11 File management

In this chapter you will learn how to:

- ★ locate stored files
- ★ open and import files of different types
- ★ save files in a planned hierarchical directory/folder structure
- ★ save files using appropriate file names
- ★ display file details in a directory/folder
- ★ save, export and print files in a variety of formats
- ★ understand the need for characteristics and uses of generic file formats
- ★ understand the need to reduce file sizes for storage or transmission
- ★ reduce file sizes for storage or transmission using file compression.

For this chapter you will need the source file:

- ★ remora.jpg

11.1 Manage files effectively

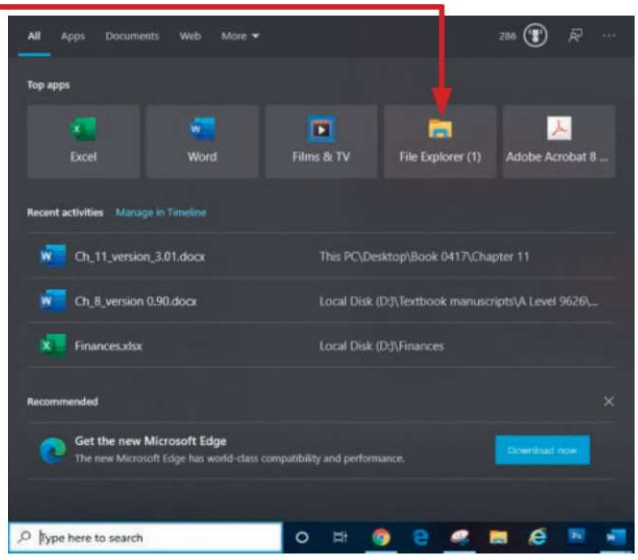
11.1.1 Manage files

Make sure that you are familiar with the file structure of your local system. If you are using stand-alone computer systems, files are likely to be stored on local hard disk drives (HDD) or solid-state drives (SSD). If you are using a networked system, files are likely to be stored on a network drive, usually in a secure area where only you have access. These can be managed, viewed and accessed using the program *File Explorer*. As each system is different, there are different ways of finding and opening this program. It may be shown as a folder icon on your **taskbar** like this.

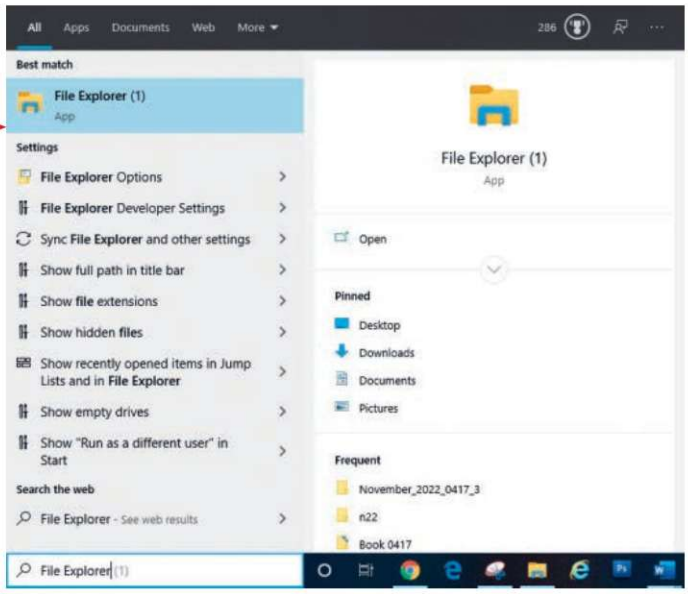
If so, click on the icon to open the program.

If not, you can use the *Windows 10* **Search** tool to find it.

