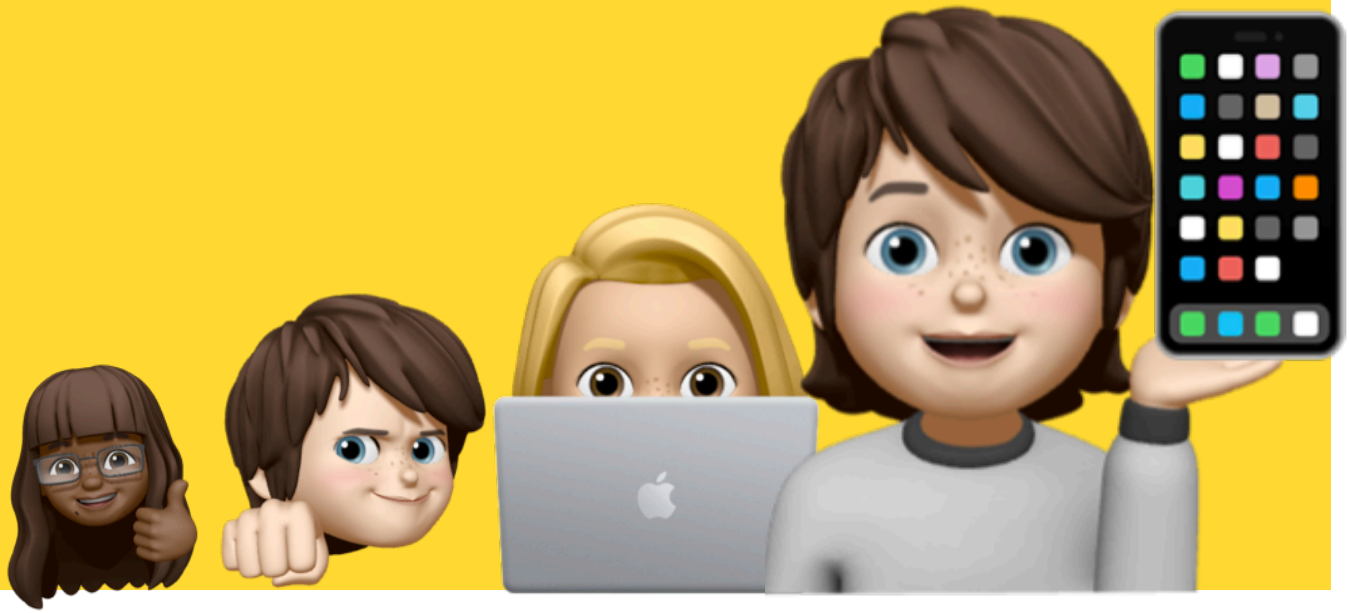
Knowsley Computing

Activity Overview



Reception Activities

Knowsley CLCs
Primary Computing Scheme of Work
Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
R1 Technology & Me: This unit helps children to make sense of and explore the technology around them. The children will get to experience a range of technology/ equipment, including digital cameras, iPads, video cameras, microscopes and sound recorders. Assessment: 1, 2, 3, 4, 5, 7, 8, 10	**R2 Robots:** This unit gives children their first taste of computing (computational thinking and coding). The children will learn new skills and practice giving instructions to complete tasks. Includes a range of continuous provision activities. Assessment: 1, 3, 4, 5, 6, 7	**R3 Animal Safari:** This unit helps children use iPads/ tablets independently to collect and record information. The children will learn about opening apps, scanning QR codes, taking photos and recording information in a tally chart. Includes a range of continuous provision activities. Assessment: 1, 3, 7	**R4 Shape Hunt:** The children will use cameras or iPads to photograph shapes and colours from about the school and outdoor area. Assessment: 1, 3, 7, 8
R5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 1, 2, 3, 7, 8, 9, 10, 11, 12	**R6 Nursery Rhyme Coding:** Using the theme of traditional tales, this activity develops computational thinking such as sequencing and promotes core technology skills. Assessment: 1, 3, 4, 5, 6	**R7 Pretty Pictures:** The children will learn how to take photos, record video and record audio. This is an important skill that will enable them to document their own learning and ideas. The children will create a Tech Museum as they get to explore and play with old technology. Assessment: 1, 3, 7	**R8 Beats & Rhythms:** The children will use simple sound recording apps and music creation apps to make their own musical loops. Bags of fun for little DJs. Assessment: 1, 3, 7
		R9 Talking Technology: The children will learn how to take photos, record video and record audio. This is an important skill that will enable them to document their own learning and ideas. The children will create a Tech Museum as they get to explore and play with old technology. Assessment: 1, 2, 3, 7, 8, 10	

Assessment

These activities are to support EYFS practitioners in providing a range of Computing/ICT opportunities and experiences for children in the Foundation Stage that provide continuity and stepping stones into the KS1 curriculum. Early Years Computing assessment is based on pupils having the initial skills in place to progress them to the expected attainment at the end of KS1.

