A Guide to File and Data Management

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1 Introduction

In our everyday lives we generate masses of data: documents, spreadsheets, e-mails, invoices, orders, databases and so on. Invariably we store this data without any consideration as to why and for how long we should keep it. Some data we are required by law to keep for defined periods, but most data is just allowed to grow in size without any thought for the consequences. Unfortunately, data storage in the University is finite and adding to it is expensive and becoming increasingly technically demanding. It is therefore very important that we make the most of the storage space available by managing our data. This should be done at a personal level where you are responsible for the data you create and at a Faculty/Service level where Administrators look after the Faculty or Service data. This guide will show you how this can be achieved, and if done on a regular basis, will ensure that the data in the University's data store is really what is required.

The guide is divided into four sections. The first section is about general principles and is applicable to all computer systems. The following three sections each give information about data management on specific computer platforms, Windows 7, Windows XP and Apple Mac.

The guide is not exhaustive and may contain errors or omissions. Please contact the IT/Media Help Desk on 3455 or e-mail <u>it.support@solent.ac.uk</u> with any suggestions or corrections.

2 General

What types of file/data should be in the University's data stores?

Only data that is required for the day-to-day business of the University should be stored on the network. Any other data should be removed. Examples of "illegal" data include:

- Personal photographs and videos e.g., holiday snaps etc.
- Other personal data such as CVs, household accounts etc.
- Music libraries unless required for your teaching or studying.
- Software installers and programs

Computer games – unless required for your teaching or studying.

Also, to be avoided are duplicate copies of the same file stored in different places. This is a recipe for confusion as over a period of time they may be edited by different people giving rise to confusion as to which is the "master" document. If documents are to be shared between people, they should be done in a managed way using the University's collaboration software, Quickr. Contact the IT/Media Help Desk for advice on using Quickr.

In addition, there are many files in the University's data store that have not been used for a very long time. We have to ask the question "Is this data really needed?" If it is not, then it should be removed either by deleting it or by archiving it: see sections 3.4 and 3.5 for Windows 7: sections 4.4 and 4.7 for Windows XP and sections 5.3 and 5.4 for Apple Mac.

From time-to-time IT Administrators will trawl through the University's data stores and remove any inappropriate material. **You have been warned!**

3 How do I recognize what data is allowed in the University's data stores?

The type of data in a file is indicated by what is known as the "file extension". This is a three- or four-letter group after a dot in the filename e.g. minutes.docx; the file extension in this case is **.docx**. The following table gives the most common file extensions that are "legal" in the University's data stores.

Extension	File type	Extension	File type
.doc	Microsoft Word document	.docx	Microsoft Word Open XML document
.rtf	Rich text format file	.txt	Plain text file
.wpd	Word Perfect document	.wps	Microsoft Works word processor document
.xlr	Works spreadsheet	.xls	Microsoft Excel spreadsheet
.xlsx	Microsoft Excel Open XML Spreadsheet	.csv	Comma separated values file
.dat	Data file	.efx	eFax document
.epub	Open eBook file	.ibooks	Multi-touch iBook
.pps	PowerPoint slide presentation	.ppt	PowerPoint presentation
.pptx	PowerPoint open XML presentation	.xml	XML file

Table 1 - common "legal" file extensions

3. Naming files and folders

A good system of file naming is important to prevent data loss by being overwritten by another file or not being found because something in the filename cannot be read by the search process. There are some simple rules which if followed, will avoid these problems.

- 1. Don't use any of these special characters, /\: * ? " <> | () % @ # [] & \$, . These all have specific tasks.
- 2. Make the filename intelligent so it tells you something about its contents e.g. **visit to Durham University** but don't make them too long. Short filenames are easier to find.
- 3. Avoid spaces in filenames. Use either an underscore or hyphen to link words in a filename e.g., visit_to_Durham_university or visit-to-Durham-university. When files are uploaded to websites, spaces are frequently interpreted as %20.
- 4. Include the date as part of the filename. ISO 8061 suggests either of the following formats: YYYY-MM-DD or YYYYMMDD. This can either be put at the beginning or the end of the filename e.g., 2012-02-20-visit-to-Durham-university or visit-to-Durham-university-2012-02-20.
- 5. Where files are being shared and edited in a group, it is a good idea to include version numbers to avoid data being lost e.g., **2012-02-20-visit-to-Durham-university-v2.**
- 6. Be consistent. Always name files in the same way.

When creating folders, it is good practice not to exceed four levels. This makes searching easier. Also, if data has to be restored from a backup there is less chance of the maximum character length of the search string being exceeded.

4. Where is the data stored?

The University's data store is divided up into sections according to the use made of the data within each section. The following sections are used:

- 5. The R drive (Private) this contains Faculty or Service private folders. Everyone in a particular Faculty or Service has read and write access to this storage area.
- 6. The S drive (Shares) this contains each Faculty or Services' public folders. Members of the Faculty or Service have read and write access: people who are not members of that Faculty or Service have read only access to the storage. This area also contains the Cross Faculty folders where members of different Faculties and Services can share data. Read and write access to cross faculty folders is assigned on a per folder basis.
- 7. The T drive (Tutors) Tutors need to request permission from IT to access folders and files on this drive. Generally Tutors are given access to folders for the units on which they teach: the

access is both read and write. Students have only read access to folders for units they are studying.

8. The U drive (your personal home drive) – this is your private storage area to which you have both read and write access.

Data on these four drives is backed up regularly for security. "Illegal" data on these drives will be backed up taking up valuable space.