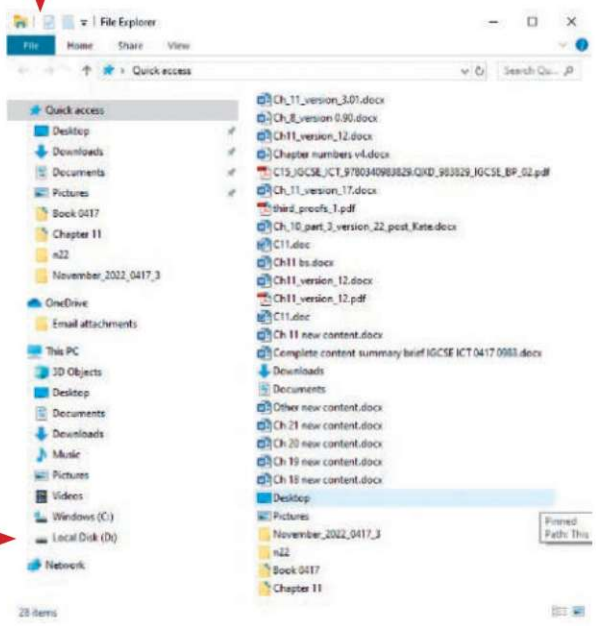
Click in the box for the **Search** tool. The icon for *File Explorer* will appear in the **Top Apps** list here if you use it often, like this.



If it does not appear in the **Top Apps** list, type the text **File Explorer** into the **Search** tool so that the program appears in the **Best match** area like this.



Press the **<Enter>** key to open the program, which will look similar to this.



Another shortcut for opening *File Explorer* is to hold down the **<Windows>** key and press the **<E>** key.

On the left are a list of locations where files are stored. Because **Quick access** is selected, on the right, are a list of recently visited locations and files. Use the left pane to select the drive that you will use for your files. The local hard drive is often labelled as drive C. Network drives may be labelled with any letter, on the system shown here drive D is being used. When you select a drive, *File Explorer* changes to show the files on this drive.

Locate stored files

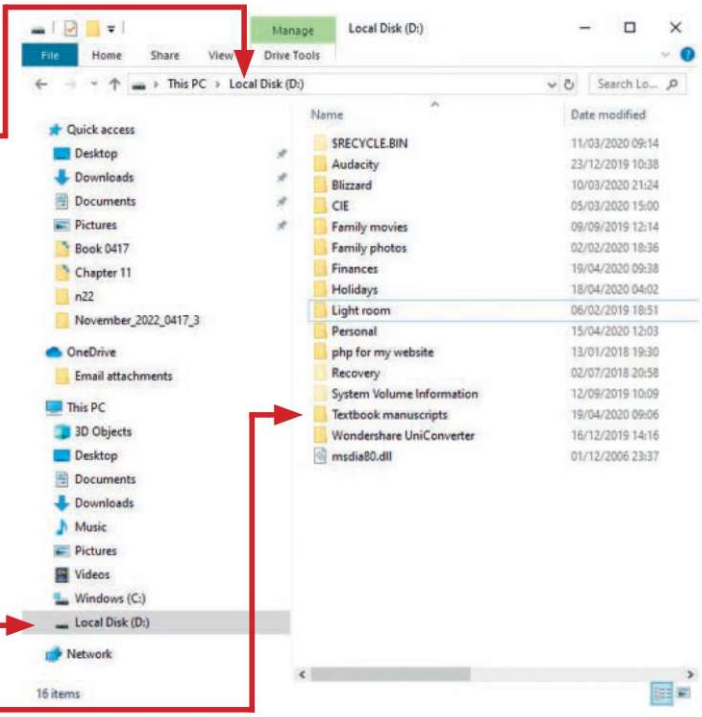
A drive contains folders, and each folder can contain files and/or sub-folders. The path to your current location is shown at the top of the window.

The left pane is used to locate the drive that you wish to use.

The right pane of the window shows the files and subfolders in this drive/folder. It can also give you other useful information such as the date the file was saved and the file type. Some of this information will be used later in this chapter.

To open a folder double click on the folder name in the right pane. When you double click on a folder notice that the path to your current location is updated.

Use these elements and the scroll bars to locate your stored files.



Open and import stored files

On most computers, double clicking on the file icon will open the file in the most suitable application.