Mandatory Skills	
1	I can do the basics with technology.
2	I can go online.
3	I can use a camera.
Computer Science	
4	I can explain an algorithm.
5	I can explain sequencing.
6	I can give instructions to a programmable toy.
Information Technology	
7	I can select and use technology for particular purposes.
Digital Literacy	
8	I can discuss the use of technology in the world around me.
9	I understand that people can talk to each other (communication) online.
10	I can use a search engine.
11	I can discuss the rules for staying safe online.
12	I know online content is made and belongs to someone.

Year 1 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y1.1 Modern Tales: Using the vehicle of the children's stories, the children will learn to navigate the rules of online safety and communication. The children will make animations based on an online situation they may encounter. Assessment: 1, 2, 7, 8, 9, 10, 11, 12, 15, 17	**Y1.2 What is a Computer?:** In this unit children will learn about the different parts of a computer and iPad. They will learn new skills, tips and tricks. The children will be able to see the inner working of a computer and build their own. Includes a range of continuous provision activities. Assessment: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13	**Y1.3 Mini-Beasts:** Children will use technology to classify minibeasts. In this activity the children will learn about gathering and presenting information. They will then make their own David Attenborough style nature documentary. Assessment: 1, 2, 7, 8, 9, 10, 11, 13	**Y1.4 Animate with Shapes:** Children will learn the basic skills of stop frame animation and produce a simple animated movie. Assessment: 1, 7, 8, 13
Y1.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 12, 13, 14, 15, 16, 17, 18	**Y1.6 My Friend the Robot:** In this unit children will learn all about computational thinking and problem solving with a variety of unplugged activities and online coding games. Assessment: 1,2, 3, 4, 5, 6, 7, 8, 10, 13	**Y1.7 News Presenter:** In this activity children will become news reporters. They will be given a series of break news stories based on popular traditional tales. The children will film short clips using green screen before sharing/saving their work. Assessment: 1, 2, 7, 8, 9, 11, 13, 18	**Y1.8 Drawing Maths:** This activity blends art and maths. The children will master art apps while exploring shape, numbers and problem solving. Assessment: 1, 7, 8, 13
			Y1.9 Email Me: In this unit children will learn about online communication and sending their first email. Assessment: 1, 7, 8, 10, 13, 16, 17

Mandatory Skills	
1	I can do the basics with technology.
2	I can take a good quality photograph and video on an iPad/digital camera.
Computer Science	
3	I can follow a simple algorithm and create a simple sequence algorithm using symbols that solve a problem.
4	I can create algorithms that can be turned into a program using a robot or digital device.
5	I can independently debug simple sequence errors in a program.
6	I can use logical reasoning to predict the outcome of simple programs.
Information Technology	
7	I can use technology to create and present my ideas.
8	I can organise and store my digital work.
9	I can collect and sort data.
Digital Literacy	
10	I can recognise the ways we use technology in our classroom, my home and community.
11	I can use a search engine.
12	I understand something online may upset and know where to find help it anything does,
13	I can communicate politely via the internet.
14	I understand that once something is posted you lose control of it.
15	I can describe how to behave online in ways that do not upset others and can give examples.
16	I know the rules of using technology at home or in school.
17	I can explain what personal information is and give examples of it.
18	I am aware that content online is owned by the person that created it.

Year 2 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y2.1 Online Buddies: This activity will explore what friendship means online. The children will learn about the do's and don'ts of communicating over the internet. Assessment: 1, 2, 8, 9, 11, 12, 13, 14, 15, 16, 17, 18, 19	**Y2.2 Code a Story:** The children will write a basic story with illustrations. They will then turn this into an animated story using visual coding. The activity will introduce new concepts such as conditional language, repeat loops and debugging. Assessment: 1, 2, 3, 4, 5, 6, 7, 8, 9, 17, 18	**Y2.3 Story Land:** The children take the role of authors to write the sequel to popular children's stories. They then create illustrations for their story and record them self reading it in order to create an audiobook to publish online. Assessment: 1, 2, 8, 9, 19	**Y2.4 Heads Up!:** The children play a computing focused game of charades and then create their own version. Assessment: 1, 2, 9, 16
Y2.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 12, 13, 14, 15, 16, 17, 18, 19	**Y2.6 Making Games:** Using Scratch Jr the children will create a simple game. They will create sprites and learn the basics of using visual coding using Scratch Jr. Assessment: 1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 17	**Y2.7 Presentations & Typing** The children will learn to use presentation software and develop their keyboard skills. Assessment: 1, 2, 8, 9, 10	**Y2.8 Maths Madness:** The children take part in a maths scavenger hunt and then create their own version by creating QR codes and maths videos. Assessment: 1, 2, 8, 9, 10