Note: files left open on a computer are not backed up. They must be saved to network storage to be backed up.

You can also store data on the hard disc of your computer as well. For office-based workers using a desk top machine, this is not recommended. Today's hard drives are remarkably robust, but failures do happen. Your hard drive is not backed up so any data on it is at risk. Recovering data from a failed hard drive is an expensive process and would need a very strong business case to justify taking this route.

Laptop users have little choice but to save data to the hard disc, so it is recommended that regular backups to an external hard drive, DVD ROM or memory sticks are made and then stored safely.

5. Using removable devices as data stores

The USB memory stick has become a ubiquitous feature of our lives and most of us will have at least one, some will have many. They are small, very convenient to use, easy to share and their price is falling, all features which make them very popular. However, there are some issues which need to be considered.

Being small means, they are easily lost. A recent survey of dry-cleaning companies found that USB memory sticks were the most common items found in the pockets of clothing handed in for dry cleaning. If you visit any of the University's Learning Resource Centres, you will be shown a box containing dozens of memory sticks left behind by students. If you use a USB memory stick, you need to be disciplined about keeping track of it, so you don't leave it plugged into a computer and make sure you get it back when it has been passed to someone else.

Whenever the memory stick is not plugged into a computer, make sure the protective cap is in place. This protects the memory stick from static electricity which may cause data corruption. It also gives physical protection to the connector ensuring it does not become damaged or foreign matter get into it.

If the stick is lost, the data stored on it is at risk of being accessed by unauthorized people. Sensitive information such as personal details, business plans, student information etc. could be compromised. The best way of making sure data is secure is to use an encrypted memory stick. A password is required to access the stick and the data is encrypted as it is stored.

Removable hard disc drives should be treated with the same respect as USB memory sticks. These are very attractive to thieves because of their relatively high value so once again, data stored on them should be encrypted.

6. Protecting data on removable devices from unauthorized viewing

Laptops and USB memory sticks are portable devices which may contain valuable data which at the very least will be inconvenient if lost. A worst-case scenario could see the University involved in legal proceedings. It is therefore important to protect data by either encrypting the data or requiring a password to access it or at the minimum password protecting individual files.

Details of how to prepare encrypted removable storage are given in each computer's operating system section below. Encrypted drives can also be purchased through the University's IT purchasing department. Contact it.procurement@solent.ac.uk or phone 3414 for details and prices.

7. Looking for game, audio, video and other space hungry files.

Unless you are teaching in or are a student on the computer and video games course you should not have any computer gaming data stored anywhere on the University's data storage systems.

Common computer gaming data files can be identified by their file extensions.

Extension	File type	Extension	File type
.gam	Saved game file	.nes	Nintendo ROM file
.nds	Nintendo game file	.sav	Saved game file

Table 2 - common game file extensions

Any files with these extensions should be removed immediately. More information on computer game file types can be found at:

http://www.fileinfo.com/filetypes/game

Audio files can take up a lot of space depending on their format and music files are probably the most common culprits. Unless you are teaching on or are a student on one of the University's music courses, you should not have any music files stored anywhere on the University's data storage systems.

Common audio data files can be identified by their file extensions.

Extension	File type	Extension	File type
.aa3	ATRAC audio file	.acd	ACID project file
.aif	Audio interchange format	.iif	Audio interchange format
.m4a	MPEG-4 audio file	.m4r	Phone ringtone file
.mid	MIDI file	.mp3	MP3 audio file

.mpa	MPEG-2 audio file	.ra	Real audio file
.пра	IVII EG-2 addio file	.1 a	Real addio file

Table 3 - common audio file extensions

More information on audio file types can be found at:

http://www.fileinfo.com/filetypes/audio

Video is becoming increasingly common in our business lives but the need for individuals to store video data is not great. Those people directly involved in teaching or studying video may have some video data in their personal storage areas, but the majority should be in dedicated video stores administered by Faculties or Services. Where video files are required as part of day-to-day business, they should be stored on DVDs or external hard drives rather than the general university data stores.

Common video files can be identified by their file extensions:

Extension	File type	Extension	File type
.3g2	3GPP2 media file	.3gp	3GPP2 media file
.asf	Advanced systems file	.asx	Microsoft ASF redirector file
.flv	Flash video file	.mov	Apple QuickTime movie
.mp4	MPEG-4 video file	.mpg	MPEG video file
.swf	Shockwave flash movie	.vob	DVD video object file
.wmv	Windows media file		

Table 4 - common video file extensions

More information on video file types can be found at:

http://www.fileinfo.com/filetypes/video

Other space hungry files that may be "left overs" from program installations or downloaded from the internet include **.iso** and **.exe.** On Apple Macs you may find **.dmg** files. However, before removing these files, contact the IT/Media Help Desk for advice on 3455 or e-mail IT.support@solent.ac.uk.

Files as indicated in the tables above should be deleted or archived to CD/DVD and then deleted. Details of how to do this are given in each operating system section below.

8. Keeping your hard drive clean

Over a period of time the hard drive on your computer will accumulate temporary files that take up space. From time to time, it is good practice to remove these and any other unnecessary files.