There are times where you may wish to use other programs to open a file. For example, in the website authoring section you may wish to open a file in both a browser and in *Notepad*. In this case you can either:

- open the application, select the **File** tab, then **Open**
- drag the file into an open application
- right mouse click on the filename and use **Open with...**

Advice

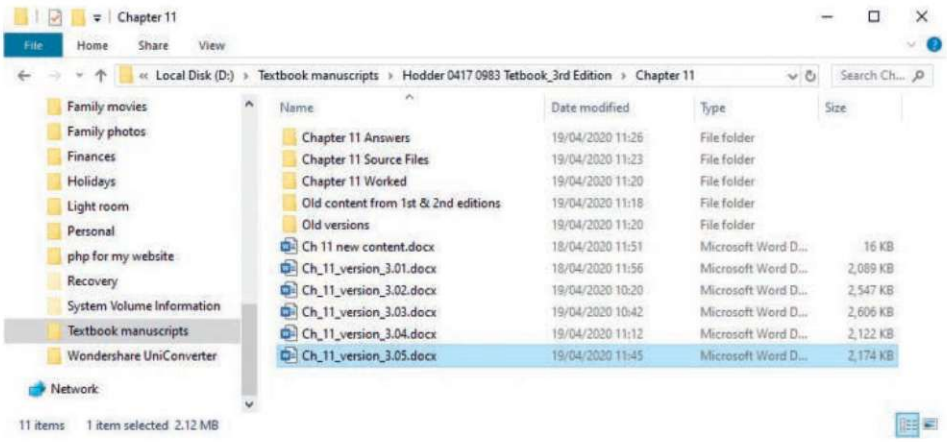
In some schools, network managers may have disabled some of these methods of opening files. This is to help increase the network security and keep your work safe. If this is the case use one of the other methods to open files.

Link

Importing files will be covered in other chapters as different programs use different methods.

Save files in a planned hierarchical directory/folder structure

Work should always be saved using a planned folder structure. Here is an example of part of a folder from the development of this chapter of this book.



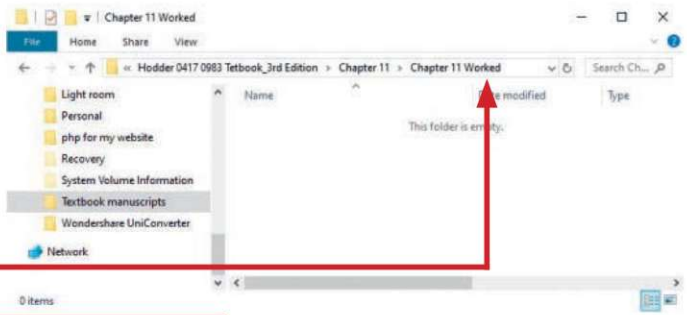
You can see that separate folders are used to hold each different section of the book. The answers are stored in a subfolder called 'Chapter 11 Answers', as are the source files. There is also a folder for old versions of the files, created during the chapter's development; this has been used so that the working folder does not get filled with lots of copies of the same file. The old versions of the file are dragged into the 'Old versions' folder at the end of each work period.

You can see that each file has been saved with a meaningful filename that includes a version number. This is called **version control**. This is really useful if you need to go back and look at your previous work. The folders can get very full, sometimes containing hundreds of versions of a file. When this happens, it can be a good idea to keep the last 20 versions of a file, plus every fifth file from the early editions (versions 5, 10 and so on), and then archive the other files before deleting them from the hard disk drive.

Task 11a

Create a new folder to store your work for this chapter in. Call this folder **Chapter 11**. Create two new sub-folders called **Source Files** and **Worked**. Open the file **remora.jpg** in a graphics package. Save the image **remora.jpg** in your Source Files folder.

Open the *File Explorer* window by pressing the **<Windows>** and **<E>** keys together. Click the left mouse button in the left pane to select the drive that you will use as your work area. Click in the right pane to move into the folder that you wish to use. The location of this will depend on the structure of the system you are using. Locate the required place in your folder structure.



