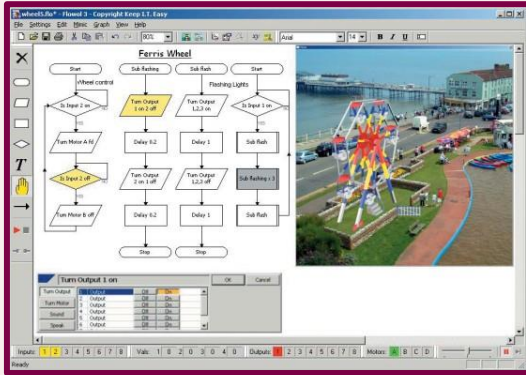


# What do all of these activities have in common?



Turn IT on!



Complete ICT solutions for primary schools...



# De-coding the new Computing curriculum

A taster session looking at 2 strands

Disapplication period: Sep 13/14

Statutory from Sep 14



Turn IT n!



Complete ICT solutions for primary schools...

# Content



- Welcome and introduction.
- Algorithm activity
- KS1 - Look at strands as a whole. Briefly discuss the mains strands. Look at the focus strand and discuss ideas and activities.
- Look at example activities to fit in with this strand.
- KS2 - Look at strands as a whole. Briefly discuss the main strands. Look at the focus strand and discuss ideas and activities.
- Look at example activities to fit in with this strand.
- Q & A



Turn IT n!

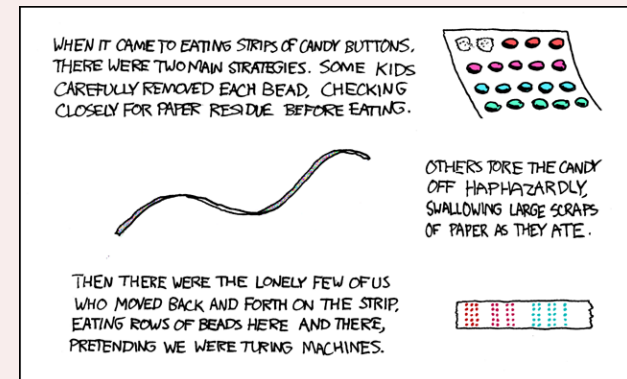
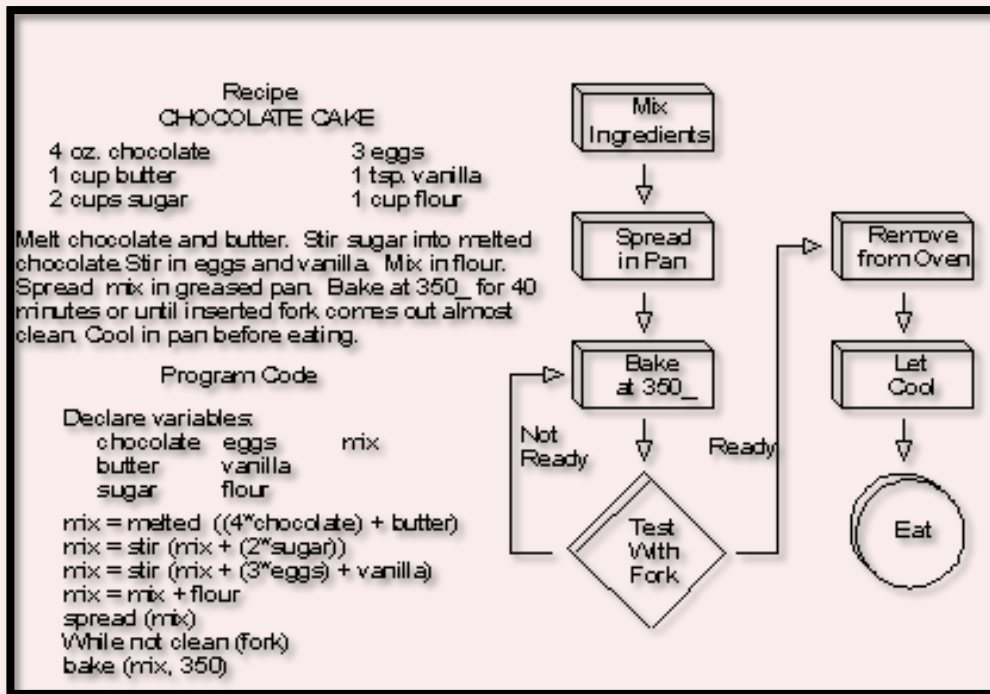


Complete ICT solutions for primary schools...