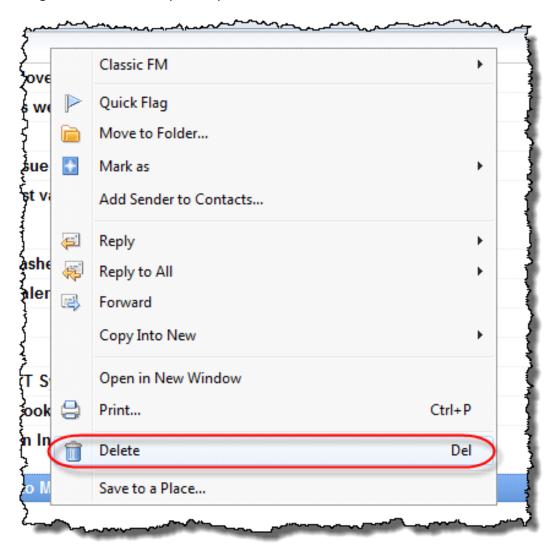
Details of how to manage your computer's hard drive are given in each operating system section below.

9. Managing your e-mail storage

Over a period of time, you can accumulate a considerable quantity of data in your e-mail system. A few simple steps can eliminate wasted storage and organize your e-mail to make things easy to find.

4. Removing unwanted e-mail

Any mail that you have read and don't wish to keep should be deleted. To delete an e-mail, first select it and then **right click** it. From the pick list presented click on **Delete**.



Alternatively, you can highlight the e-mail and use the **delete key** on the computer keyboard.

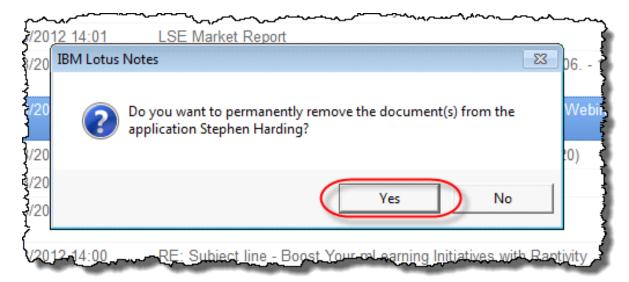
This will move the e-mail to the trash from where it can be restored if needed. By moving the e-mail to the trash can, no space has been regained. The trash needs to be emptied to gain any storage space.

To empty the trash, click on the dustbin icon at the top left of the screen. This will open trash and display all the e-mails that have been deleted to it. Hold down the **Contol (Ctrl) key** and press **A** at the same time: this selects all the mail in trash. Then click on the **Empty Trash** button at the top of the e-mail list. This will delete all the e-mail in trash.

Trash



You will be prompted to confirm the action: click on Yes to delete thee-mail.

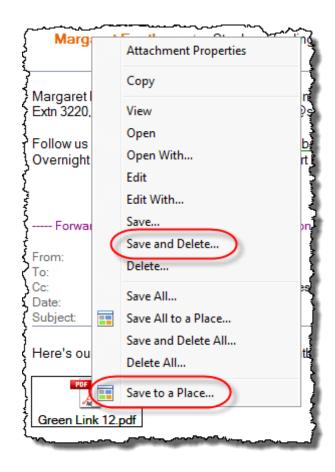


If you only want to delete one e-mail from trash, select it so it is highlighted and then click on the **Empty Trash** button. You will be prompted to confirm the action.

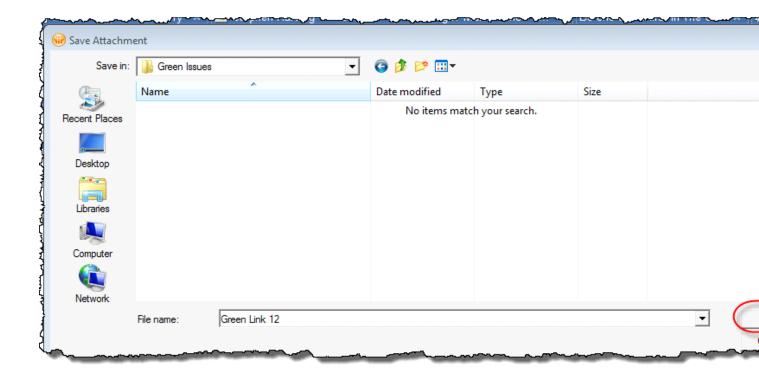
It is suggested you clear out your trash once a week; last thing on a Friday afternoon is a good time.

5. Saving e-mail attachments

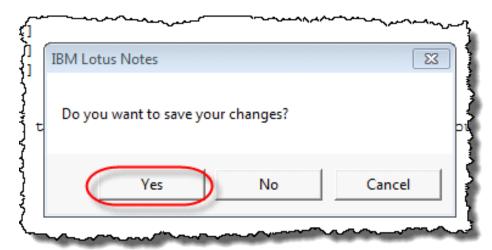
E-mails with attachments are very space hungry. Open the e-mail so you can see the attachment and then **right click** on it.



The best option to choose from the list presented is **Save and Delete**. When you click on this an explorer window opens. Navigate to the folder where you want to save the file and click **Save** in the bottom right corner of the window.

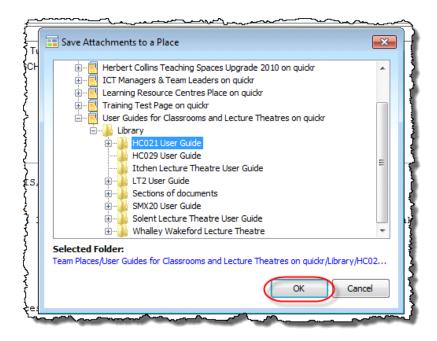


The file will be saved in your chosen location and deleted from the e-mail. When you close the e-mail, you will be asked if you want to save the changes. Click on **Yes**.