Click on the **New folder** icon.

Type **Chapter 11** (the name for the new folder) then press **<Enter>**. Open this new **Chapter 11** folder and use this method to create two new sub-folders called **Source Files** and **Worked**.

Locate and open the file **remora.jpg** in any graphics editing package. From the **File** tab, select **Save as**. You may also need to select the file type as JPEG in some packages. Select the Source Files folder that you have just created. Set the filename: to **remora.jpg** and click on Save.

Save files using appropriate file names

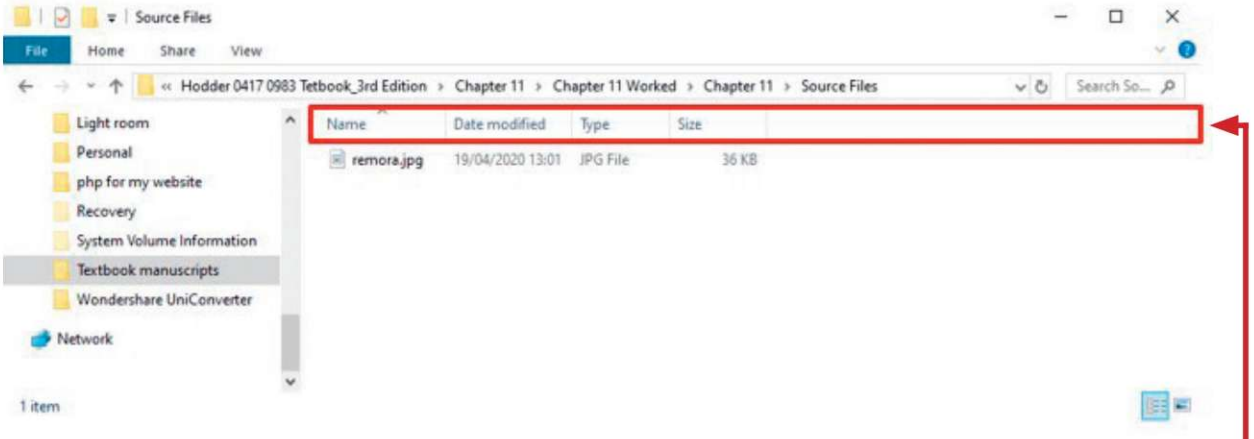
You should choose meaningful file names which give clues as to the contents of the file. This makes it easier for you to find the work in your user area when you look back at a later date. As mentioned earlier, use version numbers when saving files that are being developed. You can always check the date and time files were created or modified using their file details, but using meaningful filenames and version numbers allows you to see these details at a glance.

Display file details in a directory/folder

Task 11b

Edit the 'Source Files' folder created in Task 11a so that the date the file was created, and the image dimensions are displayed. Take a screenshot of this folder and save it in your 'Worked' folder.

You may need to display details of files that are not visible within *File Explorer*. Open **File Explorer** and locate the **Source Files** like this.



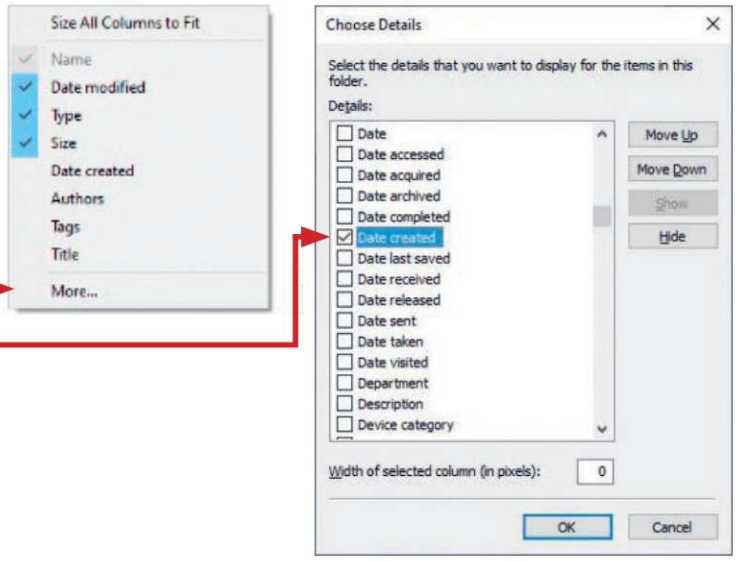
Click the right mouse button within the area indicated by the red rectangle.

