

# COMPUTING - BIG PICTURE CURRICULUM PLANNING - YEAR 7

## WHAT ARE THE BIG AIMS OF YEAR 7?

- To enable the scientific and practical study of computation: what can be computed, how to compute it, and how programs can be written to solve problems
- To develop student understanding about how computers and telecommunications equipment work, including storage and retrieval relating to cloud/email.
- To develop in students the ability to be efficient and critical users of technology
- To develop understanding about the risks associated with the use of technology and how to keep themselves/others safe
- To develop and extend students' subject/technical vocabulary
- To develop students' technical understanding and competence so that they are able to create a range of digital artefacts (blog, app, email messages) which are fit for audience and purpose. Additionally, to select, use, manipulate and evaluate software and systems.
- To inspire more girls to pursue computing and consider this as a potential future career route

## WHAT WILL EXCELLENCE LOOK LIKE IN YEAR 7?

Students will demonstrate:

- secure foundation and understanding of basic programming constructs
- ability to offer sound advice re. minimising online risks to self/others
- ability to support peer learning to address misconceptions
- ability to debug simple syntax errors in own/peer programs
- the ability to work with greater independence when making an app
- competent use of technical language appropriate to their stage of learning
- signs of developing resilience
- curiosity beyond learning undertaken in the classroom

## WHAT KNOWLEDGE DO THE PUPILS NEED TO ACQUIRE?

- Computational thinking methods: Decomposition (breaking down), Abstraction (removing unnecessary detail), Pattern Recognition (spotting/ using similarities) and Algorithmic Thinking (making steps & rules and representing these)
- Key constructs of programming; sequence, selection, iteration
- Programming language syntax (graphical - Scratch, text based - HTML)
- Features and purpose of a variety of software; online communications - email, blogs,

## WHAT SKILLS DO THE PUPILS NEED TO DEVELOP?

- Debugging
- Programming
- Applying computational thinking methods to design algorithms and solve problems

<p>programming,</p> <ul style="list-style-type: none"> <li>● Digital literacy,</li> <li>● Collaborative working methods (ie. Google docs/drive/sharing)</li> <li>● Input and output devices</li> <li>● Risks of technology (dangerous content/contact/conduct) for self, peers, others in digital spaces/communities, how to manage risk and report concerns,</li> <li>● Features and benefits of a positive online profile/digital footprint</li> <li>● An introduction to the systems life-cycle 'way of working' (eg. analysis/design/implementation/testing/evaluation)</li> </ul>	<ul style="list-style-type: none"> <li>● Analysing and predicting</li> <li>● Information handling: finding, creating, judging, manipulating data and information</li> <li>● Applying the systems life cycle to any given computing/IT problem</li> <li>● Technical proficiency</li> <li>● Fluent use of technical language</li> </ul>
<p><b>WHAT MISCONCEPTIONS MAY THEY HAVE FROM PREVIOUS LEARNING?</b></p> <ul style="list-style-type: none"> <li>● that 'friends-of-friends' is a safe setting</li> <li>● that online content can always be removed after sharing</li> <li>● that everything they read online can be trusted/is reliable</li> <li>● that online groomers are always 'adults' or 'male to female'</li> <li>● that it is okay to share content/photos of others/friends without permission</li> <li>● that 'no' online presence/profile is a 'good' thing</li> <li>● the scratch app and programming is just 'making or playing games'</li> <li>● that learning in IT/computing means 'always working on computers'</li> <li>● that any content available online can be used without checking for permission first</li> <li>● that the acceptable use policy only apply to school and don't have a place in the wider world</li> <li>● that the misuse of email is not serious!</li> <li>● that copy and paste is an acceptable demonstration of learning!</li> <li>●</li> </ul>	
<p><b>WHAT ASSESSMENTS WILL BE USED ACROSS THE YEAR TO DEMONSTRATE HOW THE PUPILS HAVE ACQUIRED THE KNOWLEDGE/DEVELOPED SKILLS?</b></p> <ul style="list-style-type: none"> <li>● Knowledge Check/Baseline assessment for each topic (MCQ)</li> <li>● Progress assessment for each topic</li> <li>● Rubric/written feedback relating to success criteria for each topic</li> </ul>	