	Mandatory Skills
1	I can save, share and retrieve my digital work.
2	I can use technology to organise and present my ideas.
	Computer Science
3	I can plan out an algorithm with a sequence of commands to carry out specific tasks.
4	I can identify 'bugs' in computer programs and use the term debug in context.
5	I can create a simple repeat loop.
6	I can create a simple game program.
7	I can predict the outcome of a sequence of blocks in Scratch.
	Information Technology
8	I can use design and formatting to enhance my digital work.
9	I can create with technology. E.g. Video, animation, 3D
10	I can collect and record data purposefully.
	Digital Literacy
11	I can give examples of how technology is used to communicate beyond school.
12	I understand that somethings online may upset me and that I cannot trust everyone online. (Self Image)
13	I can use online services to communicate safely. (Online Relationships)
14	I understand that once something it posted you lose control if it and know how to get help if I need to. (Online Reputation)
15	I can give examples of online bullying behaviour, I understand the impact it may have and I know where to go for support. (Online Bullying)
16	I can use a search engine and I am aware that not everything I read online is true. (Online Bullying)
17	I know the rules of using technology at home or in school. (Health well being)
18	I can explain what personal information is and understand the need for passwords to protect it. (Privacy and Security)
19	I am aware that content online is owned by the person that created it. (Copyright)

Year 3 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y3.1 Online Detectives: This activity is designed to support children in mastering the art of advanced internet searching. They will learn new tricks to improve their searches while they try to solve puzzles and challenges. Assessment: 8, 9, 13, 14, 15	**Y3.2 Dancing Robot:** The children will be using some of Scratch Jr's more advanced coding blocks to create their own interactive dancing robot game. The children will learn the important skills of critical thinking, problem solving and debugging. Assessment: 1, 3, 4, 6, 7	**Y3.3 Rainforests:** The children will explore rainforests through new Virtual Reality (VR) apps. They will also use Augmented Reality (AR) to create their own learning games for younger children to play. Assessment: 1, 2, 10, 11, 12, 13	**Y3.4 Keyboard Adventures:** In this activity the children will master the art of using a keyboard and short cuts with a series of fun activities. Assessment: 1, 10, 11
Y3.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 10, 14, 15, 16, 17, 18, 19, 20, 21, 22	**Y3.6 Programming with Robots:** Robots can be found almost everywhere. In this unit the children explore the history of robots and then get to program a robot around a maze. Assessment: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 21, 22	**Y3.7 Be Digitally Awesome:** This unit is all about ensuring the children possess core skills with word processing, spreadsheet and presentation apps. Assessment: 1, 2, 10, 11, 12, 13	**Y3.8 T-Shirt Designer:** The children will become illustrators and design their own t-shirts. Assessment: 1, 2, 10, 11
			11

Mandatory Skills	
1	I can troubleshoot when something doesn't appear to be working with my device.
2	I can discuss different types of digital content and file types.
Computer Science	
3	I can plan, create and debug programs.
4	I can use decomposition to help me solve computing problems.
5	I can use sequence, selection, repetition and variables in programs.
6	I can work with various forms of input and output.
7	I can use logical reasoning to predict and correct errors in algorithms and programs.
8	I can explain how the internet works.
9	I can explain how a search engine works.
Information Technology	
10	I can improve the quality and presentation of my work.
11	I can create with technology. E.g. Video, animation, 3D
12	I can collect, analyse, evaluate and present data and information.
13	I can use advanced search tools.
Digital Literacy	
14	I know how to use the internet.
15	I can analyse information and make accurate searches.
16	I understand the need for copyright and the consequences of ignoring it.
17	I am aware of what I should be sharing online and where to go for help if I need it.
18	I understand that I cannot trust everyone I talk to online, that I should be a good digital citizen and where to go for help if something upsets me online.
19	I can explain what bullying is and know where to go for help.
20	I understand the impact technology can have on my health, well being and lifestyle.
21	I know who I should be sharing information with and how to keep my data secure.
22	I understand the term identity and I can take appropriate measures to protect my own online identity.