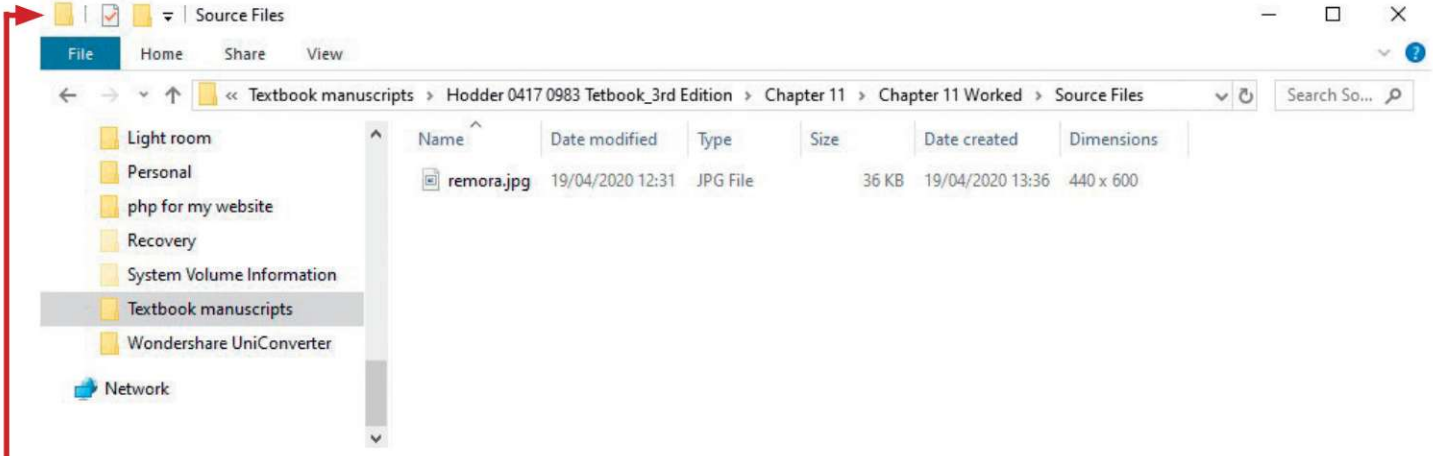
This opens a drop-down menu similar to this. To add the date the file was originally created select the bottom option for **More...**

From the **Choose Details** window, scroll down the list until you locate **Date created**. Click the left mouse button in the check box to select this option.

Scroll further down and select the option for **Dimensions** then click **OK**.

The source files folder will look similar to this.





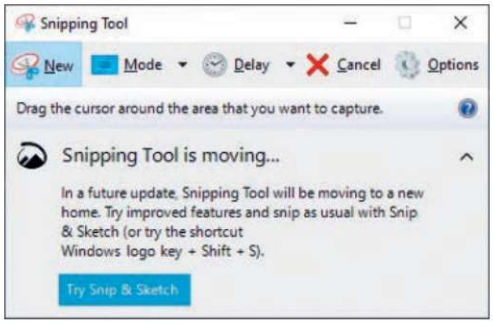
Advice

If video images are used the dimensions will not be displayed using the **Dimensions** setting. Select **Frame Width** and **Frame Height** to display the video dimensions.

Open the **Snipping Tool** using **<Windows logo key>** **<Shift>** and **<S>** keys, then select **New**.

Drag the lasso around the 'Source Files' window to **screenshot** it like this.

The Snipping Tool allows you to save the screenshot by selecting the **File** tab, then **Save as**. Select the correct folder and give the file an appropriate filename like **Screenshot of Source Files folder**, in JPEG format, then click Save.



