

Computing – Year 4

Content

NC objectives - areas of study	End point of area of study	Vocabulary		
		Basic	Adventurous	Technical
<p>1. Use technology safely, respectfully and responsibly; recognise acceptable and unacceptable behaviour; identify a range of ways to report concerns about content and contact-cyber bullying.</p> <p>Understand computer networks including the internet-World wide Web.</p> <p>2. Design, write and debug programs that accomplish specific goals. Solve problems by decomposing them into smaller parts.-logo</p> <p>Use, sequence, select and repetition in programs-logo</p> <p>Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs-logo</p> <p>3. Design and create content on a range of programs that accomplish given goals including presenting data and information.-branching databases.</p>	<p>1. Children will understand what cyberbullying is and explain what to do if they see a hurtful message online. Children will understand the World Wide Web and how websites are stored and information can be shared. (connect and communicate)</p> <p>2. Children will create a program that uses the repeat command and count controlled loops to produce an outcome. They will decompose a task into smaller steps and will debug their programs throughout. (code)</p> <p>3. Children will be able to create a branching database to identify a given object. Children will be able to compare two different ways of presenting information and explain what the information shows. (create)</p>	<p><u>Connect and communicate</u> Online, hurtful, website</p> <p><u>code</u> code, programme, algorithm, debug, logo,</p> <p><u>create</u> design, questions, sort, groups, database, information</p>	<p><u>Connect and communicate</u> Network, word wide web, cyber bullying, store, content</p> <p><u>code</u> repeat, commands, create, evaluate, procedure,</p> <p><u>create</u> pictogram</p>	<p><u>Connect and communicate</u> Plagiarism, social network,</p> <p><u>code</u> loops, count-controlled loops,</p> <p><u>create</u> attributes, branching database</p>

Knowledge

Substantive Knowledge

e-safety and world wide web networks-concepts- **Communicate and Connect**

What is cyber bullying?

Lesson 1

L.O: To understand how a message online can be hurtful.

Vocab-online, hurtful, cyber bullying

- Cyber bullying-identify how a message online can hurt someones feelings. Share examples of messages
- Explain how you should respond to a hurtful message online. Identify technologies where online bullying can take place?

What enables someone to choose to be unkind online?

Lesson 2

L.O: To know how to create a safe online profile.

Vocab-profile, plagiarism

- Create a safe online profile-know that some information could have been created, copied or shared by others.
- Understand that others online can pretend to be me or other people.

Lesson 3

L.O: To understand how networks connect to other networks.

Vocab- network, social network

- Describe key parts of a network and enact a message being passed around a network.
- children explain role of routers in creating the internet- a connected network of networks.
- chn explain need for network security.

Lesson 4

L.O: To understand how websites can be shared via the World Wide

Web.

Vocab- world wide web, website

- explain what can and cannot be shared on the World Wide Web.

Disciplinary Knowledge

Working as a junior safeguarding officer e-safety-At the beginning of the lesson tell the children that we are learning how to keep ourselves safe within the context of the online world.

Reflect-reflect on how communication online can be hurtful and how we should respond.

Analyse-look at content of websites and what can be done with it.

Create-importance of creating a safe online profile where information cannot be shared.

- chn deduce the origin o websites from the domain name and know that websites are hosted all around the world.
- chn identify devices which can be used to access the World Wide Web.

Lesson 5

L.O: To understand how the content of the WWW is created by people.

Vocab-content

- who creates the content of the WWW?
- explain rules for using and sharing content on the web.
- explain rules for using and sharing content on the web.
- chn explain who owns content on the WWW.

Lesson 6

L.O: To know the consequences of unreliable content.

Vocab-false, unreliable

- explain why some information on WWW may not be accurate.
- explain why inaccurate or false information is shared on WWW.
- chn explain how information can spread quickly online and the implications of this.

Even though people know it is wrong to make and share false information, why do they still do it knowing it will have an impact on people?

Programming-Logo-repetition and loops-concepts-code

How do you create a program on logo?