The e-mail should now be deleted as described in section 2.9.1 above.

If you are using **Quickr**, the University's collaboration tool, you can save the attachment to a Quickr place by selecting **Save to a Place** from the options presented when you right click on the attachment. This will open up the connectors window where you can navigate to the place and folder where you want to save the attachments.



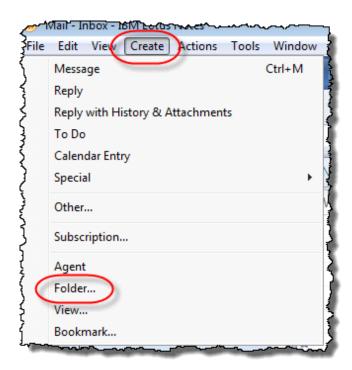
Click on **OK** to save the attachments in the chosen folder.

Note: this action does not delete the attachments from the e-mail. You will have to do this as a separate action.

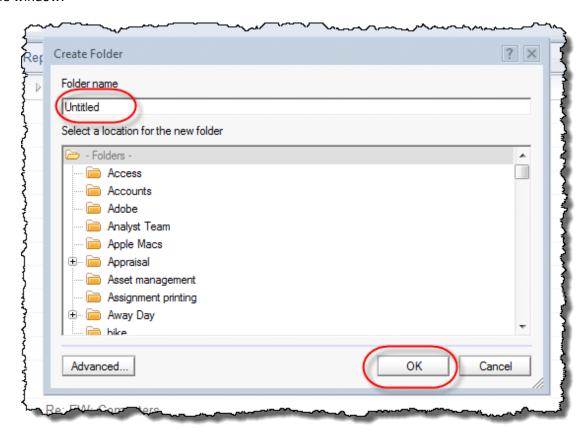
6. Organizing your e-mail into folders

Trying to find a particular e-mail from many in your in-box can be time consuming: it is far better to organize your e-mails into folders where all the e-mails relate to a single subject.

To create a folder, click on **Create** at the top left of the screen and select **Folder**.



This will open the **Create Folder** window. Give the folder a name and select **OK** at the bottom right of the window.

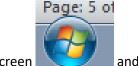


The new folder will be created and listed alphabetically under the heading **Folders** in the sidebar on the left of the screen.

To move an e-mail to a folder, **left click and hold**, then drag the e-mail to the folder icon and release. The e-mail will be moved into the folder.

7. How do I find out how much data is being stored in the University's data stores?

On a Windows 7 computer you can get an impression of how full the data storage is by clicking on the

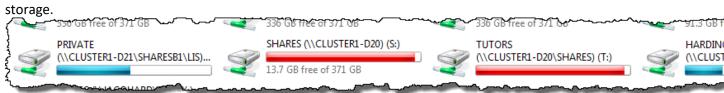


Windows icon at the bottom left of the screen

and then selecting



from the list that appears. This will give you a visual image of the



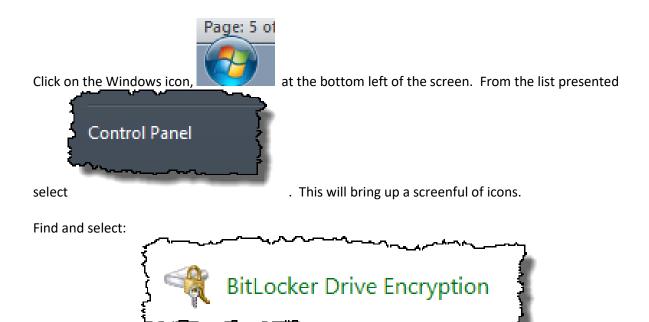
In the example shown above, both the S and T drives are nearing full capacity as shown by the red infill. The other two drives both have good capacity available.

8. Protecting data using Windows BitLocker

Note: this feature is only available on Windows 7 Ultimate and Windows 7 Enterprise. For all other versions of Windows 7 see the Windows XP section below.

This process will turn any removable USB device or removable hard disc drive into an encrypted storage space access to which is controlled by a password.

Connect the device you want to encrypt to a USB port on the computer: this may be a memory stick or a removable hard disc drive. If it has a locking switch on it make sure this is in the unlocked position.

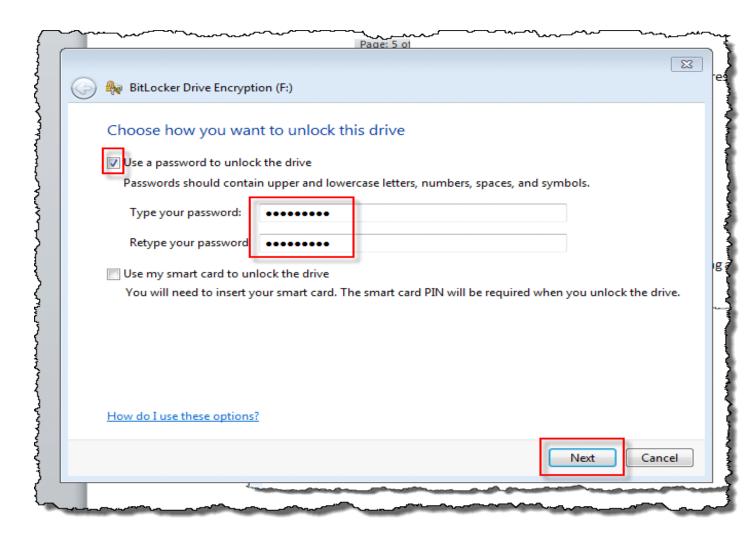


This will start the encryption process. You will first be presented with a screen showing all the drives available to be encrypted.