Advice

An alternative to using the Snipping Tool is to use the **<ALT>** and **<Print Screen>** keys. This captures the current frame into the clipboard. The contents of the clipboard will need pasting into an application package for it be saved. If you need to paste into an Evidence Document, this method can save you time.

Save, export and print files in a variety of formats

Most of the specifics for this section of the syllabus are covered in following chapters. Although there are similarities in the methods of saving, exporting, and printing, these have been covered in detail for each application package used. Where evidence of how you answered a question is required, you can always screenshot the evidence and submit that. We have already introduced the Snipping tool, which is very useful. If you use screenshots, make sure that each screenshot shows all the information that is needed. Make sure that your screenshot is large enough so that all the information can be read by the examiner without the use of magnification devices. For example, your name, centre number and candidate number must be on all work, and if an item such as a 'browser view' is required, you must show the examiner that your web page is displayed in a browser, with the address of the web page visible, and not in an editing package.

From the **File** tab in most of the *Microsoft Office Suite* packages, you have the option to:

- **Save** – save the current file with the same filename
- **Save As** – save the current file with a new name, and/or new file type, and/or in a new location
- **Print** – print the current file
- **Export** – export, save a copy in **.pdf** format, or to change the file type in some packages.

11.1.2 File formats

The need for characteristics and uses of generic file formats

A generic file format can be opened in suitable software on most platforms (most types of computer). Questions will require you to open and edit data that is supplied to you; these files will always be in generic file formats.

Some file types used by *Microsoft Office*, such as *Excel* spreadsheets (.xlsx), *Word* documents (.docx), and *Access* databases (.accdb) are not generic. It is not always possible to open these packages on other platforms.

Generic file formats

Common generic text files include:

- **Comma separated values**: these files have a **.csv** file extension. This file type takes data in the form of tables (that could be used with a spreadsheet or database) and saves it in text format, separating data items with commas.
- **Text**: these files have a **.txt** file extension. A text file is not formatted and can be opened in any word processor.
- **Rich text format**: these files have a **.rtf** file extension. This is a text file type that saves some of the formatting within the text.

Common generic image files include:

- **Graphics interchange format**: these files have a **.gif** file extension. This format stores still or moving images and is an efficient method of storing images using a smaller file size, particularly where there are large areas of solid colour. It is widely used in web pages.

- **Joint photographic expert group**: these files have a **.jpg** (or sometimes a **.jpeg**) file extension. This format stores still images, but does not store moving images. It is an efficient method of storing images using a smaller file size and is widely used in web pages.
- **Portable document format**: these files have a **.pdf** file extension. This is a document which has been converted into an image format. It allows documents to be seen as an image so they can be read on most computers. The pages look just like they would when they are printed, but can contain clickable links and buttons, form fields, video, and audio. In PDF format you can protect a document to stop others from editing it.
- **Portable network graphics**: these files have a **.png** file extension. It is a file format that compresses graphics (image) files without any loss of image quality. It was created to replace graphics interchange format and is now the most used lossless image compression format on the internet.

Link

See Section 11.2 for more on lossless compression.

Common generic video files include:

- **Moving pictures experts group layer 4**: these files have a **.mp4** file extension. It is not a single file format, but is a multimedia container which is used for storing video files, still images, audio files, subtitles, etc. This container is often used to transfer video files on the internet.

Common generic audio files include:

- **Moving pictures experts group layer 3**: these files have a **.mp3** file extension. It is a compressed file format used for storing audio files. This format cannot store still or moving images. The file sizes are relatively small, but with near-CD quality, which makes it suitable for use on the internet.

Common generic files used for website authoring include:

- **Cascading Style Sheets**: these files have a **.css** file extension. This is a style sheet which is saved in cascading style sheet format and is attached to one or more web pages (often written in HTML) to define the pages' colour scheme, fonts, etc.
- **Hypertext Markup Language**: these files have a **.htm** (or sometimes a **.html**) file extension. This is a text-based language used to create content that a web browser can display as a web page.