# What is an Algorithm?



A process or set of rules to be followed in calculations or other problem-solving operations, esp. by a computer.



Turn IT On!

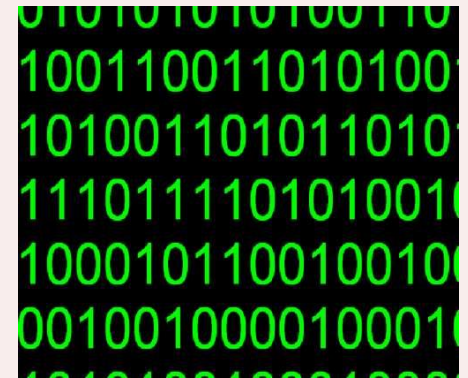
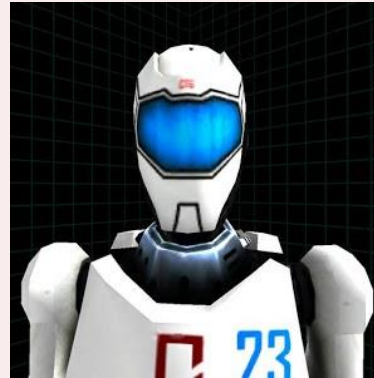
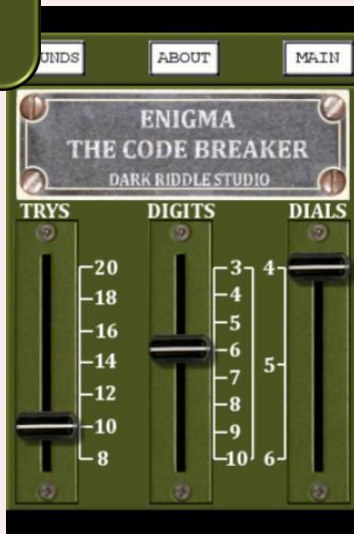


Complete ICT solutions for primary schools...

# Time to try out some Algorithms



Phone/tablet Apps – Download A.L.E.X. or Enigma



Or have a go at some binary challenges:

[http://csunplugged.org/sites/default/files/activity\\_pdfs\\_full/unplugged-01-binary\\_numbers.pdf](http://csunplugged.org/sites/default/files/activity_pdfs_full/unplugged-01-binary_numbers.pdf)



Turn IT On!



Complete ICT solutions for primary schools...

# Key Stage 1



Pupils should be taught to:

- understand what algorithms are, how they are implemented as programs on digital devices, and
- that programs execute by following a sequence of instructions
- write and test simple programs
- **use logical reasoning to predict the behaviour of simple programs**
- organise, store, manipulate and retrieve data in a range of digital formats
- communicate safely and respectfully online, keeping personal information private, and
- recognise common uses of information technology beyond school.



Turn IT n!



Complete ICT solutions for primary schools...



# Key Stage 1 Strand:

Use logical reasoning to predict the behaviour of simple programs

**What this means:** Reading or looking at instructions and discussing what will happen.

## What this may look like:

Pictures of baking a cake – missing baking picture or oven. People to hold pictures and move about. Discuss why it can't work.

Children given a sticker/card with their action on it. Children tasked to organise themselves to get a ball across the line only following the action on their card.

## Resources:

- Beebots
- Turtle
- Roamer
- 2simple 2 go
- Lightbot
- Coco
- Daisy the Dinosaur (iPad)
- Cargobot (iPad)
- Lemmings
- Pingus

## Cross curricular:

- PE
- Literacy



Turn IT  on!



