

Year 11-12 Transition Work

Subject: Computer Science



St Peter's
SIXTH FORM
Discover your potential

We're looking forward to welcoming you in September! Please note that this document has been created by staff to help you prepare to start your studies at sixth form. The work you produce from this will form the basis of a discussion in your first lessons with your teachers.

At the end of this document, there is a review grid and coding grid for you to complete every time you engage with some preparatory activities this summer.

List of key topics you will study in Year 12:

1. Procedural programming
2. Theory of Computation
3. Data Representation
4. Computer systems, organisation, and architecture
5. Communication and networking
6. Consequences of uses of computing

Recommended research list:

1. Algorithms to Live By – Talks at Google (<https://www.youtube.com/watch?v=OwKj-wgXteo>)
2. CHM Live – The Great Hack (<https://www.youtube.com/watch?v=y26NQdTLtaw>)
3. Computerphile channel (<https://www.youtube.com/@Computerphile>)
4. The Machine: A computer science education podcast (Spotify or <https://www.youtube.com/@TheMachinePodcast>)
5. <https://www.w3schools.com/python/default.asp>
6. <https://www.geeksforgeeks.org/>
7. <https://www.khanacademy.org/computing/ap-computer-science-principles>
8. <https://www.codewars.com/kata/python>

Tasks

1. Watch the talk Algorithms to Live By and complete a review grid.
2. Watch the documentary CHM Live – The Great Hack and complete a review grid.
3. Watch three videos from the Computerphile channel and complete a review grid for each one.
4. Listen to / Watch two episodes of The Machine... podcast and complete a review grid for each one.
5. Complete two challenges (katas) per week on Code Wars and complete a coding grid.
6. Independently research an area of the specification that interests you. Write a 500-word summary of what you learned.

REVIEW GRID

Name of podcast/article:

REWORD IT: Use this space to look up any words you don't know on an online dictionary/thesaurus

CRUNCH IT: Identify 6 keywords in this podcast/article/source. Say why you have picked these words.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

SUMMARISE IT

Summarise 3 key learning points or arguments in this podcast/article/source:

REVIEW IT:

Would you recommend this resource to another student?

Why/why not?

What was your key takeaway from this article?

What questions do you still have?

CODING GRID

Name of kata / challenge:

Screenshot of kata or challenge instructions. (You can copy and paste the instructions instead)

Screenshot of your program code.

REVIEW IT:

What challenges did you face in solving this challenge?

What did you learn / discover by completing this challenge?

What went well in this challenge?

What would you do differently next time?