Knowsley City Learning Centres

- Computing Long Term Map
- Computing Knowledge Progression Small Steps to Endpoints
- Road Map
- Computing Vocabulary
- Computing Assessment

Unit lesson plans and resources link:

My Online Life
Lost in Space
Web Designer
YouTuber
Binary Messages
Fun with AR

Year 5. Medium Term Planning

Digital Literacy
Underlines the knowledge and skills relating to **online safety** and technology in society.

NC End Point:
Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of
ways to report concerns about content and contact.

Be discerning in evaluating digital content.

Understand the opportunities [networks] offer for communication and collaboration.

Computer Science
Underlines the knowledge and skills relating to **computational thinking**, **coding, algorithms and networks**.

NC End Point:
Appreciate how [search] results are selected and ranked.

Understand computer networks including the internet; how they can provide multiple services, such as the World Wide Web.

Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and
programs.

Use sequence, selection, and repetition in programs; work with variables and various forms of input and output.

Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.

Information Technology
underlines the knowledge and skills relating to **digital communication, creating multimedia content** and **data representation/handling.**

NC End Point:
Use search technologies effectively.

Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information.

Byte Size & Fun
ensure the children have the **core basic skills** to use multiple devices, this is designed to **promote independence** and to have fun!

Year 5. Mandatory Skills:

I can make a QR codes that links to my own work.

I can film and produce a short video.

Autumn 1

My Online Life
(Digital Literacy)

Key Vocabulary:

Reputation
Online Bullying Copyright
Self Image
Identity

This activity takes place over the course of the term. It covers all the DFE

Trust
Risks
Profile
Password
Private

statutory requirements for digital literacy and online safety.

Learning Sequence:

Knowsley to update planning

Lesson 1: (DL) I can explain how identity online can be copied, modified or altered. (DL) I can demonstrate responsible choices about my online identity, depending on context.

Lesson 2: (DL) I can explain that there are some people I communicate with online who may want me to do me or my friends harm, I can recognise this is not my/ our fault. (DL) I can make positive contributions and be part of online communities. (DL) I can describe some of the communities in which I am involved and describe how I collaborate with others positively

Lesson 3: (DL) I can search for information about an individual online a create a summary report of the information I find. (DL) I can describe ways that information about people online can be used by others to make judgements about an individual.

Lesson 4: (DL) I can recognise when someone is upset, hurt or angry online. (DL) I can describe how to get help for someone that is being bullied online and assess when I need to do or say something or tell someone. (DL) I can explain how to block abusive users. (DL) I can explain how I would report online bullying on the apps and platforms that I use. (DL) I can describe the helpline services who can support me and what I would say and do if I needed their help (e.g Childline)

Lesson 5: (DL) I can use different search technologies. (DL) I can evaluate digital content and can explain how I make choices from search results. (DL) I can explain key concepts including data, information, fact, opinion, belief, true, false, valid, reliable and evidence. (DL) I understand the difference between online mis-information and dis-information. (DL) I can explain what is meant by 'being sceptical'. I can give examples of when and why it is important to be sceptical. (DL) I can explain what is meant by a 'hoax'. I can explain why I need to think carefully before I forward anything online. (DL) I can explain why some information I find online may not be honest, accurate or legal. (DL) I can explain why information that is on a large number of sites may still be inaccurate or untrue. I can assess how this might happen (e.g. the sharing

Lesson 6: (DL) I can describe ways technology can affect sleep and can describe some of the issues. (DL) I can describe some of the strategies, tips or advice to promote healthy sleep with regards to technology.

Lesson 7: (DL) I can create and use strong and secure passwords. (DL) I can explain how free apps or services may read and share my information (e.g. friends, contacts, likes, images, videos, voice, messages, geolocation) with others. (DL) I can explain how some apps may request or take payment for additional content (e.g. in-app purchases and explain why I should seek permission from a trusted adult before purchasing.

Lesson 8: (DL) I can assess and justify when it is acceptable to use the work of others. (DL) I can give examples of content that is permitted to be reused.