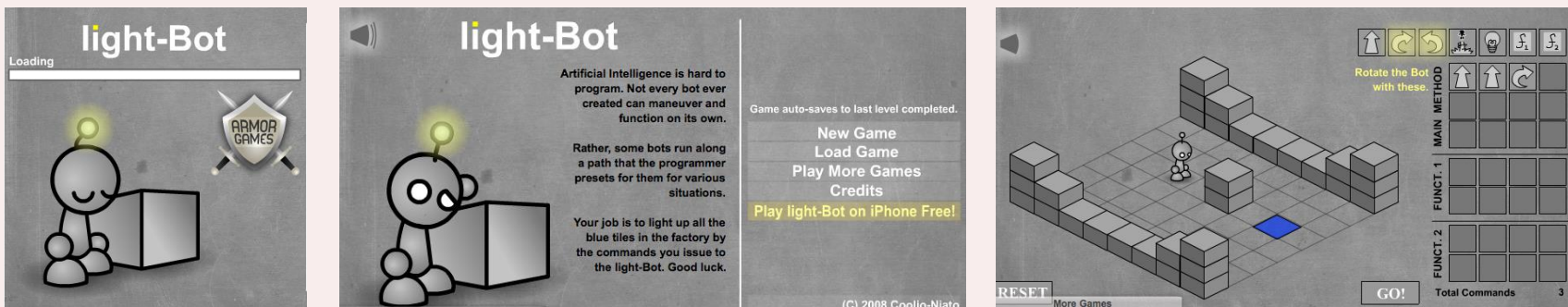
Complete ICT solutions for primary schools...



# Key Stage 1 Demo:

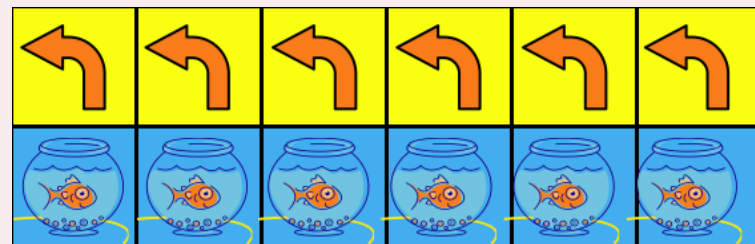
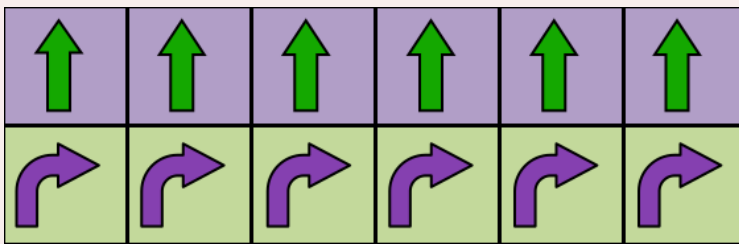
## Lightbot

<http://armorgames.com/play/2205/light-bot>



## Find the Fish!

Practical activity using action tiles and a grid to make, find and predict routes.



Turn IT  on!



Complete ICT solutions for primary schools...



# Key Stage 2

Pupils should be taught to:

- design and write programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts
- use sequence, selection, and repetition in programs; work with variables and various forms of input and output; generate appropriate inputs and predicted outputs to test programs
- use logical reasoning to explain how a simple algorithm works and to detect and correct errors in algorithms and programs
- **understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration**
- describe how internet search engines find and store data; use search engines effectively; be discerning in evaluating digital content; respect individuals and intellectual property; use technology responsibly, securely and safely
- select, use and combine a variety of software (including internet services) on a range of digital devices to accomplish given goals, including collecting, analysing, evaluating and presenting data and information.



Turn IT  on!



Complete ICT solutions for primary schools...



## Key Stage 2 Strand:

- understand computer networks including the internet; how they can provide multiple services, such as the world-wide web; and the opportunities they offer for communication and collaboration

**What this means:** What is a computer network, how does it connect internally and externally and how does data travel along it in order to communicate and collaborate?

### What this may look like:

Playing Chinese whispers to demonstrate a 'Ring' or 'Star' network topology and how data is 'split' or 'chunked' to transfer.

History of the internet and why it first started. Communication and collaboration was the main reason.

### Resources:

- Internet
- Wikipedia
- ICT Technician
- Your own network
- Skype/Face time
- Email

### Cross curricular:

- Modern History
- DT
- Literacy



Turn IT on!

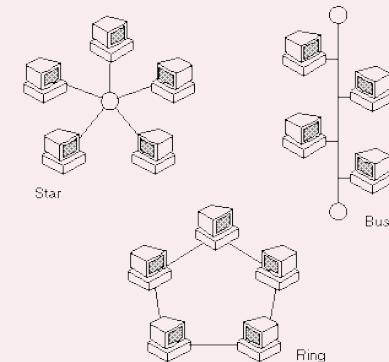


Complete ICT solutions for primary schools...

