# KS4 – HTML and CSS

## Unit introduction

In this unit learners will gain an understanding of how websites are displayed within a browser using HTML and CSS. Starting with an introduction to how websites are requested and delivered to our computer via the internet and the World Wide Web, learners will go on to study how to create the structure of a website using HTML and change the styling using CSS. This unit covers multiple aspects of the National Curriculum Computing programmes of study. Ideally, students will have some prior basic knowledge of how the internet works.

## Overview of lessons

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| **Lesson** | **Brief overview** | **Learning objectives** |
| Lesson 1: Introduction to HTML | In this lesson learners will gain an understanding of what a website is and how it ends up in the web browser.  Learners should be able to create a very simple HTML page and display it in the web browser by the end of the lesson. They should also be able to edit and refresh their page to view what has been changed. | * Describe the purpose of HTML and tags when designing a website * Create a simple webpage using basic tags |
| Lesson 2: Images and links | This lesson allows learners to extend the basic HTML tags learnt in the previous lesson to include images and interactive hyperlinks.  Learners will find and insert an image from the internet, followed by creating links to externally hosted websites. They will also learn about responsible design learning about designing to cater for ‘accessibility’.  These activities prepare students for Lesson 3, where they will plan and make a mini website to bring together their skills before moving on to studying CSS. | * Describe what is meant by the term ‘accessibility’ * Extend an HTML page to include:   + Images <img>   + Hyperlinks <a href> |
| Lesson 3: Mini project | This lesson will serve as a recap/consolidation exercise on the first couple of lessons. Learners will focus on what makes good website design, and create two more pages for their website to link together. To enable learners to be able to do this they will work with some example code to create a method of navigation for their pages. They will also learn about and be able to demonstrate the use of online images and locally stored images. | * Identify the common features of existing websites and the basics of what makes good web design * Design and create pages for a mini website * Create hyperlinks between pages stored locally within a folder * Insert images stored locally within a folder |
| Lesson 4: Introduction to CSS | In this lesson learners will be introduced to CSS. The lesson will start by asking the learners to predict the purpose of the CSS code on the board. The remainder of the lesson will be spent allowing the learners to explore and experiment with the code and unpacking all of the new syntax and terminology they have been introduced to. By the end of the lesson, learners will have created a link from their HTML pages to an external stylesheet that will change the appearance of their webpages. | * Describe the purpose of CSS and why it is needed in addition to HTML * Experiment with CSS by changing the style of the tags learnt so far in this unit |
| Lesson 5: DIVs and classes | In this lesson learners will extend their knowledge of CSS from the previous lesson to understand how to break their page up using DIVs and apply CSS to these using classes. | * Describe the purpose of DIV tags * Apply knowledge of CSS to DIVs within webpages using classes |
| Lesson 6: Layouts and the CSS box model | This will be the last lesson before the two summative assessment lessons. In this lesson learners will develop skills in wireframing a website and learn about how to position elements using the CSS box model. | * Explain how to plan a website by developing a house style and sketched wireframe * Describe the box model in CSS * Apply skills to position items within a page |
| Lesson 7: Final project | In this lesson learners will be given the opportunity to show what they have learnt by making a three-page website which will be assessed and provide some scope for experimentation. The lesson starts with a recall exercise that requires the learners to write HTML and CSS. The learners will be introduced to the project and the assessment criteria before being given to work on their project. At the end of the lesson learners will peer assess their classmates' work to provide them feedback ahead of the final lesson. | * Construct a three-page website to showcase the skills learnt throughout this unit of study * Self/peer evaluate the produced webpage using a rubric |
| Lesson 8: Project completion | During this lesson, learners will get the opportunity to reflect and act upon their peer feedback from the previous lesson. After the allotted time, learners will showcase what they have made to their classmates before taking an end of unit multiple choice assessment. | * Extend/finish the assessed website * Showcase the assessed website * Demonstrate how much has been learnt by taking an end of unit test |

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## Progression

Please see the learning graph for this unit for more information about progression.

## Curriculum links

[**National curriculum links**](https://www.gov.uk/government/publications/national-curriculum-in-england-computing-programmes-of-study/national-curriculum-in-england-computing-programmes-of-study)

* Develop their capability, creativity, and knowledge in computer science, digital media, and information technology
* Develop and apply their analytic, problem-solving, design, and computational thinking skills

## Assessment

### Summative assessment

The summative assessment documents for this unit come in the form of an assessment rubric that can be used to mark the learners’ websites that they made during lessons 7 and 8. There is also an end of unit summative assessment multiple choice test that can be distributed to learners as part of lesson 8.

## Subject knowledge

This unit focuses on the following key areas::

* HTML
* CSS
* Accessibility

Enhance your subject knowledge to teach this unit through the following training opportunities:

### Online training courses

* [Introduction to Web Development](https://teachcomputing.org/courses/CO221/introduction-to-web-development)
* [Introduction to Computer Networking for Teachers](https://teachcomputing.org/courses/CO214/an-introduction-to-computer-networking-for-teachers) (optional additional background subject knowledge, but not mandatory for the delivery of this unit)
* [Raspberry Pi Foundation online training courses](https://www.futurelearn.com/partners/raspberry-pi)

### Face-to-face courses

* [National Centre for Computing Education face-to-face training courses](https://teachcomputing.org/courses)

Resources are updated regularly — the latest version is available at: [ncce.io/tcc](http://ncce.io/tcc).

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