7.6 The BIG Computing Project	In whatever business students end up working in: from Accountancy to Advertising, from Housekeeping to Highway Maintenance, from Nurses to Nuclear Engineers - there will always be new projects being tried and tested. It is important that at whatever part of the process students become a part of they understand and respect the other people in the process and how they products that end up in their bedrooms made it there. Projects are also large parts of many other subjects such as Technology, Music and Art.	Students will be given the basic skills they need to complete their work effectively, as well as time to do their own research to develop their knowledge. The teaching part of these lessons will focus on how to: *Analyse* - looking at other pieces of work and deciding on a product that they think will be interesting and fill a gap in the market. *Design -* Planning in detail what they will be creating and how much time they will need to do it in. *Implement -* Creating the product they have been planning! *Test -* Ask others to see if the product works/does what they intended. *Evaluate -* What went well and what would they improve if they had more time.	As with the previous unit students will be assessed by looking at each page of their eBook so it would be beneficial for you to have a look through the work they have done and question students if you believe they could work to a higher standard. The mark scheme is placed at the top of each page so you know what we are expecting from the students. *Strategy Six: Participate -* In this unit students can use other people in the class to give feedback on what they have created, we encourage students to ask others in the group for help and advice. It is very important that they make the effort to work with others and participate fully in the lessons, as well as in other units during the year.