Year 8 KS3
Computer Science
Homework Booklet

Information for students and parents:

- Throughout the year your ICT/Computer Science Teacher will set a number of pieces of homework from this booklet.
- If you lose this booklet then you can find a pdf version on the ICT Curriculum webpage at http://www.waltonhigh.org.uk/curriculum/ICT
- A piece of ICT/Computer Science homework will be set every other week and this should take you 45 minutes to 1 hour to complete.
- Once you have completed your homework you should check that you have included everything from the right-hand column because these are the things that your Computer Science Teacher will be looking for as they mark your work.

Name: ______________________

Computer Science Teacher: _______ Tutor: _____
**Acting on Feedback**

<table>
<thead>
<tr>
<th>Task:</th>
<th>For your work to be successful you must:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Read and act on the comments/feedback written in your exercise book.</td>
</tr>
<tr>
<td></td>
<td>• Read all of the comments written by your Teacher in your exercise book. Tick each comment to show that you have read it.</td>
</tr>
<tr>
<td></td>
<td>• Wherever there is a question or feedback you need to complete the activity set. You may be asked to:</td>
</tr>
<tr>
<td></td>
<td>- Correct spellings - use a dictionary to find the correct spelling, learn the spelling cover and write again 3 times</td>
</tr>
<tr>
<td></td>
<td>- Answer specific questions</td>
</tr>
<tr>
<td></td>
<td>- Rewrite an answer</td>
</tr>
<tr>
<td></td>
<td>• Ask a parent/guardian to sign your exercise book to show that they have seen your work.</td>
</tr>
<tr>
<td></td>
<td>• Use appropriate keywords, use relevant images, provide examples of binary data.</td>
</tr>
</tbody>
</table>

**Autumn Term**

**Autumn Term: 1a & 1b**

**Topic:** Computer Architecture and Databases

**Tasks:**

<table>
<thead>
<tr>
<th>Task:</th>
<th>For your work to be successful you must:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 <strong>BINARY DATA:</strong></td>
<td>Use appropriate keywords, use relevant images, provide examples of binary data.</td>
</tr>
<tr>
<td>1. What does the term 'binary' mean?</td>
<td></td>
</tr>
<tr>
<td>2. What is ‘binary data’?</td>
<td></td>
</tr>
<tr>
<td>Why does a computer only use binary data?</td>
<td></td>
</tr>
<tr>
<td>3 <strong>COMPUTER DEVELOPMENT</strong></td>
<td>Write a report using Microsoft Word, check for spelling and grammar errors.</td>
</tr>
<tr>
<td>1) Find out what computers in the future might be able to do i.e. in around 20-30 years’ time.</td>
<td>Poster must include relevant images.</td>
</tr>
<tr>
<td>Write a paragraph to explain your findings.</td>
<td>Appropriate timelines shown in poster.</td>
</tr>
<tr>
<td>2) Design a Poster on computer development through the decades.</td>
<td></td>
</tr>
<tr>
<td>4 <strong>Research</strong></td>
<td>Write a report using Microsoft Word, check for spelling and grammar errors.</td>
</tr>
<tr>
<td>Find out what is likely to happen when transistors can no longer be made smaller - how will we increase computing power?</td>
<td>Should ensure that research relates to computer science and do not go off-point. You must reference all resources used for your research.</td>
</tr>
<tr>
<td></td>
<td>Check for spelling and grammar errors.</td>
</tr>
</tbody>
</table>
5. Complete "parts of a computer" worksheet.

<table>
<thead>
<tr>
<th>Component</th>
<th>Picture</th>
<th>What does this component do?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard disk</td>
<td><img src="image1.png" alt="Hard disk" /></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td><img src="image2.png" alt="CPU" /></td>
<td></td>
</tr>
<tr>
<td>Motherboard</td>
<td><img src="image3.png" alt="Motherboard" /></td>
<td></td>
</tr>
<tr>
<td>RAM</td>
<td><img src="image4.png" alt="RAM" /></td>
<td></td>
</tr>
<tr>
<td>Graphics card</td>
<td><img src="image5.png" alt="Graphics card" /></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td><img src="image6.png" alt="Power supply" /></td>
<td></td>
</tr>
</tbody>
</table>

As expected: Spell check, explain in detail what each component does. Reference all sources used.

