

## TRANSITION YEAR UNITS

### 1. Title of Transition Unit

Information Communications Technology

### 2. Area of Study

Enterprise & Technical Development

### 3. Overview

Steve Jobs once said that computers were a 'bicycle for the mind', allowing users to learn more, solve problems, foster creativity and enhance productivity.

Students will learn basic concepts of coding and computational thinking, how to design app prototypes, create and edit videos, work with cloud storage and online documents, create slideshow presentations and develop their presentation skills and work with numeric data in spreadsheets.

Students shall work in an 'active' setting with 'hands on' tasks in order to learn how to use each application practically.

### 4. Links

Computer Science, English, Enterprise (TY module), Business Studies, Maths, Physics, Debating and Public Speaking, Music, Photography, Art and Film and Media Studies.

### 5. Summary Outline of the Unit

**App Prototyping:** Designing 'fake' app prototypes using Keynote on iPad. Students will develop their own iterations based on sample Timer apps (i.e. Hourglass and a HIITS Exercise app) and will then build their own app prototype based on the skills learned. There will be a focus on visual and functional design and User Interface (UI) design. Students will be required to work in groups.

\*Some issues may arise if significant numbers of students in a given class group not have an iPad.

**Multimedia - Creating TY Video Diaries:** Filming video with the Camera on iPad, iPhone and other smartphones, editing video using Clips, iMovie and Adobe Spark Video on iPad, creating animated Title cards using Keynote, creating Music for video projects using GarageBand, backing up video and photos to cloud storage (i.e. Google Drive). Focus will be on the creative and technical issues around creating a video diary/portfolio. (When this unit of work is complete, responsibility for TY Video Diaries will lie with the TY Coordinator and TY Class Tutors.)

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**Coding:** An Introduction to Coding and concepts of computational thinking using Swift PlayGrounds on iPad. Students will complete units of work from Apple's 'Learn To Code 1' within the Swift PlayGrounds, aligned to the free 'Everyone Can Code' curriculum. Students will learn about Commands, Functions, Loops, Conditional Code and Algorithms.

\*Some issues may arise if significant numbers of students in a given class group not have an iPad.

**Presentation Skills:** Creating Slideshow Presentations using Keynote and/or Google Slides, examining and implementing concepts of best design practice around the creation of slideshow presentations and developing presentation skills. Students will create, develop, rehearse and present a 2 minute presentation in class on a topic of their choice.

**Spreadsheets: Google Sheets & Numbers** – Creating basic spreadsheets, performing calculations, editing cells, rows and columns (insertion/deletion), creating pie/bar charts, editing and formatting spreadsheets for presentation and sorting spreadsheets.

**6. Breakdown of the Unit**

Two single class periods per week for the full academic year.

**7. Aims**

*This Transition Unit aims to:*

Improve student’s digital literacy, a key skill in the 21st Century.

Improve student’s use of ICT and develop their collaborative, problem solving and design skills.

Improve student’s short term project skills and simulate a ‘real world’ work environment.

Introduce students to key concepts of computing, cloud storage, design, and computational thinking.

**8. Learning Outcomes**

*On completion of this unit students should be able to:*

Create and edit a video using freely available software and school devices (i.e. iPad)

\*Some issues may arise if significant numbers of students in a given class group not have an iPad.

Use Keynote, Google Drive, Clips, iMovie, GarageBand, Google Slides, Numbers and Google Sheets effectively for various practical applications.

\*Some issues may arise if significant numbers of students in a given class group not have an iPad.

Understand basic concepts of coding and computational thinking such as Commands, Functions, Loops, Conditional Code and Algorithms.

\*Some issues may arise if significant numbers of students in a given class group not have an iPad.

Use Computers and their related Hardware and Software safely, ethically and effectively.

**9. Key Skills**

**How evidenced**

**Information Processing**

Creating and editing documents using Keynote, Google Slides, Numbers and Google Sheets.

<b>Critical and Creative Thinking</b>	<p>Problem solving using Swift PlayGrounds using coding concepts.</p> <p>Creation of app prototypes using Keynote.</p> <p>Planning, creation and editing of TY Video Diaries.</p> <p>*Some issues may arise if significant numbers of students in a given class group not have an iPad.</p>
<b>Communicating</b>	<p>Communicating by email and through Google Classroom with the class teacher and other students.</p>
<b>Working with Others</b>	<p>Paired and group work when creating app prototypes with Keynote, learning coding concepts with Swift PlayGrounds and working with spreadsheets.</p>
<b>Being Personally Effective</b>	<p>Achieve personal goals of improving ICT skills for personal use including the planning, creation and editing of a TY Video Diary, using iWork Apps (Keynote and Numbers) and G-Suite for Education applications (Google Slides &amp; Sheets), the Internet and Swift PlayGrounds coding app.</p> <p>*Some issues may arise if significant numbers of students in a given class group not have an iPad.</p>
<b>10. Methodologies</b>	
<p>'Active learning' predominant – 'hands on' practical use of various ICT software.</p> <p>'Scaffolding' of student's work through direct demonstration of practice examples before completion of main tasks.</p> <p>Oral presentations combined with visual display and demonstration on data projector.</p> <p>Paired and Group work – small project.</p> <p>Short class-time based projects.</p>	
<b>11. Assessment Methods</b>	
<b>Ongoing</b> Completed work submitted through Google Classroom where appropriate for the duration of the unit.	<b>Culminative</b> Grading based on successful completion of in-class assignments and projects.
<b>12. Evaluation</b>	
<p>Continual evaluation – oral discussion with students of relevance, ability level and difficulty of various tasks.</p> <p>End of module Questionnaire and suggestions for improvement in future.</p>	

### 13. Resources

Student iPads (and PCs where necessary for those without iPad)  
Teacher iPad  
Data projector.  
Teacher prepared resources stored in Google Drive.  
Software – iWork apps (Keynote & Numbers), Clips, iMovie, GarageBand, G-Suite for Education Apps  
- Google Drive, Google Slides & Sheets, Swift PlayGrounds Coding App and the internet.  
Learn to Code 1 - Everyone Can Code: Apple coding Curriculum  
<https://www.apple.com/ie/everyone-can-code/>  
[https://www.apple.com/ie/education/docs/Swift\\_Playgrounds\\_Curriculum\\_Guide\\_091917.pdf](https://www.apple.com/ie/education/docs/Swift_Playgrounds_Curriculum_Guide_091917.pdf)

### 14. Literacy & Numeracy

#### Literacy

Key Words List

Visual Literacy promoted through Docs and Sheets charts, diagrams, worksheets & images

Digital Literacy through use of Computers as the principal resource for all classwork

#### Numeracy

Promoted through discussion and practice questions.

Coding: Problem Solving, Computational Thinking, Sequencing, Sorting, Commands, Function, Loops & Algorithms  
Numbers/Google Sheets – Spreadsheets, Averages, Totals, Decimal Places, Date Formatting, Formula and Functions, 'If' Functions, Charts, Cell Location, Cell Ranges, Maximum/Minimum, Sorting.