ADVANCED PYTHON – Computer Science Taster

OVERALL LEARNING JOURNEY FOR KEY STAGE 3 COMPUTING

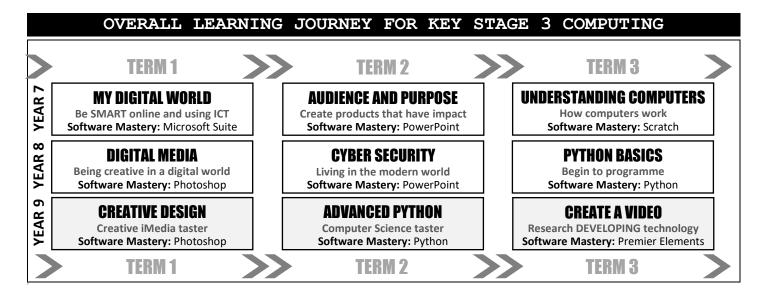|	TERM 1	TERM 2	TERM 3
YEAR 7	**MY DIGITAL WORLD** Be SMART online and using ICT **Software Mastery:** Microsoft Suite	**AUDIENCE AND PURPOSE** Create products that have impact **Software Mastery:** PowerPoint	**UNDERSTANDING COMPUTERS** How computers work **Software Mastery:** Scratch
YEAR 8	**DIGITAL MEDIA** Being creative in a digital world **Software Mastery:** Photoshop	**CYBER SECURITY** Living in the modern world **Software Mastery:** PowerPoint	**PYTHON BASICS** Begin to programme **Software Mastery:** Python
YEAR 9	**CREATIVE DESIGN** Creative iMedia taster **Software Mastery:** Photoshop	**ADVANCED PYTHON** Computer Science taster **Software Mastery:** Python	**CREATE A VIDEO** Research DEVELOPING technology **Software Mastery:** Premier Elements
	TERM 1	TERM 2	TERM 3

This unit covers the very basics of programming in Python while controlling a brightly coloured farming robot to move around the screen, plant, harvest, and ship crops. Students will use www.turinglab.co.uk to complete tasks.

Aim of this unit:

This unit will take the whole of this term to complete. Topics students will cover:

- Stage 1: Write basic algorithms to control our virtual farming robot
- Stage 2: A first chance to test their new knowledge
- Stage 3: Learn to debug before writing an algorithm from scratch
- Stage 4: Build their debugging muscle further while writing maintainable code
- Stage 5: Write more complex algorithms from scratch
- Stage 6: A first look at working with loops

Assessment:

Most lessons contain multiple choice questions for students to work through, individually and as a whole class that cover the topics for that lesson. There are also independent tasks for students to complete which their class teacher will mark and add to their exercise book.

At the end of this unit there will be a 40-minute exam on all the topics covered this term.

Homework:

Each fortnight students will receive at least one homework, for which they should only spend 20 minutes completing. These will be a combination of written, research, investigative tasks.

How you can help:

Encourage your child to work log onto www.turinglab.co.uk and complete unfinished tasks or have a go at the challenge tasks.

DATE :	
RAG rate your understanding:	**LESSON 1: Stage 1 – Movement, starting your farm & planting the farm**
🙁 😐 🙂	Command| Text editor | Computer Program | Function | Algorithm |String | Arguments |Computational thinking

DATE :	
RAG rate your understanding:	**LESSON 4: Stage 2 - Test your knowledge**
🙁 😐 🙂	String| Computational thinking| Arguments |Function |Sequence | Syntax |Sequential |Commands |

DATE :	
RAG rate your understanding:	**LESSON 5: Stage 3 – Bugs on the farm, Three rows of crops**
🙁 😐 🙂	Indentation | Bugs | Function | Program | Console | Syntax | Logical| Errors| Naming conventions |Capitalisation |

DATE :	
RAG rate your understanding:	**LESSON 7: Stage 4 – Time to harvest, Bugs and navigation**
🙁 😐 🙂	Sequential | Commands | Comments | Algorithm | Naming Convention | Debugging | Maintainability |Flow |

DATE :	
RAG rate your understanding:	**LESSON 9: Stage 5 – Planting the farm, Harvest the farm**
🙁 😐 🙂	Algorithm | Design | Requirements |

DATE :	
RAG rate your understanding:	**LESSON 11: Stage 6 - Lets code quicker & plant, harvest, and ship**
🙁 😐 🙂	Algorithm | Loops | Control | Iteration | Indentation | Whitespace |FOR loop |