Murray Park School

Computer Science revision strategies & resources

"Proud to be here"

Introduction

- Computer Science J277 OCR is full GCSE Subject graded at level 1 – 9
- There are 2 papers focusing on the following main topic areas

  - Paper 1 – Computer Systems
  - Paper 2 - Computational thinking, algorithms and programming

- Effective revision is crucial for performing well in exams and especially in computer science. New language to learn, new skills

- Today, we'll explore key skills and strategies that will enhance your revision process and boost your performance.

Key skills for OCR J277

- Recalling information learned within the subject.
- Being aware of current computing practices
- Proficient IT skills such as the use of Word, PowerPoint,
- Knowledge of computer systems hardware and how computer systems work
- **Problem-solving** and **programming proficiency**.

- Mastering these skills is fundamental to excelling in this subject.

Common problems students face

- Putting off revision, finding excuses to do other things or leaving all the work until the last minute.

- The fact is the more they delay, the more likely they are to get into a panic. Probably the biggest problem surrounding revision and exams is stress.

- It can make even the most ardent reviser think they can't remember anything, and even lead to panic attacks.

- Many students concentrate on one paper and forget the other , remember there are two papers and you will need to revise and remember both areas of content.

- **Having the TV on, mobile, gaming devices or music <u>does not</u> help or improve your revision.**
- **Playing a console <u>is not</u> computer science revision.**
- **Having a 2-hour break on Call of duty and 10 minutes revision <u>does not</u> help you revise effectively**
- **Being good at a game <u>does not</u> make you a top computer scientist, you need to revise the subject!**

Effective Revision

Equipment

Making sure your child has all the right equipment so they can get ready for their exams is also something you could really help with.

Highlighters	Post-it notes	Access to a computer (and printer if possible)
Table lamp	Note/record cards (flashcards)	Revision guides
Watch/timer	Notebooks	Past exam papers
Calculator (scientific)	Alarm clocks	Textbooks
Pin board	Calendar	Stationery

Understanding the Specification

Specification : **OCR J277**

Paper 1 Topics

- 1.1 Systems architecture
- 1.2 Memory and storage
- 1.3 Computer networks, connections and protocols
- 1.4 Network security
- 1.5 Systems software
- 1.6 Ethical, legal, cultural and environmental impacts of digital technology

Paper 2 Topics

- 2.1 Algorithms
- 2.2 Programming fundamentals
- 2.3 Producing robust programs
- 2.4 Boolean logic
- 2.5 Programming languages and Integrated Development Environments

- **Get to know your spec!** – understand what questions relate to the topic areas when doing practice papers – You will recall the information better

- **Focus your revision** on topic areas of weakness but don't forget the ther areas also!

RETRIEVAL PRACTICE

What is Retrieval Practice ? Retrieval practice refers to the act of recalling learned information from memory (with no or little support). Every time information is retrieved, or an answer is generated, it changes that original memory to make it stronger.

Strengthens your child´s memory, making information more retrievable

It improves transfer of knowledge to new contexts

It gives your child information on what he/she remembers and does not remember

Why is Retrieval so important?

It promotes long lasting durable learning
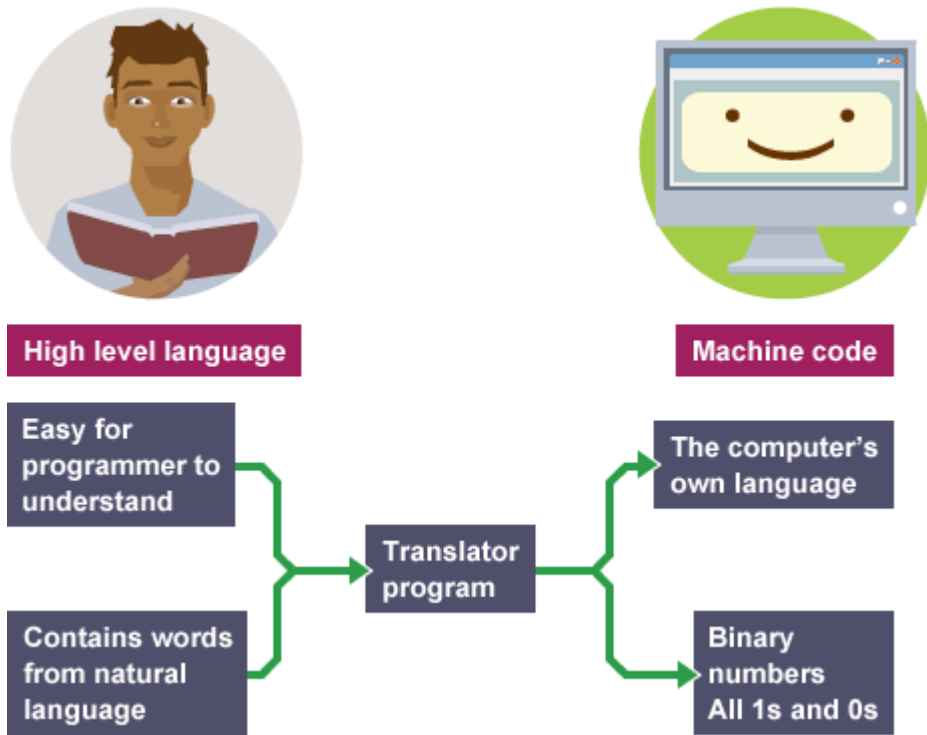
It reduces exam stress and anxiety

It will help your child to understand how to learn effectively

High level language

Easy for programmer to understand

Contains words from natural language

Translator program

Machine code

The computer's own language

Binary numbers All 1s and 0s

- Great for linking topics together in bite size chunks, better for visual learners

- Try Canva.com for free digital mind mapping software.

Or

- Pen , Paper and coloured pens will do!

3 Steps to help your child

1. Independent Reading Encourage your child to revise and read regularly using CGP Revision guide . Reading improves vocabulary and will help your child to retain and better understand the content of GCSE J277.

2. Homework Revision and research sheets will be given to pupils as well as posted on Teams. Monitor due dates and ensure that your child has completed the homework correctly.

3. Vocabulary (key words) Students will be given a list of key words to learn at the end of each term. Practice these words with your child to improve their spelling and vocabulary.

Top tip! - Download Python software (free) or use MU/Replit in order to help your child practice their coding skills at home and aid with their homework.

Other Resources

Revision guides-CGP GCSE OCR Computer Science – Great book with bitesize detail linked to all topics.

Flash cards – Digital or paper based - Create questions and answers – great for short recall questions.

Knowledge organisers – Easy to read bitesize chunks of information about each topic.

Past Papers - Access relevant to the specification only ! OCR J277 - Can be found online or in teams – Great to get a sneak peek into what a paper looks like and the question styles

Online resources

- **AI – ChatGPT** - get AI to take the role of an OCR examiner and ask it to ask you questions from the Computer science exam with feedback from your responses.

- **Craig n Dave Smart Revise - Website**. – Superb intelligent revision resource that learns your strengths and weaknesses as it goes along, Tailors your revision specific to you, identifies areas of development.

- **Craig n Dave - YouTube channel** , like having a Computer science teacher with you , all topic covered.

- **Programming with Mosh - YouTube Channel** – great for going over python programming concepts.

Any Questions?

Thank you for your continued support