

## **Parkside House ICT and Computing Year 3 Core Elements**

### **Term 1: E-Safety and Digital Literacy: Disinformation and Bias**

#### **Cyberbullying, Grooming and Sexting**

The first two E-Safety units are part of the Teach ICT Online Safety course. Due to the sensitive nature of some of the topics alternative activities can be provided.

The cyberbullying and grooming tasks will let pupils understand the effects that cyberbullying can have on somebody else; help them to know what to do if they are cyberbullied and to consider how their own behaviours might affect someone else. They will be helped to form clear opinions about the effect of cyberbullying and be able to offer suggestions to help the person being bullied by creating a guide. Students will also understand how to recognise online grooming and know what they need to do to reduce the risks of becoming a victim of online grooming. Students will then learn what is meant by sexting, the possible consequences and where to find help and advice, with the aim that they have been made aware of the dangers of texting and have an understanding of the social, ethical and legal issues related to sexting.

#### **Disinformation and Bias: Fake News**

This unit links to work in Entry Level English where bias in the media is examined. The unit begins with an investigation of reliable and unreliable sources of information comparing BBC News to individual vloggers and possible reasons for bias, political stance, ideology or commercial sponsorship (paid reviews) through internet searching. The pupils are made aware of the dangers of conspiracy theory web sites and how advertisements and posts are targeted through social media using the Cambridge Analytics/Facebook case study. Pupils are then given a project that uses WP and Image manipulation skills developed in Year 2 to create a realistic Fake News article. The article can be in web or traditional newspaper front cover style.

### **Term 2: Logic, Planning and Programming**

#### **Boolean logic**

The students will study how Boolean logic is used to create structures that allow computers to solve problems using simple binary forms. The students will be reintroduced to binary from the year 1 programming course leading to practical exercise that describe the use of AND/OR and NOT gates, Truth Tables and how binary can be used to set conditional values. Students will have the opportunity to practice these skills online at Teach ICT, in game with the Minecraft trial and the academo.org online logic simulator.

#### **Planning Using Flowcharts**

Pupils will extend their knowledge of algorithms from the year 1 programming course by using standard Flow Chart conventions to plan a series of instruction sets that solve problems from the steps needed to make a cup of tea to creating a branching story or flow chart map. This will prepare them for the next Python programming unit.

#### **Handling Numbers in Python**

This unit introduces students to the common mathematical operators used in programming and builds on the skills learnt in the introduction to Python in the previous year. They learn how to set up numerical variables and use comparison operators. They learn to work with integers, floats and random numbers. By the end of the project they may have written the code for a simple adventure game using the branching structures and logic studied in the previous two units.

### **Term 3: Business and Data Modelling: Pizzorama**

This unit is an introduction to using a spreadsheet to help a new owner run a pizza shop. The unit builds from simple cell referencing with a predefined sheet, through some basic formulas that familiarise pupils with the syntax and format of Excel's calculations. The unit uses a context most pupils are familiar with and is combined with small skill based exercises (i.e. a pocket money spreadsheet) and instructions to assess progress and competence in what can be a challenging area. At the end of the unit pupils can either modify and enhance the given examples or research their own shop based spreadsheet. Some pupils will progress to representing their data visually using Excel's Chart function.