Common generic compressed files include:

- **Roshal archive**: these files have a **.rar** file extension. This is a container which can hold almost any file type in a compressed format. It is used to reduce the number of bytes needed to save a file, either to save storage space or to reduce transmission time. It was developed for *Windows* by a Russian software engineer Eugene Roshal and takes its acronym from **R**oshal **AR**chive.
- **Zip**: these files have a **.zip** file extension. This is a container which can hold almost any file type in a compressed format. It is used to reduce the number of bytes needed to save a file, either to save storage space or to reduce transmission time.

11.2 Reduce file sizes for storage or transmission

11.2.1 File compression

The need to reduce file sizes for storage or transmission

All computer systems have a limited storage capacity, so the most efficient use of that storage space is important. The speed at which files are transmitted (sent) between one device and another is also dependent upon the amount of data being transmitted. This does not just affect transmission speeds on the internet, but also between the computers and devices like printers, network servers, and so on. This is also important when sending files as email attachments. The larger the file size, the more time it takes to transmit. Many email mailboxes have a limit as to the size of the files that can be sent/received.

Reducing file sizes for storage or transmission

Video files (because they contain thousands of still images) tend to be the largest files stored and transmitted. There are exceptions to this rule however – large database management systems like that used by the Driver and Vehicle Licencing Agency in the United Kingdom require immense amounts of storage. These systems continue to grow as organisations hold larger amounts of digital data within them.

Still images can vary in size. Lower resolution graphics, which are often used for web pages to speed up the loading time of the page, can be very small, but the higher the image resolution, the larger the file.

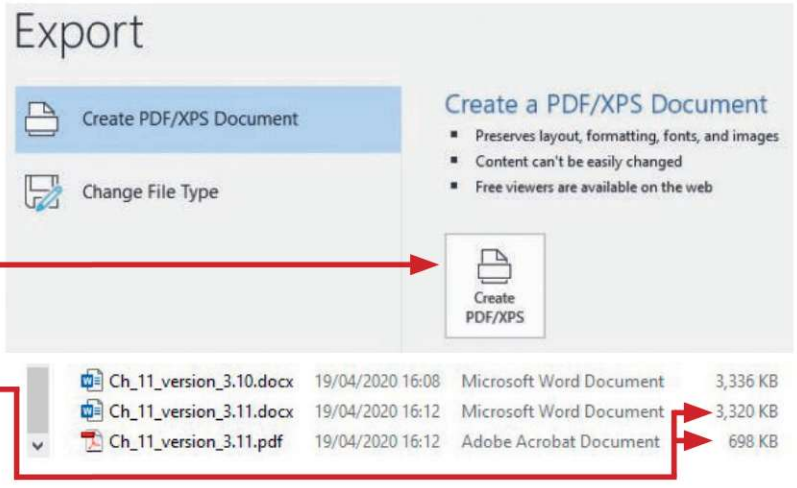
Where possible, image file sizes must be kept small, but not to the point where images become pixelated so that they are not clear.

This will mean resizing and/or resampling image files so that they require less storage space and less time to load. Resizing will change the physical dimensions (width and height) of the image and resampling changes the quality of the image. These elements will be studied in Chapter 12.

Using file compression

If a document contains lots of formatting or lots of images, its file size tends to be quite large. To reduce the file size for transmission (if the file is not to be edited) turn the file into portable document format, using the **File** tab, followed by **Export**. Select the **Create PDF/XPS** button.

Enter the new filename and click Publish to create the pdf which, as an image, should have a smaller file size, like this.



To send multiple files in the most efficient way it is more efficient to compress the files together as a single zip file. To do this you must open *File Explorer* with **<Windows>** and **<E>**. Hold down **<Ctrl>** and select the files to be zipped. With these files selected click the right mouse button to get the menu. Move the cursor down to the **Send to** option and the second menu appears. Click the left mouse button on **Compressed (zipped) folder**.

Edit the name of the folder, if appropriate.