PYTHON
YEAR 10 RESOURCE

QUEEN'S UNIVERSITY BELFAST

Rewarding Learning

KS3

# Week 01 Lesson Plan:

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| **Programme:** | Key Stage 3 Introduction to Programming |
| **Lesson Title:** | Introduction to Programming |
| **Session:** | Week 01 of 12 |
| **Duration:** | 30 Minutes |
| **Resources:** | Class Exercise: **Week01_ClassExercise.pdf**<br>PowerPoint: **Week01_LearningtoCode.pptx**<br>Practical (Tutorial) Document: **Week01_Practical.pdf and video**<br>Completed Python Code Examples: As per **Week01_CodeFiles** folder |

*Note: We have included a range of teaching material with this lesson pack to facilitate different teaching and learning styles. Teachers should select the material and choose an approach they feel works best for their class. Please note that, if you deliver all material included with this lesson pack, it will exceed the normal 30-minute teaching period.*

## Lesson Outline

*Note: PowerPoint slides will provide a scaffold to the lesson content. Please hide any slides referring to content that you are not delivering in class.*

### Beginning of Lesson:

- Class Discussion – What is Programming?
- Instructions Exercise (**Week01_ClassExercise.pdf**)

### Middle of Lesson:

- Demonstrate opening the IDLE IDE and printing some text to the Shell.
- Direct pupils to complete pages 1–3 of the **Week01_Practical.pdf** practical document.
- Demonstrate using Script mode to create, save and open a script file that prints some text to the Shell.
- Direct pupils to complete the final page of the **Week01_Practical.pdf** practical document.
- Optional: Any pupils finishing early should be encouraged to practice using the `print()` function: for example, they can print out their name and the subjects they currently study in school.

### End of Lesson:

- Identify any common mistakes made by the class and show how to correct them.
- Emphasise that they have written instructions that a computer will follow. Generally speaking, more code = the more things a program can do.
- Next Lesson: more printing, dealing with errors, comments, user input, and variables.

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## Lesson Overview and Suggested Approach

The aim of this lesson is to introduce pupils to the concept of computer programming and to provide them with an opportunity to write some simple code which will output some text to the screen.

### Beginning of Lesson

Initially, this lesson should explore the definition of computer programming, which should centre on the idea of a computer following a set of instructions to achieve a task, such as opening a document. You could initiate this with some class discussion followed by completing the Week 01 Class Exercise.

### Middle of Lesson

A good approach here is to:

» provide a teacher-led explanation and demonstration of each activity (as per the lesson outline), and

» have pupils imitate and practice these steps with the assistance of the practical document.

Be mindful of common errors such as missing or misplaced brackets/quotes, and the fact that the print function is case sensitive. It is a good idea to keep an eye on the common mistakes being made by the class, so that you can highlight these at the end of the session. You should ask any pupils who work through this material quickly to practice using the `print()` function to print out text such as their name, the subjects they study, and so on.

### End of Lesson

If you've made notes on common mistakes, now is a good time to discuss them with the class. Drawing the attention of pupils to missing/misplaced brackets/quotes and the fact that Python is case sensitive is always advisable. Some pupils may find that simply printing out text is a little boring, so if this happens, draw their attention to the Tic Tac Toe game they will be building. Printing out text to the Shell is a vital part of this game, so the skills must be learned – it becomes more fun when we start mixing this simple functionality with other things that will be taught in the class.