6. Research -
Find out which components in the computer have fans and why they are required.
Find out the role of a data bus within a computer.
Write a report using Microsoft Word, check for spelling and grammar errors. Should ensure that research relates to computer science and do not go off-point. You must reference all resources used for your research. Make use of relevant images. Check for spelling and grammar errors.

7. Research -
Find out how tasks are scheduled in super computers and main frame computers.
Write a report using Microsoft Word, check for spelling and grammar errors. Should ensure that research relates to super computers and do not go off-point. You must reference all resources used for your research. Make use of relevant images. Check for spelling and grammar errors.

8. What is meant by open source software? Find three examples of open source software.
Type up/Handwrite detailed answers to questions. Provide examples as
# YEAR 8 ICT/COMPUTING YEARLY HOMEWORK TASKS

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>requested.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>CAP Preparation&lt;br&gt;Revise for CAP 1A by completing a range of revision activities and revising through your notes and online resources used in the lesson.</td>
<td>▪ All students should ensure they complete their end of unit revision interactive doodle presentations.&lt;br&gt;▪ This can also be printed and stuck in their books.&lt;br&gt;▪ Support: Write a glossary of the key words, Write each definition three times, covering over the previous attempt and trying to get the sentence shorter so it only contains 3 or 4 key words&lt;br&gt;▪ Read online resources and watch flash movie files (contained in the central resources area).&lt;br&gt;▪ Ask your parents to test you for 5 minutes on key terms and concepts revised&lt;br&gt;Students aiming for a Level 7, 6 grade should also:&lt;br&gt;Look at example questions as part of their revision, and find other relevant websites which teaches you about computer architecture and future new technology.</td>
</tr>
</tbody>
</table>

### DATABASES

| 10 | DATABASES AND SOCIETY.<br>1. What are databases used for? | ▪ Type up/Handwrite detailed answers to questions. Provide examples. |

| 11 | DATABASES AND SOCIETY: Who might use a database? And what for?<br>Complete the table below, an example has been done for you. Provide examples of who might use a database and what for. | |

<table>
<thead>
<tr>
<th>Who?</th>
<th>Why? / What for?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A newsagent</td>
<td>To keep details of their customers and what is delivered to each address.</td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td></td>
</tr>
</tbody>
</table>
12. What are some advantages of using databases?

A. 

B. 

C. 

13. Who uses a database worksheet? Part 2

- Complete the worksheet using the examples as a guide. You must include at least 6 field types (column 3) that might be in the database examples you have provided.

14. Making a database of your own

Complete the worksheet (both pages) copies of which can be found in the resources area. This worksheet will be required for your caps.

15. CAP Preparation

Revise for CAP 1B using the revision sheet shown; other revision activities available in the resources area and revising through your notes and online resources used in the lesson.
## YEAR 8 ICT/COMPUTING YEARLY HOMEWORK TASKS

**Spring Term: 2a & 2b**  
**Topic:** Scratch and HTML

### Tasks: Scratch Programming

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Scratch User Interface</td>
<td>Attempt one of the &quot;Scratch User Interfaces&quot; worksheet.</td>
</tr>
<tr>
<td>2 How would I?</td>
<td>With a partner explore the Scratch game that one of you just created. You used some scripts to change the way your sprite moved. Can you answer these questions about the task? Don’t be afraid to try things out; it’s the best way to learn. If you don’t want to change your game save a new copy of it into your N drive to experiment on. Type your answers to the questions below:</td>
</tr>
</tbody>
</table>

1. Which direction does your sprite move in if you change y by 10?  
2. What about if you change x by -10?  
3. What do you think the *if on edge bounce* tool is for?  
4. How can you stop your sprite turning upside down when it gets to the edge?  
5. What does the information about x, y and direction mean?  
6. How could you make your sprite look different when it moves in each direction? Remember how you did this last lesson. There are also some videos in resources that may help— it’s all about costumes. |
7. Explain a new tool in Scratch that you learnt today. What is it for? What did you do? Did it work? How could you use it better?

3. Design your own scratch character: first on paper and then on scratch. You can also design more than one character.

Scratch uses the cat as the main character for people to learn about basic programming.

Exercise – In the box below design your own character you would like to create in Scratch.

If you are stuck for ideas you can always view sprites created in Scratch by clicking on the button below and browse through the folders of sprites already included.