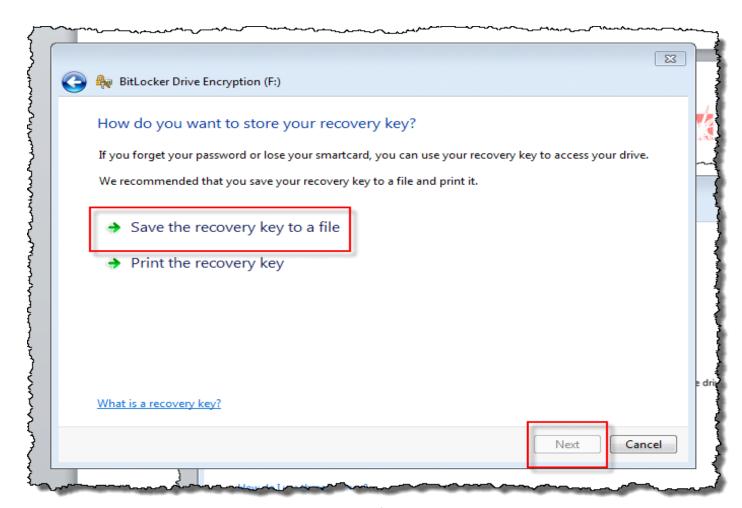


Find the removable device and select Turn On BitLocker.

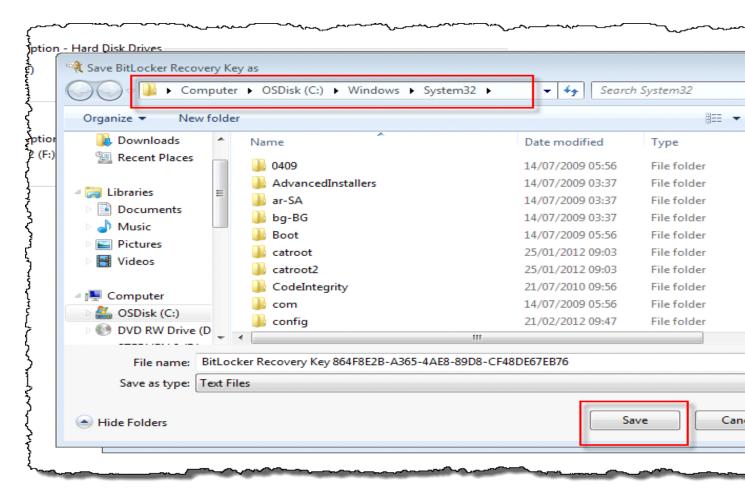
You will then be asked how you wish to unlock the drive. Check the **Use a password to unlock the drive** box and enter a password. This should be at least 8 characters long and contain a mix of upper and lower case letters and numbers. Click **Next** when you have completed the password entry.



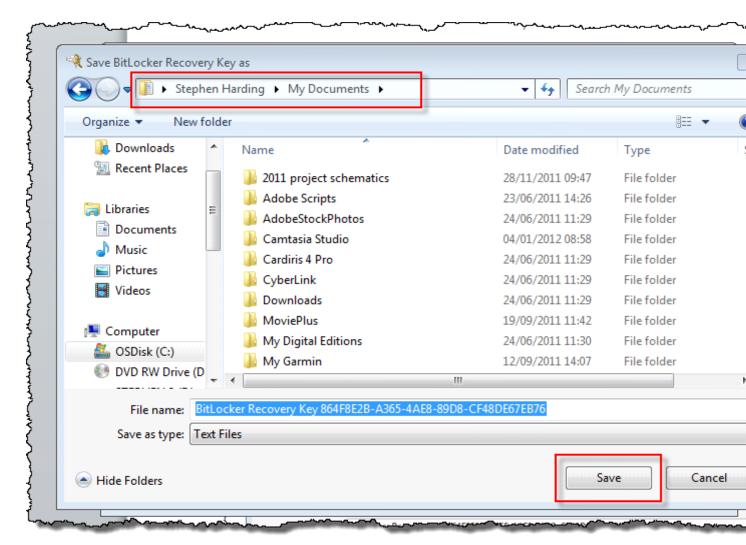
You now have to decide how you want to store the recovery key. This is 55-character long key that is used to open the storage device if you forget the password.



It is recommended you use the **Save the recovery key to a file** option. When you have selected this, the **Next** button at the bottom right of the window becomes active and can be clicked. This will take you to the save window. By default, this will be "pointing at" the System 32 folder in Windows.

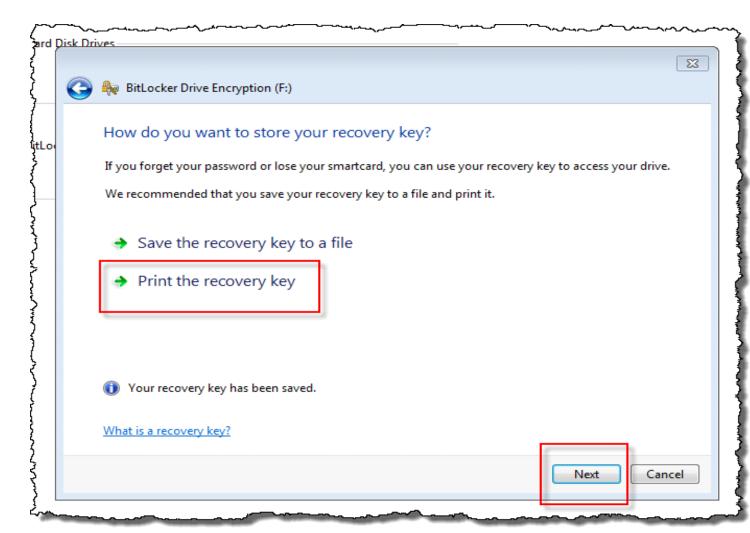


If you click on **Save**, you will be redirected to the **My Documents** folder because you do not have write access to the System 32 folder.

