**Y10 Computer Science 6-week plan:**

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| **Subject** | **Lesson 1** | **Lesson 2** | **Lesson 3** |
| **Week 6** | Using 2.1 Workbook:- Create a **program in Python** for an RPG game using your flowchart and pseudocode you completed before half term to guide you.Resources:- 2.1 Workbook (recap slides 19-20)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) | Using 2.1 Workbook:- Modify algorithm from last lesson to correct an issue with player 2 winning more battles than player 1.- The algorithm on slide 22 does not run as expected in two ways. Identify and correct the errors in the pseudocode.Resources:- 2.1 Workbook (slides 21-22)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) | Using 2.1 Workbook:- Create a “dungeon master” toolkit program which includes a range of caverns and keeps track of elements such as the ‘health’ and ‘capabilities’ of a player This is an open-ended task meaning as much detail can be added as you wish!Resources:- 2.1 Workbook (slide 22)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) |
| **Week 7** | Using 2.1 Workbook:- Continue with “dungeon master” toolkit program from last lesson. Resources:- 2.1 Workbook (slide 22)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) | Using 2.1 Workbook:- Continue with “dungeon master” toolkit program from last lesson. Resources:- 2.1 Workbook (slide 22)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) | Using 2.1 Workbook:- Test “dungeon master” toolkit program from previous lessons. Ask someone else to test it too! Get their feedback – what worked/did not work?Resources:- 2.1 Workbook (slide 22)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) |
| **Week 8** | Using 2.1 Workbook:- Create a **flowchart** for an RPG game using an algorithm provided (slide 23).- Create the **pseudocode** for an RPG game using an algorithm provided (slide 24).Resources:- 2.1 Workbook - GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) | Using 2.1 Workbook:- Create a **program in Python** for an RPG game using your flowchart and pseudocode you completed before half term to guide you (slide 24).Resources:- 2.1 Workbook (recap slides 19-20)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) | Using 2.1 Workbook:- Continue to create a **program in Python** for an RPG game using your flowchart and pseudocode you completed before half term to guide you (slide 24).Resources:- 2.1 Workbook (recap slides 19-20)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 How to produce algorithms…](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45)) |
| **Week 9** | Using 2.1 Workbook:- Write the pseudocode required to find a ‘Geography’ book using a **linear search**.- Create a program to test the **linear search** pseudocode.Resources:- 2.1 Workbook (slide 9)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 Linear](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45) [search](https://www.youtube.com/watch?v=mce2XxIVkVU&list=PLCiOXwirraUAf7ueVPl99gktxzJNEIyCC&index=4)) | Using 2.1 Workbook:- Create a program to output the latitude and longitude of European capital cities using a **linear search**.- Add validation and allow the user to add and remove cities. Resources:- 2.1 Workbook (slide 9)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 Linear](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45) [search](https://www.youtube.com/watch?v=mce2XxIVkVU&list=PLCiOXwirraUAf7ueVPl99gktxzJNEIyCC&index=4)) | Using 2.1 Workbook:- Write the pseudocode required to find a ‘Geography’ book using a **binary search**.- Create the program to test the **binary search** pseudocode.Resources:- 2.1 Workbook (slides 10 – 11)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 Binary search](https://www.youtube.com/watch?v=Eiy5DAr1ijs&list=PLCiOXwirraUAf7ueVPl99gktxzJNEIyCC&index=5)) |
| **Week 10** | Using 2.1 Workbook:- Demonstrate the sequence of steps of a **bubble sort** algorithm using provided data.- Write a program to perform a **bubble sort**.Resources:- 2.1 Workbook (slide 12)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1](https://www.youtube.com/watch?v=wvAblqsEj54&list=PLCiOXwirraUAvkTPDWeeSqAKty3LAG37-&index=45) [Bubble](https://www.youtube.com/watch?v=5GqZ0Gueb0Q&list=PLCiOXwirraUAf7ueVPl99gktxzJNEIyCC&index=6) sort) | Using 2.1 Workbook:- Demonstrate the sequence of steps of a **merge sort** algorithm using provided data.- Write a program to perform a **merge sort**.Resources:- 2.1 Workbook (slides 13-14)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 Merge sort](https://www.youtube.com/watch?v=TcNNPUIRqI8&list=PLCiOXwirraUAf7ueVPl99gktxzJNEIyCC&index=7)) | Using 2.1 Workbook:- Demonstrate the sequence of steps of a **insertion sort** algorithm using provided data.- Write a program to perform an **insertion sort**.Resources:- 2.1 Workbook (slide 15)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.1 Insertion sort](https://www.youtube.com/watch?v=ZV3Gd2wZBro&list=PLCiOXwirraUAf7ueVPl99gktxzJNEIyCC&index=8)) |
| **Week 11** | Using 2.2 Workbook:- Write programs using basic string manipulation and file handling operations (reading/writing to a text file).Resources:- 2.2 Workbook (slides 5-7)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.2 The use of basic string manipulation](https://www.youtube.com/watch?v=F_dpYmI74E0&list=PLCiOXwirraUDRk5TlB2ulS3V2-0tB3vcS&index=3)[2.2 The use of basic file handling operations](https://www.youtube.com/watch?v=zQWUgu7f_0E&list=PLCiOXwirraUDRk5TlB2ulS3V2-0tB3vcS&index=4)) | Using 2.2 Workbook:- Identify, explain and create functions and procedures. Resources:- 2.2 Workbook (slide 9)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.2 How to use sub programs](https://www.youtube.com/watch?v=9gyO0ZOXQU4&list=PLCiOXwirraUDRk5TlB2ulS3V2-0tB3vcS&index=6)) | Using 2.2 Workbook:- Create a program to store and search for data using SQL lite.Resources:- 2.2 Workbook (slide 11)- GCSE OCR pseudocode guide- Craig n Dave videos ([2.2 The use of records to store data](https://www.youtube.com/watch?v=F3w0DOqhik4&list=PLCiOXwirraUDRk5TlB2ulS3V2-0tB3vcS&index=10)[2.2 The use of SQL to search for data](https://www.youtube.com/watch?v=YejAkhvh6N0&list=PLCiOXwirraUDRk5TlB2ulS3V2-0tB3vcS&index=11)) |