

COMPUTING  
SUMMER SCHOOL  
KEYSTAGE 4

JULY 2014



# WELCOME!

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Mark Clarkson

Teacher

Head of Department

Hub Leader

Master Teacher

Board Member

Dogsbody





# AGENDA

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- 09:30 - Introduction
- 10:00 - Binary Representation
- 11:00 - Hardware & Logic
- 12:00 - Lunch
- 12:45 - Software & Databases
- 14:00 - Networks & The Internet
- 15:00 - Plenary



# ONE LINK

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pi.mwclarkson.co.uk



# GCSE SPECIFICATIONS

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OCR	AQA	Edexcel	WJEC
1 Programming 1 Investigation	2 Programming	1 Programming	1 Programming
Total 40 hours 60% of grade	Total 50 hours 60% of grade	Total 15 hours 25% of grade	Total 15 hours 30% of grade
1 written exam	1 written exam	1 written exam	1 written exam 1 on-screen exam



# BINARY

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- Bits, Bytes and Nibbles
- How Computers Count
- Binary Games:
  - Cisco Binary Game
  - 2048



# HEXADECIMAL

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- HTML & Colour Codes
- Representation of Text
- Representation of Images
- Representation of Sound



# LOGIC GATES

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- Binary Logic
- Types of Gate
- Logic Questions



# HARDWARE

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- You Say, We Pay
- RAM, ROM & Socratic
- Caches, RAM & VM
- Clocks, Caches & Cores
- Little Man Computer



# NETWORKS

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- Topologies
- IP, MAC & DNS
- Client-Server vs Peer-Peer



# SOFTWARE

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- Classification
- Off-the-shelf vs Bespoke
- Proprietary vs Open-Source



# DATABASES

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- Terminology
- Validation & Verification
- Relationships & Redundancy
- SQL (Zoo?)



# CONTROLLED ASSESSMENT & DELIVERY

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# FREE RESOURCES & ADVICE

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- CAS Community Site
- Various Facebook groups
- TES Forums
- Barefoot Computing
- CS4fn / CSUnplugged
- Hub Meetings
- [pi.mwclarkson.co.uk](http://pi.mwclarkson.co.uk)



# PAID RESOURCES & CPD

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- **CAS Master Teacher sessions**
- Teach-ICT
- *Hodder Compute-IT\**
- *PGOnline\**
- *Boardworks\**

*\* Full disclosure: I have a working relationship with these organisations*