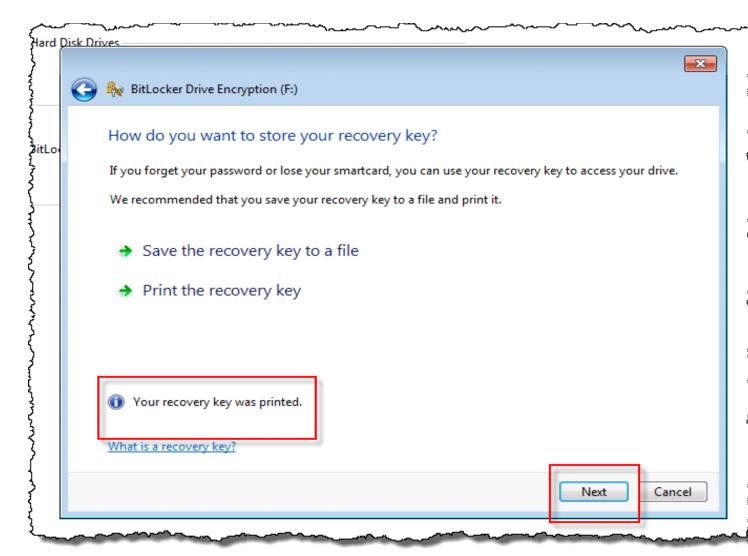


Click on **Save** and a document containing the key will be saved in the **My Documents** folder. You are then given the option to print the key if you wish. It is strongly recommended that you do this and keep the printout in a secure place for future reference should it be needed.

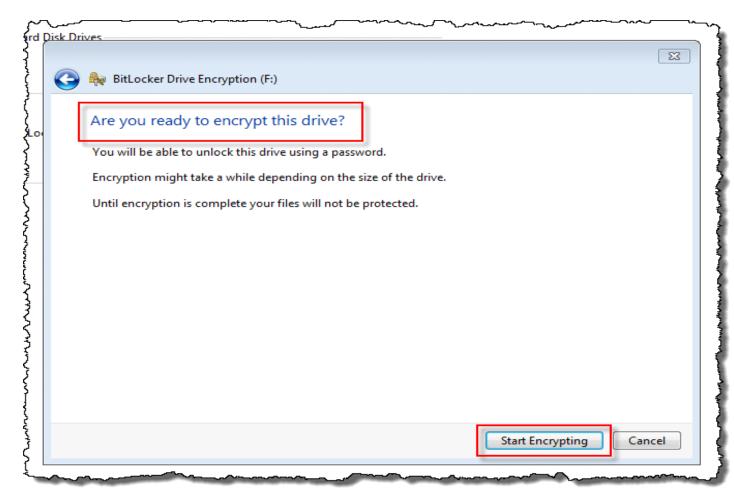
Note: if you forget your password and lose the recovery key, there is no way the data can be accessed on the removable storage. It is lost for ever!



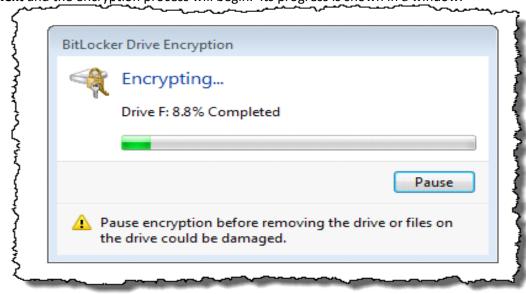
Once the key has been printed this will be confirmed as shown in the screenshot below.



Click **Next** to continue. You are then asked if you are ready to encrypt the drive.



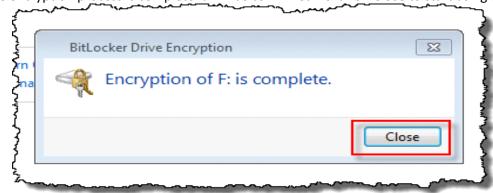
Click Next and the encryption process will begin. Its progress is shown in a window.



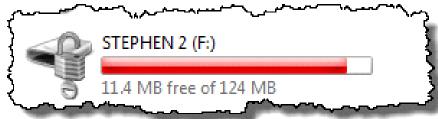
The encryption process will take several minutes for the average USB memory stick. For a removable hard drive this will take considerably longer.

Note: on no account remove the device during the encryption process without clicking on Pause.

When the encryption process is complete it will be confirmed. Click on **Close** to start using the drive.



You can confirm that the drive is encrypted by using Windows Explorer to find the drive. It will have a padlock symbol alongside it. The red shading in this example indicates that the memory stick is nearly full.