Design your character in the box below
Computer Control Tasks

Task 1 - Level 4/5
When using computer control systems, there are always benefits (good things) and limitations (negative things). Look at the examples below of computer control used outside school and describe them. Then identify some benefits and drawbacks of these systems.

<table>
<thead>
<tr>
<th>Control System</th>
<th>Description</th>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automated phone booking for cinema tickets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automated Border Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self service checkouts</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Task 1 - Level 6
List three items that you use at school that are computer controlled, e.g. the cashless card system in the canteen.

•
YEAR 8 ICT/COMPUTING YEARLY HOMEWORK TASKS

•
•

Task 2 - Level 6
Explain the impact on your day for the items you have listed above.

•
•
•

Task 3 - Level 6
List three items that you use in your leisure time that are computer controlled, e.g. automated cinema booking.

•
•
•

Task 4 - Level 6
Explain the impact on you of being able to use these control systems.

Task 5 - Level 6
List three items that you use at home that are computer controlled, e.g. cable/satellite television system.

•
•
•

Task 6 - Level 6
Explain the impact on you for the items you have listed above.

EPORTFOLIO/HTML

| 5 | What does the abbreviation HTML mean? | Type up/Handwrite detailed answers to question. |
|   | What are tags?                      | Students aiming for a Level 6 should also give examples for each question. |
|   | What two characters surround a tag? |                                           |
|   | What character symbolizes that the tag is a closing tag? |                                           |
### YEAR 8 ICT/COMPUTING YEARLY HOMEWORK TASKS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6</strong></td>
<td>Explain the importance of HTML and its derivatives as a standard for the creation of web pages.</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>HTML worksheet</td>
</tr>
</tbody>
</table>
| **8** | i) Write down four things that a web site could be used for.  
ii) Name two of your favourite web sites and write what it is that you like about them.  
iii) Look at the two screenshots below: | Type up/Handwrite detailed answers to all 8 questions. |
|   | iv) If a company is making a very complicated web site, they will use special design programs to create the HTML code. For smaller web sites, it is often best to write the entire HTML codes yourself, without a special program.  
**Tick the correct statements on this list:**  
a. Other programs often put extra code in that you don’t need. This means your web site might take longer to load.  
b. You learn a lot more by writing the code yourself.  
c. You can’t use as many extra features, like animation, graphics and sound if you write it yourself.  
d. It takes longer to write the code.  
v) What sort of things could make a web page really stand out?  
vi) If you make some changes to your code, which button must you press in the browser?  
vii) This code will make the word **hello** appear on the left-hand side of the screen.  
<
p align=left>Hello</p>  
a) Which part of the code is a parameter?  
b) What value does this parameter have? |   |
Dictionary task: Your task is to create a dictionary of ICT/Computing terms from the table below.

<table>
<thead>
<tr>
<th>URL</th>
<th>Internet</th>
<th>Message board</th>
<th>Forum</th>
<th>Graph</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>Import</td>
<td>Web page</td>
<td>Data</td>
<td>System</td>
<td>Template</td>
<td>Evaluation</td>
</tr>
<tr>
<td>Input</td>
<td>Process</td>
<td>Output</td>
<td>Audience</td>
<td>Hyperlink</td>
<td>Navigation</td>
</tr>
<tr>
<td>Complex search</td>
<td>Bibliography</td>
<td>Formula</td>
<td>Worksheet</td>
<td>Bias</td>
<td>Annotation</td>
</tr>
<tr>
<td>Search engine</td>
<td>Web browser</td>
<td>Secondary data</td>
<td>Primary data</td>
<td>Home page</td>
<td>Digital camera</td>
</tr>
<tr>
<td>Mouse</td>
<td>Keyboard</td>
<td>Monitor</td>
<td>Printer</td>
<td>Scanner</td>
<td>Computer</td>
</tr>
</tbody>
</table>

Dictionary entries should be put into alphabetical order. They should include:
- the word
- a definition written by yourself
- And wherever possible, an appropriate image.

Your dictionary should have a cover which includes the title ‘ICT/Computing Dictionary’ and your name.

Spend time formatting your dictionary so that it looks nice.

