



Year 6 – Spring Term 1

We Are Computational Thinkers

Computing

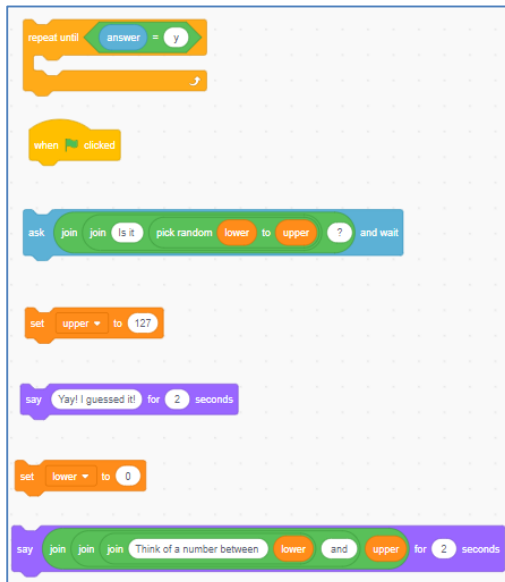


In this unit, children will explore and create **algorithms** for searching, sorting and mathematics

Computer Science

Prior Knowledge

Children will already know how to create a range of different algorithms for a particular purpose. Child will understand the importance



Computing Key Vocabulary

Algorithm	A clear set of rules or a precise step-by-step guide to solve a problem or achieve a particular objective.
Binary search	A 'Divide and conquer' algorithm in which the set of possible matches is halved at each comparison.
Computational Thinking	Looking at systems and problems in a way which would allow computer systems to be used to model or solve these.
Flowchart	A diagram that shows a process, system or computer algorithm.
Linear Search	An algorithm where items are compared to the one another one at a time until the right one is found.
Pseudocode	An informal but detailed written description of an algorithm, allowing it to be coded in a range of programming languages.
Quicksort	Divide and conquer algorithm in which a list is partitioned into different lists, that are then sorted using the same method
Random Search	Algorithm by which items are compared to the one required in random order until a matching item is found.
Selection Search	Algorithm in which the largest, second largest, third largest and so on items from a list are found, enabling the list to be sorted.



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This half term we will be using...

Hardware	Software/Apps
WinBooks	Scratch

SCRATCH



BE SMART ONLINE

S SAFE Keep your personal information safe. When chatting or posting online don't give away things like your full name, password or home address. Remember personal information can be seen in images and videos you share too. Keep them safe to keep yourself safe.

M MEET Meeting up with someone you only know online, even a friend or a friend, can be dangerous as this person is still a stranger. If someone you only know online ever asks you to meet up, for personal information or for photos/videos of you then tell an adult straight away and report them together on www.thinkuknow.co.uk.

A ACCEPTING Think carefully before you click on or open something online (e.g. links, adverts, friend requests, photos) as you never know where they may lead to or they may contain viruses. Do not accept something if you are unsure of who the person is or what they've sent you.

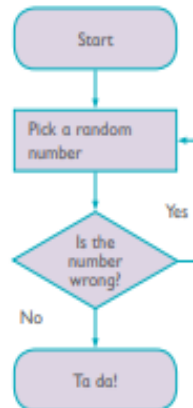
R RELIABLE You cannot trust everything you see online as some things can be out of date, inaccurate or not entirely true. To find reliable information compare at least three different websites, check in books and talk to someone about what you have found.

T TELL Tell a trusted adult if something or someone ever makes you feel upset, worried or confused. This could be if you or someone you know is being bullied online. There are lots of people who will be able to help you like your teachers, parents, carers or contact Childline – 0800 11 11 or www.childline.org.uk

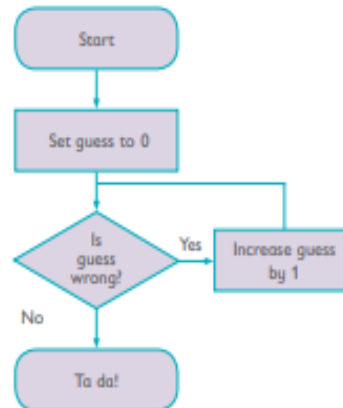
BE SMART WITH A HEART Remember to always be smart with a heart by being kind and respectful to others online. Make the internet a better place by helping your friends if they are worried or upset by anything that happens online.

WWW.CHILDNET.COM

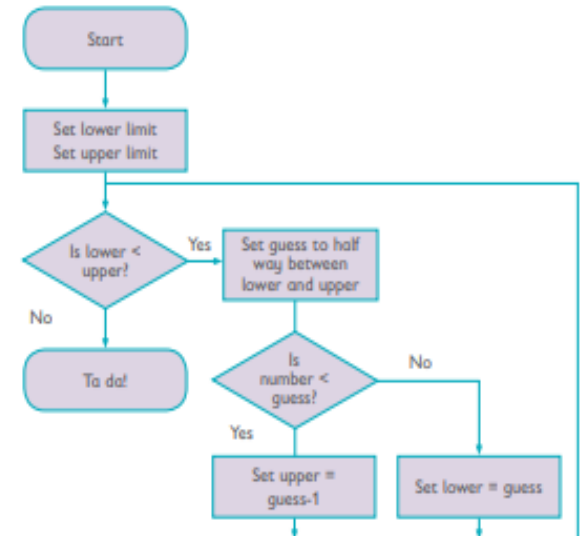
Random search:



Linear search:



Binary search:



Different search algorithms

E-safety Reminder: Think SMART when interacting online.