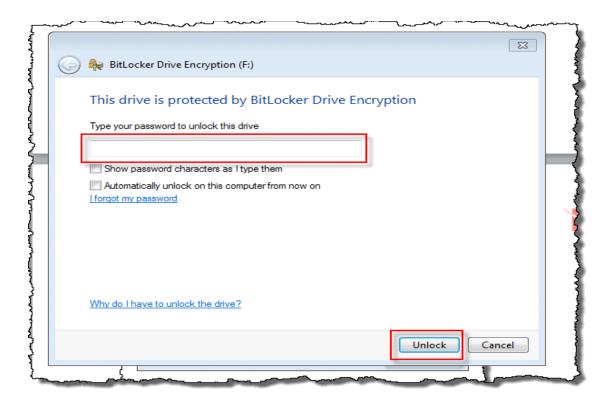


To find out more about BitLocker follow this link:

 $\frac{\text{http://windows.microsoft.com/en-GB/windows-vista/Help-protect-your-files-using-BitLocker-Drive-}{\text{Encryption}}$

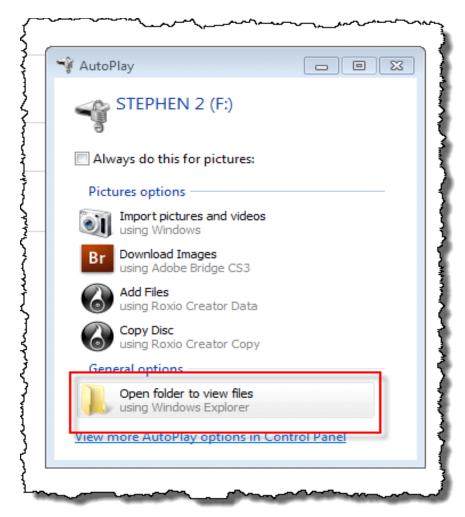
9. Using a BitLocker encrypted drive

Insert the drive into a USB port. You will be told the drive is encrypted and asked to enter your password.



If you will always use the drive with this computer, you can check the **Automatically unlock on this computer from now on** box, but this is not recommended.

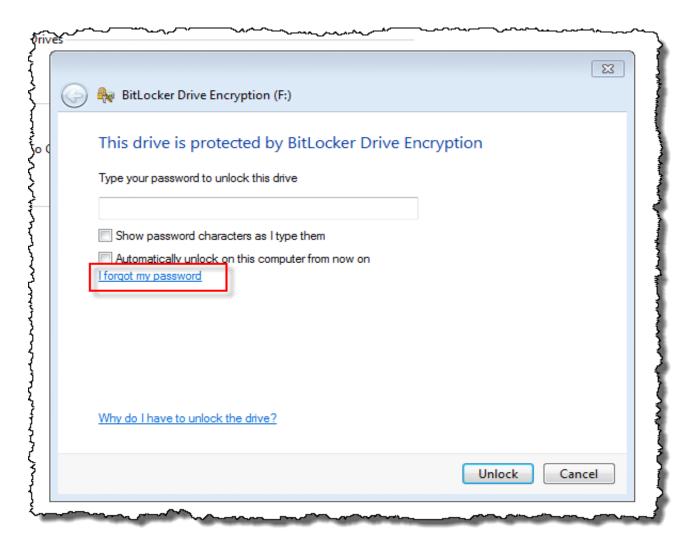
Click on **Unlock** and you will be taken to the Explorer window from which you can navigate to the files you require.



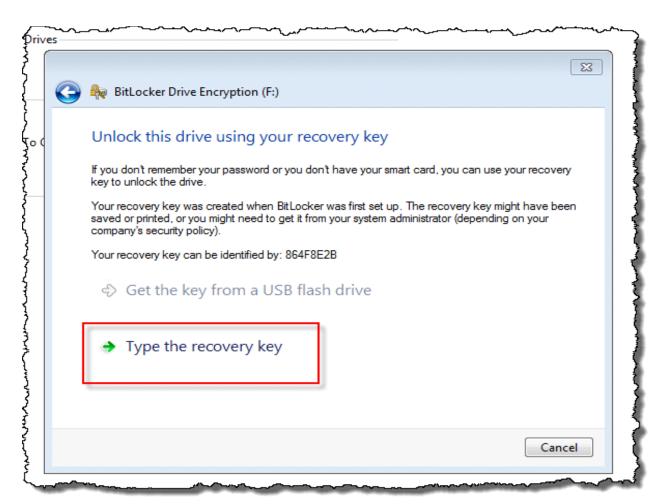
You can now work with the file(s). When you save them back to the drive the file will be automatically encrypted as part of the save process. When you have finished, remove the drive and cap it.

10. I've forgotten my password – how do I access the encrypted device?

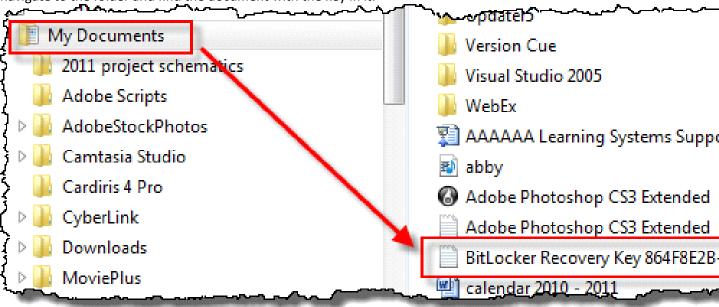
When you insert the encrypted drive, the password prompt window will open. Click on **I forgot my password**.