Year 4 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y4.1 Fake or Real?: Fake news is a serious concern and in this activity children will learn how they can sort the truth from the lies. Making videos to show what they have found out. Assessment: 7, 10, 11, 12, 14, 19	**Y4.2 Hour of Code:** The class will sign up for Hour of Code and work through various challenges. The class can also choose to take part in global coding events. Assessment: 1, 3, 4, 5, 6, 8, 9	**Y4.3 Dinosaurs:** In this activity the children will make their own summer blockbuster. They will learn all about filming techniques and storytelling skills. Assessment: 2, 8, 9, 10, 11, 12	**Y4.4 Minecraft Challenges:** Who is the best at building. The children take part in a series of maths/Minecraft challenges. Assessment: 9, 10, 11, 13, 18
Y4.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 7, 10, 12, 13, 14, 15, 16, 17, 18, 19	**Y4.6 Games Designer:** The children will learn all about the career of games designer. They will play games, write reviews and then design and prototype their own game. Finally they will pitch their game idea to the class. Assessment: 1, 2, 3, 4, 5, 6, 8, 9, 11, 17	**Y4.7 Endangered Animals:** The children will learn online research skills, create illustrations and posters to raise awareness of our planet's endangered animals. The children will also get involved with environmental campaigns. They will make a class film about how making small changes can help e.g. air pollution and turning off your engines. Assessment: 2, 8, 9, 10, 11, 12	**Y4.8 Wizard School:** The children will undertake a series of creative challenges based around the Harry Potter books. Assessment: 8, 9, 19

Mandatory Skills	
1	I can label the different types of input connections on devices.
2	I can explain common file types.
Computer Science	
3	I can design an algorithm to simulate a real-life situation.
4	I can solve an open-ended problem by breaking it up into smaller parts.
5	I can design and write a program for a given purpose including specific programming features.
6	I can test existing programs to see how they could be improved.
7	I can understand the different methods of communication using the internet.
Information Technology	
8	I can improve the quality and presentation of my work using editing and formatting techniques.
9	I can create with technology. E.g. Video, animation, 3D
10	I can use a search engine and I am aware that not everything I read online is correct. (Online Bullying)
Digital Literacy	
11	I can collaborate online to create digital content.
12	I can evaluate information presented to me to make informed choices about what is Fake News.
13	I can describe strategies for safe and fun experiences in a range of online social environments and I'm respectful to others online. (Online Relationships)
14	I understand that people may have a different online identity to that in real life and am able to interact with others. (Self Image)
15	I am aware others can find information out about me by searching online. (Online Reputation)
16	I know which technologies are used for online bullying and I am considerate of others when posting myself. (Online Bullying)
17	I understand the impact technology can have on my health, well being and lifestyle. (Health well being)
18	I am aware that some people want to access my data and can take appropriate measures to ensure this doesn't happen. (Privacy and Security)
19	I understand the need for copyright and the consequences of ignoring it. (Copyright)

Year 5 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y5.1 YouTuber: 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). Assessment: 2, 10, 11, 12, 14, 16, 17	**Y5.2 Girls v Boys: STEAM Challenges:** This activity will pit the girls against the boys in a series of creative STEM challenges. They will tackle code, maths, art, DT and lots of problem solving. Assessment: 2, 3, 4, 5, 6, 11	**Y5.3 Making AR Games:** In this activity the children will be introduced to the world of Augmented Reality (AR). They will then be set the task of designing and creating a game that uses AR. Assessment: 1, 2, 10, 11, 12, 13, 14	**Y5.4 Video Game Music Composer:** The children will learn about audio recording and will write and record their own songs. The class can can combine these into a class album. Assessment: 10, 11, 12
Y5.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 15, 17, 18, 19, 20, 21, 22, 23, 24	**Y5.14 Web Designer:** 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. Assessment: 1, 2, 7, 9, 10, 11, 12, 14, 16, 17:	**Y5.7 Binary Messages:** 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. Assessment: 1, 2, 7, 8, 10, 11, 12, 13, 15, 17	**Y5.8 Podcaster:** Children will produce their own podcasts. Podcasting is a wonderful way of allowing children to share their work and experiences with a potentially huge audience over the Internet. Schools are increasingly using the internet to promote what they do, and to celebrate the achievements of their children, and podcasting is an excellent way of doing this. Assessment: 10, 11, 12, 15, 17

