Scheme of Work: Year 9 Java Programming

This unit is an introduction to Java Programming for Year 9 students (Grade 8). It uses free tools - the BlueJ IDE (bluej.org) and the Sun Java JDK (java.sun.com). The intention is to give students a flavor of what Computer Science is all about as they move towards their option choices.

LESSON NUMBER	TITLE	OBJECTIVES:	SUGGESTED ACTIVITIES (Reference can be made to starter, main and plenary)	ASSESSMENT OPPORTUNITIES (This should include formative assessment - AFL)	DIFFEREN-TIATION (Reference should be made to provision for AEN students including EAL, LS and G&T)	RESOURCES	SUGGESTED HOMEWORK
1	Intro	Orientation with tools and understanding of concepts	**Starter:** How computers work; the need for accuracy in programming language syntax; **Main:** Your first program (Hello). **Plenary:** The jargon, pop quiz, **class**, **data member**, **method**.	Nothing formative here.	Written resources provided in Moodle course. Jargon sheet to be prepared and passed to EAL support.	Moodle. Bluej IDe, JDK 6. Installed on all lab computers.	None
2	First steps	Modifying an existing Applet	**Starter:** Recall last week, terminology pop quiz (verbal) Class, data member, method, object **Main:** We will modify a few lines of code to make pressME into addMe (add a TextField, change the Button). Students will adapt addMe to subMe, multiplyMe and possibly convertMe **Plenary:** What more have we learnt?	Students will upload subMe or something similar for assessment.	Extensions on the ib-computing site for advanced students. Adding real numbers and creating Panels for improved layout.	Moodle BlueJ ib-computing.com	Worksheet – anatomy of a computer program. **Purpose**: Learning the jargon..

3	select state ments	Further modifications to introduce simple if statements	**Starter:** Selection & logic the "binary" nature of if conditions. **Main:** An Applet that can make decisions based on button presses. PressMe, PressMeNot (boom). Other uses – AddSub Applet. **Plenary:** More uses for if statements (think).	Students will program their own if statements; possibly based on text analysis (eg name.getText().equals ("Max") or Buttons Upload as an assignment..	Extensions on the ib-computing site for advanced students. multiple or nested if statements for more choices.	Moodle BlueJ ib-computing.com	Drag and drop text **Purpose**: Deeper understanding of if.
4	loops	A simple Java project.	**Starter:** List of suitable tasks. **Main:** Developing ideas, building a simple Applet. **Plenary:** Idea sharing time.	Students will build a very simple Application; a list of ideas will be given. This will be completed and uploaded by the end of term.	Advanced students can be taught simple while loops, eg for input data validation.	Moodle BlueJ ib-computing.com	None
5	Applet in web page	Adding an Applet to a web page.	Complete Applet and upload to First Page website.	Students add Applet to webpage.		Moodle BlueJ ib-computing.com	Upload the Project.