# Lesson 1: Changing digital images

## Introduction

This lesson is the first in a unit on manipulating images digitally. Throughout the unit, learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.

In this lesson, you will introduce learners to the online editor, and learners will make changes to an image and then save the image as a new version.

## Learning objectives

To explain that digital images can be changed

* I can identify changes that we can make to an image
* I can explore how images can be changed in real life
* I can explain the effect that editing can have on an image

## Key vocabulary

Image, edit, arrange, select, digital, crop, undo, save

## Preparation

**Subject knowledge:**

* You will need to be familiar with the tools used in this lesson in paint.net or your chosen image editor, and know how to save a new version from within the editor. You can find a guide to all tools in paint.net at [www.getpaint.net/doc/latest/index.html](https://www.getpaint.net/doc/latest/index.html).
* You will need to be familiar with the effect that cropping can have on an image. You can find more information at [www.dpreview.com/forums/post/56318241](https://www.dpreview.com/forums/post/56318241).
* You should consider how the learners will access the editor. For example, you may wish to create a shortcut to the program for them.

**You will need:**

* [Slides](https://ncce.io/cm4p-1-s) (ncce.io/cm4p-1-s)
* Whiteboards
* Paper copies of magazines/flyers/cards/packaging with images on them
* One pair of scissors per learner
* Printouts:
  + A printed and enlarged copy of the first image in the [activity sheet](https://ncce.io/cm4p-1-a1-r) (ncce.io/cm4p-1-a1-r), referred to as ‘Woods walk’
  + A selection of printed copies of the other images in the activity sheet (enough for one image per learner)
  + Printouts of slide 14 for the ‘Evaluation’ activity, if needed ([slides](https://ncce.io/cm4p-1-s): ncce.io/cm4p-1-s)
* An image editing program, for example:
  + paint.net ([www.getpaint.net](https://www.getpaint.net/))
  + BeFunky app ([www.befunky.com](https://www.befunky.com/))
  + LunaPic ([www341.lunapic.com/editor](https://www341.lunapic.com/editor/))
* A selection of images for the learners to edit in a folder that they can access (note: you may wish to link the images with an existing classroom theme or topic, e.g. local area images, settings in geography, portraits in art, etc.)

## Assessment opportunities

* **Starter activity:** You can evaluate learners’ prior knowledge and determine whether they have any experience of image editing.
* **Activities 1 and 2:** You can assess the learners’ use of the tools covered so far (open, select, crop, save, and undo).
* **Activity 3:** Learners can reflect on the tools used, choices made, and how effective they were.
* **Plenary:** You can assess learners’ understanding of why using digital editing tools might be useful for editing images.

## Outline plan

Please note that the slide deck labels the activities in the top right-hand corner to help you navigate the lesson.

