

CONTENTS

	Term
Section 1: Systems Technologies ...1	
Module 1.1: Software and the cloud ...2	1
Module 1.2: Digital technology in everyday life ...7	1
Section 2: Digital Citizenship ...13	
Module 2.1: Online behaviour ...14	1
Module 2.2: Copyright and Plagiarism ...23	2
Module 2.3: Cybercrime and the Law ...29	3
Section 3: Computational Thinking ...35	
Module 3.1: Variables and IPO tables ...36	1
Module 3.2: Problem solving with flowcharts ...42	2
Section 4: Word Processing ...49	
Module 4.1: WordArt, text boxes, headers and footers ...50	1
Module 4.2: SmartArt ...59	2
Module 4.3: Revision and Table of Contents ...67	3
Section 5: Spreadsheets ...73	
Module 5.1: Charts ...74	1
Module 5.2: Worksheets and Functions ...82	2
Module 5.3: Revision and preparing for printing ...92	3
Section 6: Coding ...99	
Module 6.1: Programs that require user input ...100	1
Module 6.2: Making decisions ...112	2
Module 6.3: Working with numbers and strings ...124	2, 3
Module 6.4: Loops ...133	3
Section 7: Test and improve ...145	
Module 7.1: Theory – test your knowledge ...146	4
Module 7.2: <i>Word</i> and <i>Excel</i> – extra practice ...152	4
Module 7.3: Programming – putting it all together ...167	4

TABLE OF CONTENTS

Section 1: Systems Technologies ...1

Module 1.1: Software and the cloud ...2

Introduction ...2

System software and application software ...2

Cloud computing ...4

Module 1.2: Digital technology in everyday life ...7

Introduction ...7

Online shopping ...8

Online banking ...9

Digital technologies and education ...10

Section 2: Digital Citizenship ...13

Module 2.1: Online behaviour ...14

Online harassment ...14

Cyberbullying

Cyberstalking

Online identity versus offline identity ...17

Awareness of digital footprint ...18

Social media safety ...19

Netiquette ...19

Ethics online ...20

Module 2.2: Copyright and Plagiarism ...23

Copyright ...23

Public domain

Fair use

Plagiarism ...25

Consequences

Referencing

Module 2.3: Cybercrime and the Law ...29

Introduction ...29

The Protection from Harassment act ...30

The POPI act ...31

The RICA act ...31

The Cybercrimes Bill ...32

Section 3: Computational Thinking ...35

Module 3.1: Variables and IPO tables ...36

Variables ...36

Using variables in an algorithm

Changing the value of a variable

User input and IPO tables ...38

Using decomposition to solve problem ...40

Module 3.2: Problem solving with flowcharts ...42

Flowchart example ...42

Understanding a flowchart ...43

Flowcharts with loops ...44

Create a flowchart to plan a solution ...46

Section 4: Word Processing ...49

Module 4.1: WordArt, text boxes, headers and footers ...50

WordArt ...50

Text boxes ...54

Headers and footers ...56

Module 4.2: SmartArt ...59

Inserting SmartArt ...59

Changing SmartArt ...61

Adding shapes

Changing the layout

Formatting SmartArt

SmartArt with pictures ...66

Module 4.3: Revision and Table of Contents ...67

Revision of basic skills ...67

Formatting with the Design tab ...70

Table of contents ...70

Creating a table of contents

Updating a table of contents

Section 5: Spreadsheets ...73

Module 5.1: Charts ...74

Types of charts ...74

Column chart

Line chart

Pie chart

Creating and editing charts ...76

Interpreting and analysing charts ...80

Module 5.2: Worksheets and Functions ...82

Worksheets ...82

- Inserting a worksheet
- Renaming a worksheet
- Deleting a worksheet

Functions ...84

- The COUNTA function
- The COUNTBLANK function
- The ROUND function
- The COUNTIF function

Troubleshooting formulas and functions ...89

Module 5.3: Revision and preparing for printing ...92

General print settings ...92

- Margins, Orientation and Size
- Print Area
- Repeat rows or columns on each printed page
- Printing gridlines

Inserting headers and footers ...96

Section 6: Coding ...99**Module 6.1: Programs that require user input ...100**

Getting input from the user ...100

- Your first interactive *Scratch* program
- Creating an interactive program – the basics

Working with numbers ...103

- Variables and operators
- Let your program count

Using an IPO table to solve a problem ...107

Order of operations ...110

Module 6.2: Making decisions ...112

Decision structures ...112

- Conditions
- The *if <> then* block
- The *if <> then .. else* block

The *repeat until <>* and *wait until <>* blocks ...120

- The *repeat until <>* block
 - The *wait until <>* block
-

Module 6.3: Working with numbers and strings ...124

Functions that work with numbers ...124

The *sqrt* and *abs* functions

The *round* function

The *mod*-operator ...128

Functions that work with strings ...130

Module 6.4: Loops ...133

Choosing the right loop ...133

Troubleshooting loops ...135

Never-ending loops

Initialisation issues

Reversing a loop ...137

Problem solving using loops ...139

Section 7: Test and improve ...145**Module 7.1: Theory – test your knowledge ...146**

Module 7.2: Word and Excel – extra practice ...152

Word processing ...152

Spreadsheets ...160

Module 7.3: Programming – putting it all together ...167

Introduction ...167

Coding – apply what you have learned ...170