Design a website on any topic of your choice using HTML codes. The website must have:
- At least 3 pages
- Relevant images included.
- Navigation bar
- Consistent layout
- Header and footer
- Good contrast of colours—both font and background colours.

Produce your planning documents which include a sitemap and storyboards.

Look at the code in Figure 2.2, and then at the browser in Figure 2.3.

Check for inaccuracies and also think about what particular tag is required to achieve the structure in the web browser.
# YEAR 8 ICT/COMPUTING YEARLY HOMEWORK TASKS

**Summer Term: 3a and 3b**  
**Topic:** Podcasting/Sound and Graphics/Maze Game

## Tasks:

<table>
<thead>
<tr>
<th>Task</th>
<th>For your work to be successful you must:</th>
</tr>
</thead>
</table>
| 1    | What does the term Podcasting mean? What is Audacity? What is it used for?  
1. Type up/Handwrite detailed answers to question. Look online as well and reference all resources used. |
| 2    | Identify key terms we’ve used in this topic and write a dictionary.  
2. Find the definitions of key words and write a glossary to help you to learn spellings… |
| 3    | Create a mind map summarising today’s lesson/topic we have been studying recently.  
3. Use key terms, make it informative and eye catching… |
| 4    | Write a poem or song which summarises what you have learnt so far, OR  
4. Write a formal letter to an institution explaining the topic we have studied recently.  
4. Make it informative but catchy and remember to include key terms…  
4. Use a letter layout, remember key terms and use persuasive language to explain key issues… |
| 5    | Write a newspaper article relevant to the topic we are studying.  
5. Include specific, accurate facts with good English. You should include quotes and images… |
| 6    | Create a comic strip to explain a new process we have learned or to summarise a topic.  
6. Use pictures and key words to explain the process in a clear way… |
| 7    | Create 10-15 challenging quiz questions about how to record and edit sound using Audacity.  
7. Write the questions with correct answers separate to test a peer… |
| 8    | CAP Preparation  
8. Revise for your CAP by completing a range of revision activities  
8. All students should ensure they keep developing their editing skills using Audacity both in school and at home.  
8. Support: Write a glossary of the key words. Write each definition three times, covering over the previous attempt and trying to get the sentence shorter so it only contains 3 or 4 key words  
8. Ask your parents to test you for 5 minutes on key terms |
| 9    | Define the following keywords: Hyperlinks, Hotspots, Slideshow, Transitions, Animations, Maze, interactive  
9. Type up/Handwrite detailed answers to question. Look online as well and reference all resources used. |

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**Graphics/Maze Game**

-
10. **Presentation worksheet**
   - Complete the worksheet (both pages) copies of which can be found in the resources area.
   - Copy the sentences in your books and complete the blanks using words from the list.
   - You should use each word only once.

11. **Graphics Worksheet**
   - Complete the worksheet (both pages) copies of which can be found in the resources area.
   - Copy the sentences in your books and complete the blanks using words from the list.
   - You should use each word only once.

12. **How would you create a hotspot/hyperlink in PowerPoint?**
    - Create guide/tutorial on how this can be done using relevant screen shots.

13. **How would you record or insert sound into PowerPoint?**
    - Create guide/tutorial on how this can be done using relevant screen shots.

14. **Use PowerPoint to create an interactive guide for a country of your choice**
    - Power point guide.

**Keywords Vocabulary task**

Using the Keywords shown below, attempt the different tasks.

\[
\text{EPHYJSSURFINSBKVTDWRACORGHOUWRWFMEWJWYIISHGJSVWCCTVOCGYPCLUDFENYKUEZOLGPKJMMEPPEPVLPNIOXCOAANLMNBAIKSAOO}
\text{SGFYVONPTHBLOMPOJJXICTXLFOPLEVUZYSUEVOROHMAE}
\]

Attempt each task on a weekly basis.
### YEAR 8 ICT/COMPUTING YEARLY HOMEWORK TASKS

|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**COMPUTER; DOWNLOAD; EMAIL; GAMES CONSOLE; ICT, INTERNET; MOBILE PHONE; SURFING; TEXTING; WEBSITE.**

Task 1: Find the key words in the word search
Task 2: Write a definition for each of the key words
Task 3: Write two or three paragraphs using at least 5 of the key words correctly.
Task 4: Keep a diary of how you use ICT in a typical week. Make it as detailed and interesting as possible.