*\*Timings are rough guides*

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| Introduction (Slides 2–4) | **Unit introduction**  Introduce the unit and share the unit objectives with the learners (slide 2). Explain that the word ‘image’ is used to describe digital copies of pictures or photos stored on your computer or another device. Lesson introduction Share the learning objectives with the learners (slide 4). Explain that in this lesson, learners will use an online image editor, a program that allows them to make changes to an image and then save their changes. They will start by thinking about where we see images. |
| Starter activity (Slides 5–8)  15 mins | **Where do we see still images?**  Ask learners to think about all of the places in which we see images, and to write their answers on their whiteboards. Examples might include: magazines, newspapers, fliers, brochures, billboards, websites, posters, birthday cards, party invitations, photo sharing apps, galleries, games, book covers, food packaging, etc.  **Why might images be edited?**  Open your school website or the CBBC Newsround website ([www.bbc.co.uk/newsround](https://www.bbc.co.uk/newsround)) and look at the images on the website. Find an image on the site and point out that this image, and images in all of the locations that they have just thought of, didn’t start out looking exactly as we see them. (If you wish, you could also have some paper copies of magazines/flyers/cards/packaging to demonstrate.)  Ask learners how they think images could have been changed between being taken and appearing on the publication. Record their responses to show the journey, and guide the learners to the conclusion that the images may have been improved or changed (**edited**) in some way to make them look more appropriate or appealing. Explain that this is what the lesson will focus on.  Together, list reasons why an image might need to be changed. For example:   * To remove an unwanted part of it * To make the colours brighter or more visible * To make it look more appealing or attractive * To focus on an important part of it   Discuss how the images on slides 6–8 have been edited (see slide notes).  Ask learners how they think this editing could happen, and explain that this is done using an image editing program, which they will be looking at next. You could also ask learners if they have ever edited any images, for example, on a phone. |
| **Activity 1** (Slide 9)  10 minutes | **Unplugged activity: editing an image to remove part of it**  Show the first image in the activity sheet (‘Woods walk’, also on slide 9), and explain to learners that you have found an image you like, but that there is something in it that you want to remove: you only want the picture of the people, and don’t want any of the dark surround. Ask how you might achieve this with the paper image, and demonstrate cutting out the part of the image that you want with scissors, to show what you are trying to achieve.  Give each learner one of the other four images from the activity sheet and ask them to cut their image down in whichever way they feel is appropriate.  Share some of the cut-down images and ask learners to explain their choices. Did they all choose to cut them down in the same way? If not, why not? Did they all crop their images into a rectangle? Did some choose to crop their images into a square? |
| **Activity 2**  (Slides 10–13)  15 mins | **Computer-based cropping activity**  Ask learners to suggest how you might cut down a digital image on the computer. For example, ask them if they know any tools from other software that would allow them to do this. They might suggest a range of tools, e.g. copy/cut and paste, select, crop, etc.  Explain that there are various ways to use the computer to remove parts of images, with different results:   * You can choose to remove a section by drawing around it and cutting or copying, which you will address later on in the unit * You can choose to remove the outer layers, which is called **cropping**   Display slide 10 and explain that it shows examples of images that have been cropped to have parts removed from them. Consider the reasons for and effect of cropping parts of an image, e.g. to remove something unwanted, such as another person or background image; to draw the focus towards something; or to reflect a viewpoint, etc.  Using slide 11, introduce learners to the different parts of the editing screen and menus.  Demonstrate opening an image from your folder of saved images in paint.net (or your chosen image editor). Show learners how to select part of an image and use the ‘crop’ tool to discard the surrounds. Show learners how to use the ‘undo’ tool. Allow learners time to use paint.net (or your chosen image editor) to crop images in the folder.  **Saving as a new image**  Demonstrate how to use ‘save as’ to save a new version of the image in an appropriate folder (slide 13). Outline the difference between ‘save’ and ‘save as’: ‘save as’ saves a new version, whereas ‘save’ saves over the top. Explain that now that the image has been changed, learners need to save a new version with a new file name. Discuss file name protocols, such as adding a version number to the image, and perhaps their initials if they are saving to a shared folder, e.g. ABflower01, to avoid saving over the original image. Tell learners to save their new image files in the appropriate location. |
| **Activity 3**  (Slide 14)  10–15 mins | **Evaluating the impact of edited images**  Tell learners to turn to a partner, then to take it in turns to show them their saved images and explain:   * Why they chose to edit their image in a certain way * Which other tools they used to edit the image and why * A problem that they encountered and how they overcame it * Whether their changes to the image were successful and why   **Note:** If you wish, you could print out the questions on slide 14 and ask learners to complete this activity in writing.  As a class, choose a few examples and compare the impact of the edited images with the impact of the original ones. Did learners choose to edit the images in the same ways, or are the results very different? |
| **Plenary**  (Slide 15)  5 mins | **Comparing unplugged cropping with digital cropping**  Ask learners to compare physically cropping images with the on-screen cropping of images. Does cropping images digitally have any advantages over cutting images down manually? Ask learners to ‘think, pair, share’ with their partner to create a list of advantages of digital cropping. Responses might include:   * You can ‘undo’ an action if you make a mistake * You can crop multiple times to achieve a range of results * You can keep the original version intact |
| **Summary**  (Slides 16–17) | Review the ‘Assessment’ and ‘Summary’ slides. |

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