/Computing@Balcarras_

SUBJECT	YEAR	TERM
Computer Science	**7**	**2**

UNIT

Problem Solving Using Python

INTENT

PRIOR LEARNING (TOPIC) Some pupils may have pre-existing knowledge of programming through block-base languages such as Scratch, this is not a requirement though.

This unit aims to give pupils an introduction to text-based programming languages, specifically Python. To make this as accessible as possible we use the built-in Turtle module, which allows pupils to visually see what each of their instructions does.

Using this, pupils will learn how to solve problems, these range from building simple shapes up to re-creating far more complex images.

FUTURE LEARNING (TOPIC): Programming Fundamentals

IMPLEMENTATION

Throughout the unit pupils will learn how to:

- Write simple instructions in Python.
- Identify and solve syntax and logic errors.
- Decompose problems into manageable parts.
- Sequence sets of instructions to solve problems.

IMPACT

Assessment: Each lesson will be consolidated with a short set of questions. The combination of which will give a total score for the unit out of 40. This mark will then be translated into a 9-1 style grading.

HOW CAN PARENTS HELP AT HOME?

The development environment we use for programming (replit) is freely available via the World Wide Web. If pupils enjoy programming in lessons, they can easily learn more at home. Parents can support this by learning along with them or helping them find suitable next steps (see reading/extra-learning).

HELPFUL READING/FURTHER DISCUSSION

READING/EXTRA-LEARNING	CAREERS	WIDER SKILLS
There are an enormous number of online courses and tutorials to help pupils develop their programming skills further. Visit the Next Steps section of the Computing department's Firefly page for more details.	Programming skills can lead into a wide array of careers, including software development, data science and game design.	Digital Literacy Problem Solving Resilience

VOCABULARY

Syntax, Instructions, Logic, Debugging, Sequence