Autumn 2

Lost in Space
(Computer Science)

In this activity, the children will create a quiz program in Scratch. The children will learn about decomposition, algorithm flow charts, and creating programs with a variable. This activity has an optional extension; the children can explore Sphero programmable robots and play a fun space-themed game.

Key Vocabulary:

Logical reasoning
Algorithm
Decomposition
Flow chart
Variable
AR
Login/sign in
Share
Online
Risks
Sign in
Profile
Password
Digital
Website
Program
Command
Flow chart
Code block
Variables
Save
Private information
Value/operators
Input/output

Learning Sequence:

Lesson1: (CS) To decompose a problem and sequence the steps required to solve it. (CS) To write a flowchart algorithm to create a program.

Lesson 2: (CS) To use the internet to research and develop a set of questions and answers. (DL) To create a strong password and safe username for an online application.

Lesson 3: (CS) To independently sign in to an online account. (CS) To choose sprites from the Scratch graphic library. (CS) To use an output program block. (CS) To set up a variable.

Lesson 4: (DL) To sign into an online account. (CS) To understand how a conditional statement can be used in a program. (CS) To change the value of a variable.

Lesson 5: (DL) To sign into an online account. (CS) To debug a broken program. (CS) To independently add conditional statements and change a variable.

Lesson 6: (CS) To independently add improvements to a program. (CS) To program a programable robot. (Optional)

Spring 1

Web Designer

(Computer Science)

In this activity the children will learn about the history of the web, basic HTML, how to create their own graphics and how to publish their own website.

Use with Code.org resources.

Safer internet day learning.

Key Vocabulary:

Streaming
Vlog
Bit & bytes
IP address
YouTuber
Pixel
TCP/IP
Bandwidth
LAN
ISP
Services
HTML
Infringe
copyright
Plagiarism
Record
Edit
Upload

Learning Sequence:

Lesson1: (IT/DL) To discuss different types of technology and their benefits/negatives (IT/DL) To name and describe different websites and their purpose (IT/DL) To use a web browser and search engine to find answers to questions (IT) To use editing and formatting to improve the presentation of your work.
Outcome: (IT/DL) I can use a search engine, and I am aware that not everything I read online is correct.

Lesson 2: (CS) To name the equipment needed to access the Internet. (CS) To understand what a computer network is. (CS) To understand how browsers work. (CS) To find out the location of a computer using an IP address.
Outcome: (CS) I can explore networks and internet traffic.

Lesson 3: (CS) To use the programming/markup language of HTML. (CS) To use and develop your programming skills using HTML. (CS/IT) To media to an HTML website.
Outcome: (CS) I can create a basic web page using HTML.

Lesson 4: (IT/DL) To discuss and evaluate the features of a good website. (IT/DL) To understand basic icons used on websites. (CS/IT) To plan and create a basic site map for a website.
Outcome: (IT) I can improve the quality and presentation of my work.

Lesson 5: (IT/DL)) To sign in to an online web builder. (DL) To discuss different forms of content and copyright. (DL) To understand how to find copyright-free images. (IT/DL) To add webpages and understand the menu system. (IT) To add images and text to the home page.
Outcome: (IT) I can use unfamiliar technology to create content.

Lesson 6: (IT) To add various forms of content to web pages. (CS/IT) To review and change elements of a webpage to create a better user experience. (CS/IT) To evaluate your webpage. (IT) To review the previous vocabulary.
Outcome: (IT) I can make a QR codes that links to a piece of my own work.

Spring 2

YouTuber

(Digital Literacy)

Key Vocabulary:

Vlog

YouTuber
Product Placement
Online
Bullying
Transitions
Record
Edit
Content

Every child wants to be a “YouTuber”. In this activity children will learn about what that means, the positives and negatives, safety tips and they will create their own video blog (vlog).

Learning Sequence:

Knowsley to update planning

Lesson 1: (DL)I can explain what is meant by the term vlogger.

Lesson 2: (DL) I can explain what online bullying is and discuss empathy and effects. (DL) I can critically analyse the positives and negatives of being a vlogger.

