



Introducing Year 9 Computer Science and Computational Thinking Recap

Hillview International School

What's coming up?

Between now and half-term

Python

- Recap exercise
- Advanced functions
- While loops
- Lists
- Saving files

Data Capture Project:

- Designing a solution (computational thinking)
- Developing a program
- Running the program with friends
- Analysing the data in Excel
- Reporting the findings in Word

What's coming up?

Between half-term and Christmas

Python and Algorithms

- Sorting algorithms
 - Design
 - Creating in Python
- Searching algorithms
 - Design
 - Creating in Python
- Sorting and searching project

Computer Aided Design (CAD)

- How to use FreeCAD
- Creating 3D models
- 3D printing in theory

- Design and Technology on Wednesdays -

What's coming up?


The rest of the year

Term 2

- The internet and computer networks
- Online safety
- The law and you
- Hacking

Term 3

- PC hardware and software
- How computers work
- Assembler Programming
- Exams



Recap: Computational Thinking

The vocabulary of Computational Thinking

New Words!

Decompose

Say it with me: De-COM-POSE

Break a problem down into smaller pieces

Pattern Matching

Say it with me: Pat-ern Mat-ching

Finding similarities between things

Abstraction

Say it with me: Ab-STRAC-shun

Pulling out specific differences to make one solution work for multiple problems

Algorithm

Say it with me: Al-go-ri-thm

A list of steps that you can follow to finish a task

Recap: Computational Thinking

UNPLUGGED
ACTIVITY

computational
thinking

Task: The game with no rules

- Get into groups of 3 or 4
- Each group needs:
 - 1x Activity sheet
 - 1x Dice
 - 6x Coloured pencils or pens of different colours

Task: The game with no rules

- Read the User Experiences on the Activity Sheet
- Circle the similarities
 - This is **Pattern Matching**
- Underline the differences
 - This is **Abstraction**
- Write your game template using “blank” for differences
- On the back, write your rules for the game
 - This is **Algorithmic Design**
- **Then play your game!**

You have 20 minutes!

20 minute countdown

20_m 00_s

START

RESET



Summary assessment

- Working on your own
- Complete the assessment sheet
- You have 5 minutes!



05:00

Mark your
own work:

2) It's fun to read books.

It's fun to read magazines.

It's fun to read _____.

3) I love my cat's whiskers.

I love my dog's tail.

I love my horse's tail.

I love my cat's tail.

I love my _____.

4) There is a cloud in the sky that looks like a dragon.

There is a leaf in the water that looks like a heart.

There was a rock in the yard that looks like a heart.

There ___ a ___ in the ___ that looks like a _____.



In Wednesday's lesson:

Recapping Year 8 Python

Homework between now and Wednesday:

Recapping Year 8 Python

Get the notes from the blog



Closing task: Physical algorithms

Everyone grab your things and
let's head to the jungle gym!