Mandatory Skills	
1	I can make a QR codes that links to my own work.
2	I can film and produce a short video.
Computer Science	
3	I can decompose a problem, design an algorithm and use this to write a program.
4	I can design and write a program linked to physical systems and sensors.
5	I can use variables, conditional statements, procedures & repeat commands to improve programs.
6	I can use logical reasoning to detect & debug a program.
7	I can explore networks and internet traffic.
8	I can translate binary numbers to decimal.
9	I can create a basic web page using HTML.
Information Technology	
10	I can record and produce a podcast / audio clips.
11	I can use unfamiliar technology to create content.
12	I can improve the quality and presentation of my work.
13	I can use a spreadsheet to collect and record data.
14	I can use a search engine and I am aware that not everything I read online is correct.
Digital Literacy	
15	I can access school email and can send emails to classmates and teacher.
16	I can create a subject specific vlog and understand the potential risks of sharing content online.
17	I can collaborate to develop & improve work.
18	I can search for someone online and create a summary report about that person.
19	I understand the need for copyright and the consequences of ignoring it.
20	I am aware that there are people online who may try to upset me and my group of friends. I make a positive contribution to my online community.
21	I understand the impact online bullying can have and I know what to do if I am the victim or I witness online bullying.
22	I understand the impact technology can have on my health, well being and lifestyle.
23	I can create a strong password and understand the real cost of some apps.
24	I am aware that my identity can be copied by other users and take appropriate measure to minimise the risk of this happening.

Year 6 Activities

Knowsley CLCs

Primary Computing Scheme of Work

Inspire a lifelong love of play, design, code, and invention with technology.

Digital Literacy	Computer Science	Information Technology	Byte Size & Fun
Y6.1 Online Safety Dilemmas: In this activity the children will become online safety ambassadors. They will be given modern day dilemmas. Dilemmas that children face everyday online and asked to produce a series of “what to do” videos to explain how to cope online. Assessment: 1, 2, 8, 11, 12, 13, 14, 22	**Y6. 2 Chicken Run - Crossy Roads:** The children will create their own version of the popular app Crossy Roads using visual coding. They will learn about decomposition and how to evaluate games. Assessment: 2, 3, 4, 6, 7, 8, 9, 10	**Y6.3 VR Worlds:** The class will explore Virtual Reality (VR) and how it can be used in the classroom. The children will also build their own VR world. Assessment: 2, 7, 9, 10, 11, 12	**Y6.4 Maths: Solve IT Club:** Children will produce their own digital guide to being a maths genius. Making videos and animations showing how to solve various maths problems. This is an opportunity to connect with other schools. Assessment: 1, 2, 9, 10, 11
Y6.5 My Online Life: This activity takes place over the course of the term. It covers all the DFE statutory requirements for digital literacy and online safety. Assessment: 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22	**Y6.6 Coding Playground:** Children will be introduced to text-based programming and how apps are made. They will complete self paced programming challenges. Finally the class can explore connecting programable toys and drones. Assessment: 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 22	**Y6.7 Money:** The children will explore money, stocks and shares through a series of challenges and games. Creating a spreadsheet and digital book to explain the importance of understanding how money works. Assessment: 1, 2, 9, 10, 11, 12	**Y6.8 Quiz Show Host:** The children will research questions and create quizzes using a variety of online apps. Finally the children must present their quiz show to the class. Assessment: 1, 9, 10, 11

Mandatory Skills	
1	I can collaborate to create digital content.
2	I can create a consistent design for my presentation, and present to others.
Computer Science	
3	I can design, plan & create a complex programs.
4	I can test, debug and modify a program to improve it.
5	I can write a program using a text based programming language.
6	I can use logical reasoning to detect and correct errors in algorithms and programs.
7	I understand how computer networks work, including the internet.
8	I can talk about the way search results are selected and ranked.
Information Technology	
9	I can create and combine a range of media in order to produce digital content.
10	I can improve the quality and presentation of my work using editing and formatting techniques.
11	I can create a digital storyboard to plan a project or investigation.
12	I can use a search engine and I am aware that not everything I read online is correct and that other people may be attempting to influence my opinions.
Digital Literacy	
13	I can explain how to protect my computer or device from harm on the Internet.
14	I understand the need for copyright and the consequences of ignoring it.
15	I support my friends to protect themselves and make good choices online, including reporting concerns to an adult.
16	I am aware of the ways in which the media can shape our ideas about gender.
17	I am aware that if I need help I keep asking for it until I get help.
18	I am aware of the need for positive online relationships and I am mindful of others feelings at all times.
19	I understand I need to create a positive online reputation.
20	I know how to capture evidence of online bullying and how to report it.
21	I know how to keep my data private and secure.
22	I understand the impact technology can have on my health, well being and lifestyle.