Lesson 3: (DL) I can identify the potential risks when putting content online.

Lesson 4: (DL) I can create a subject specific vlog.

Lesson 5: (DL) I can edit my vlog

Lesson 6: (DL) I can construct a persuasive argument for or against becoming a Vlogger.

Summer 1

Key Vocabulary:

Binary
Bit & bytes
IP address
Spreadsheet
TCP/IP
Bandwidth
ISP
Services
LAN
HTML
Upload
Augmented Reality Formula
Record
Edit

Binary Messages
(Information Technology)

This activity introduces binary code. It explains what binary code is and how it is used. The children then challenge each other to solve word problems by using binary code.

Learning Sequence:

Knowsley to update planning

Lesson 1: (CS) I can translate binary numbers to decimal.

Lesson 2: (DL) I can access school email and can send emails to classmates and teacher. (DL) I can collaborate with others to develop and improve work. (CS) I can explore networks and internet traffic. (CS) I can translate binary numbers to decimal.

Lesson 3: (IT) I can use a spreadsheet/database to collect and record data. (IT) I can use unfamiliar technology to create content and share my ideas. E.g. Augmented Reality, VR, 3D, digital music etc.

Lesson 4: (IT) I can use a spreadsheet/database to collect and record data. (IT) I can translate binary numbers to decimal. (IT) I can improve the quality and presentation of my work using editing and formatting techniques.

Lesson 5 and 6: (IT) I can make a QR codes that links to a piece of my own work. (IT) I can use unfamiliar technology to create content and share my ideas. E.g. Augmented Reality, VR, 3D, digital music etc. (IT) I can improve the quality and presentation of my work using editing and formatting techniques. (IT) I can film and produce a short video with elements such as text, images, narration and music.

Summer 2

Key Vocabulary:

Digital Media
Design
Copyright

Fun with AR
(Information Technology)

In this activity, the children will be introduced to the world of Augmented

Formatting Augmented Reality (AR) Graphics Storyboard Interactivity Transparent / Opacity Influencer Send / Share Search Engine Background Upload Airdrop Brainstorm Virtual Reality Personal Information Export / Import Scene Review Tools QR Code Avatar	Reality (AR). The children will play and review AR applications, create a vlog and discuss the risks of video sharing online. As their final challenge, they will design and create their own AR scene based on a book, movie or game.

Learning Sequence:

Lesson1: (IT) To understand AR technology and its uses. (IT & DL) To discuss new technologies and their impact on work/society. (IT) To open a digital file and edit it. (IT) To play and review an AR game, detailing positives and negatives.
Outcome: (IT) I can improve the quality and presentation of my work using editing and formatting techniques.

Lesson 2: (DL) To discuss the role of an influencer (DL) To discuss the potential risks of sharing content online (IT) To create an AR scene (IT) To review an AR app.
Outcome: (DL) I can create a subject specific vlog and understand the potential risks of sharing content online. (IT) I can record and produce a podcast / audio clips.

Lesson 3: (IT) To create a simple storyboard. (IT) To record a series of short video clips. (IT) To use a video editing application to create a short vlog that includes different types of media e.g. video, images, text and audio. Outcome: (IT) I can film and produce a short video with elements such as text, images, narration and music. (IT) I can collaborate with others to develop and improve work.

Lesson 4: (IT) To create digital graphics and illustrations. (IT) To understand how to create digital art using Apple's Keynote. (IT) To export graphics with a transparent background.
Outcome: (IT) I can use unfamiliar technology to create content and share my ideas. E.g. Augmented Reality, VR, 3D, digital music etc.

Lesson 5: (IT) To import graphics into an app. (IT) To use an AR content creation app. (IT) To record audio and video to showcase an AR experience.
Outcome: (IT) I can film and produce a short video.

Lesson 6: (IT & DL) To explain key vocabulary. (IT) To share what they have learnt and favourite parts of the lessons (IT & DL) To discuss how AR and the skills they've learned might be used in the future.
Outcome: (IT) I can make a QR codes that links to a piece of my own work.