Lesson 1

L.O: To understand that accuracy in programming is important.

Vocab- commands, logo

- introduce logo
- introduce CS, forwards, backwards, LT90, RT 90, PU, PD.
- demonstrate how to combine commands
- chn create numbers by typing commands and discuss what happens when not accurate.

Lesson 2

L.O: To know how to create a algorithm.

Vocab- algorithm, debug

Working as a computer progammer- Why is what we have learned today important to our understanding of using technology?

Problem solving- debugging own program throughout and decomposing into smaller chunks.

Design –create a program including the repeat command and count controlled loops.

Predict-predict the outcome of a program containing a count-controlled loop.

Evaluate -evaluate programs against the original brief.

- use logo to create letters
- explain that logo uses pixels as units of movements so 10 would be a very short line.
- write algorithm for a letter and then test.
- debug any problems.

Are the 10 commandments from God an early example of an algorithm?

Lesson 3

L.O: To understand and explain what 'repeat' means.

Vocab- repeat, loops

- write an algorithm for creating a square using number steps.
- model using the repeat loop as instructions are repeated. Test.

Lesson 4

L.O: To know how to use a count controlled loop.

Vocab- count controlled loops, create

- explore the effect of changing the number of times a task is repeated.
- chn to trace code and make a prediction from a code snippet.
- chn program code snippets in Logo to create different shapes.
- apply repeat command

Lesson 5

L.O: To understand how to decompose a task into small steps.

Vocab- procedure, code

- Chn break down real life activity into chunks of actions. E.g. getting changed for PE
- chn modify given code to create their own procedures.
- chn plan and program a pattern called a procedure

Discuss how we can apply decomposing a task into small steps into real life situations.

Lesson 6

L.O: To know how to create a program using count controlled loops to produce a given outcome.

Vocab- design, program, evaluate

- design a program using count controlled loops.-design wrapping paper using more than one shape.
- chn debug program to develop it

Branching databases- concepts- **create**

How are databases useful?

- Using database tool j2data

Lesson 1

L.O: To know how to create yes/no questions

Vocab- questions, information

- chn use yes/no questions to find an object.
- chn suggest ways to separate objects into 2 groups.
- chn write their own yes/no questions to separate objects into 2 groups.

Do all questions need an explanation?

Lesson 2

L.O: To know the attributes needed to collect data about an object.

Vocab-attribute, groups

- select an appropriate attribute to split a group of objects in more than one way.
- chn organise objects into groups using given objects and questions.
- chn organise objects into a tree structure.

Lesson 3

L.O: To know how to create a branching database.

Vocab-database, questions, groups

- chn identify objects using a branching database.
- chn create yes or no questions to group objects they have chosen.
- chn follow a branching database.

Lesson 4

L.O: To understand why a database needs to be well structured.

Vocab- database, questions, attribute

- create questions with yes or no answers using a given attribute.
- compare efficiency of different branching databases and explain which is quicker to follow.

Working as a designer- Why is what we have learned today important to our understanding of using technology to draw and design?

Design- create questions and answers in to a tree structure and sort into attributes.

Evaluate- look at different ways of presenting information. When would they be showed? For what purpose?

-chn understand why the order of questions is important in a branching database.

Lesson 5

L.O: To understand and plan the structure of a branching database.

- chn to write questions about attributes.
- chn divide objects by attributes.
- chn arrange objects into the structure of a branching database.

Lesson 6

L.O: To know how to create a identification tool.

Vocab- design, information, identification

- chn create a database based on plan made in previous lesson.
- chn to use the database as an identification tool.
- chn suggest real world uses for branching databases.

Do you think God created different animals for them to be classified into specific groups?

Concepts

Connect and communicate

Code

Create

ASSESSMENT

KNOW MORE, REMEMBER MORE, DO MORE...

In this unit of learning, progress has been made when a learner knows more. This 'distance travelled' from the starting point is evidenced through them remembering more and doing more: in books, low stakes quizzes, retrieval, use of mind maps, answering the big question and being able to feel more confident about this unit.