# Key Stage 2 Demo:

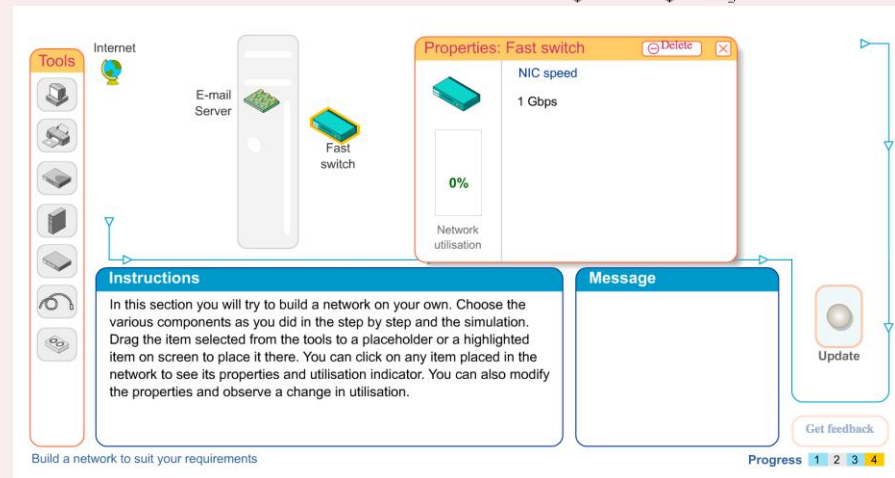
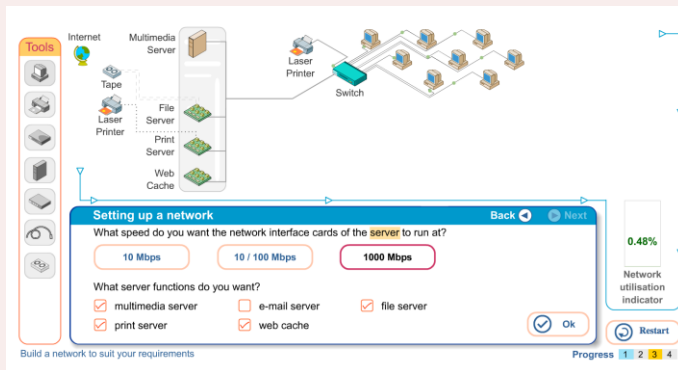
## Computing Chinese Whispers

Practical activity where children are the links in a network. This game also demonstrates how information can be misinterpreted or lost in translation!



**Build your own Network!**

[http://computing.scbc.wa.edu.au/Docs/AITDocs/Network\\_SIM.swf](http://computing.scbc.wa.edu.au/Docs/AITDocs/Network_SIM.swf)



**Turn IT on!**



**Complete ICT solutions for primary schools...**

# Thank you for your time



More resources...

Objectives	Resources
<b>EYFS</b>	
Learning to follow Instructions and Directions	Action Games
Program a simple floor robot	Bee-Bots
Make choices on the computer	LGfL Resources (Busy Things etc..)
Outside and Inside Play Areas	Programmable and Remote Control Toys
Capture and Review Learning	Flip Cameras, EasiSpeak Microphones
<b>KS1</b>	
Give and follow directions with values	Action Games
Program a floor robot to move to specific location	Bee-Bot and Pro-Bot
Change variables to affect outcomes	On screen games
Programming on-screen turtle	2Go, Bee-Bot software
Control movement in online activities	LGfL Resources, on screen activities
Program a more complex sequence of instructions (algorithms)	Pro-Bots
Create simple games	2DIY
Edit an existing computer program	Scratch

Objectives	Resources
<b>Lower KS2</b>	
Animation Sequencing	2Create a Superstory
Programming an on-screen turtle	MSW Logo
Game Design	2DIY
Complex sequencing of a floor robot	ProBots
Building and programming Lego models	Lego WeDo
Simple computer programming	Scratch
<b>Upper KS2</b>	
Programming a robot using sensors	Lego Mindstorms
Sequence complex animations	2Create a Superstory
Plan, create and refine games	2DIY
Variables and IF statements	Scratch
Creating and testing procedures	MSW Logo
ActionScripting in game design	2DIY
Create simple statements in a popular programming language	Python



Turn IT  on!



Complete ICT solutions for primary schools...

## Any Questions?