



Highsted Knowledge Organiser

Computer Science: HTML – Algorithms - Year 7

What I need to know

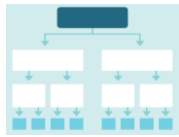
- Computational thinking techniques
- Decomposition
- Algorithmic thinking
- Pattern recognition
- Abstraction
- Flowcharts

Key Vocabulary

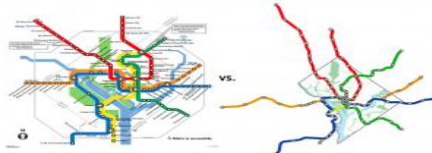
- Decomposition	- Abstraction
- Pattern recognition	- Algorithmic thinking
- Flowchart	- Process
- Input/output	- Decision
- Arrow	- Variables

Student reference point

Decomposition: Taking a big/large/complex problem and splitting/breaking it into smaller manageable parts.



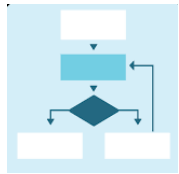
Abstraction: Using only the important and necessary data and discarding the unnecessary information.



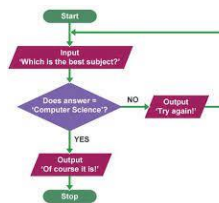
Pattern Recognition: Looking at similarities and patterns in the problem.



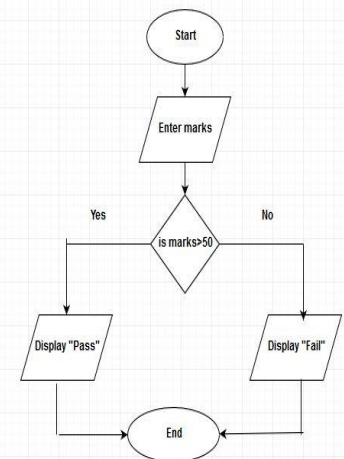
Algorithmic thinking: Set of ordered instruction to perform a task or solve a problem.



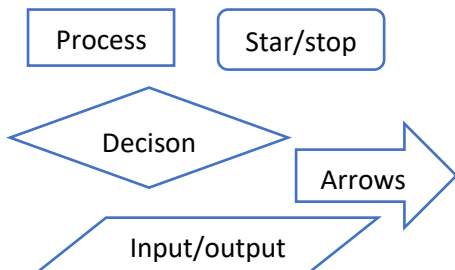
Flowchart: A graphical representation of an algorithm.



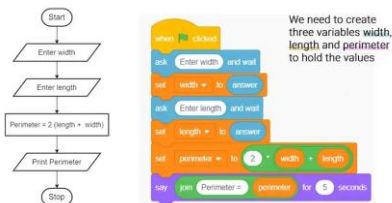
Example of flowchart to decide whether the student has failed or passed a test



Flowchart Shapes



Example of flowchart to scratch



Challenge question

- Create a flowchart to play snakes and ladders

Suggested reading

- <https://www.bbc.co.uk/bitesize/topics/z7tp34j>
- <https://www.bbc.co.uk/bitesize/guides/z3bq7ty/revision/3>



Highsted Knowledge Organiser

Computer Science: Digital Citizenship – Year 7 – Term 6

What I need to know

- What are the dangers of the Internet
- How to identify red flag communications
- How to be safe and responsible online
- What is copyright

Key Vocabulary

- Cyberbullying	- Private information	- Red flags
- Avatar	- Virtual life	- Fake accounts
- Copyright	- Plagiarism	- Creative commons

Student reference point

Online Safety

Cyberbullying: Act of using technological device to bully someone online

Red flags feelings: Uncomfortable emotions or chat online

Private information: name, date of birth, address

Safe Online Chatting

- Don't give away personal information
- Check whether the photos are real
- If you decide to meet up, take an adult with you
- Think before you post

Red Flag Feelings

- Feeling uncomfortable, worried, angry, sad or anxious.
- When was the last time you had such feelings while talking to someone online?
- Concerned about yourself or anyone else?
- Talk to a trusted adult or even a friend



Copyright Act

Copyright Act: A law that gives creators the choice of how their original work can be used by other people with proof of ownership.

The works include:

- Authors of books
- Composers of music
- Makers of films
- Computer game designer
- A company that creates application software

This act makes it illegal to:

- Use software that are meant for a stand-alone computer for a group of other computers
- Duplicate/burn copies of any software
- Distribute and sell files without authorisation

You should request and credit the copyrighted work when using them.

Creative Commons Licence

License	Type of use	Symbols
Attribution (BY)	You must credit the creator, the title and the license the work is under.	
Non Commercial (NC)	The work cannot be used for commercial purposes.	
No Derivatives (ND)	The work can only be used exactly how it is. The work cannot be adapted or modified in any way.	
Share Alike (SA)	Any new material produced using the work must be made available under the same license as the original work.	
Public Domain CC0	The copyright holder has voluntarily waived their rights and the work can be freely used	
Public Domain	The copyright of the work has expired and it is free of known copyright restrictions	

Can you spot the fake Insta Account?

The screenshot shows four Instagram profiles with the following details:

- MERLEBUTLER:** 17 posts, 111k followers, 2 following. Bio: Merle Butler \$218,666,667 Mega Million Lottery winner. Thanks for all prayers. I will give \$1000 to each follower in need. S/O this page and comment your email.
- NEIL_TROTTER_:** 15 posts, 35k followers, 9 following. Bio: Neil Trotter I won big and want to give back. ALL my followers will receive \$1,000. Repost my photo to be considered. THIS IS NOT A SCAM
- MSMARCIAADAMS:** 1 post, 14k followers, 2 following. Bio: Marcia A. Adams Jackpot winner of \$72,000,000! I am giving \$1,000 to my first 20,000 followers! Follow, shout me out, and leave your email under a picture!
- BETTINA_STILL:** 1 post, 4391 followers, 146 following. Bio: Bettina Still Won \$61,000,000 in Mega Million Lottery. Giving \$1000 to everyone who gives me a shoutout and comment their email.

Challenge question

- When is taking other people's work a criminal offence?

Suggested reading

- <https://www.bbc.co.uk/bitesize/topics/zfcvbk/articles/zkcj92p>
- <https://www.bbc.co.uk/bitesize/guides/z9nk87h/revision/3>
- <https://www.bbc.co.uk/bitesize/guides/zchcwmn/revision/3>