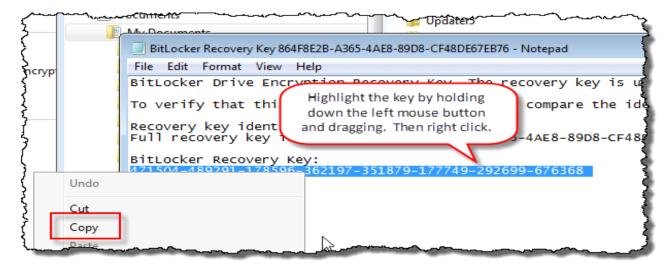
You will now be asked to unlock the drive using the recover key.



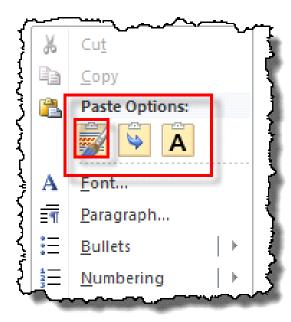
The **Type the recovery key** option will be highlighted because this is a removable device. Click on this and a window where you can enter the key is presented. If you saved the key to My Documents, navigate to the folder and find the document with the key in it.



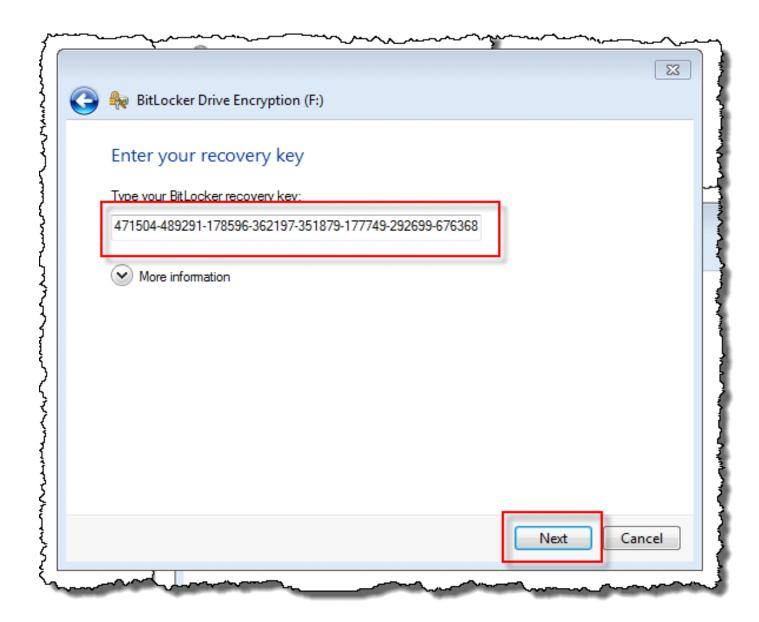
Open the document and highlight the long key at the bottom of the document by clicking the left button of the mouse and dragging it across the key. Then **right** click the highlighted key and select **Copy**.



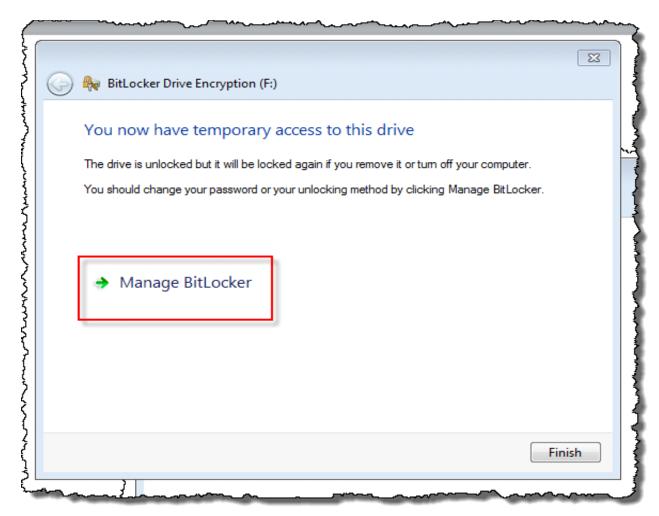
Place the cursor in the BitLocker recovery box, and **right click** the mouse. From the options list find **Paste Options** and select the clipboard with the paintbrush.



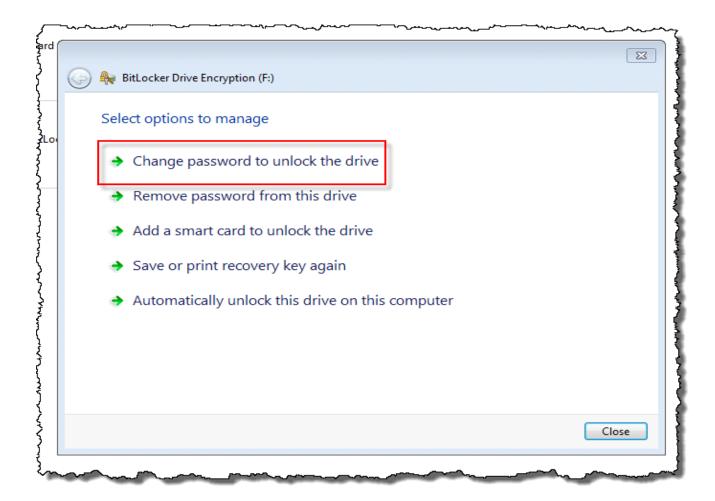
This will paste the BitLocker key into the window. Click **Next**.



The drive will be unlocked **but on a temporary basis only.** You need to change the password to get full control of the drive again. Click on **Manage BitLocker** which will be highlighted.

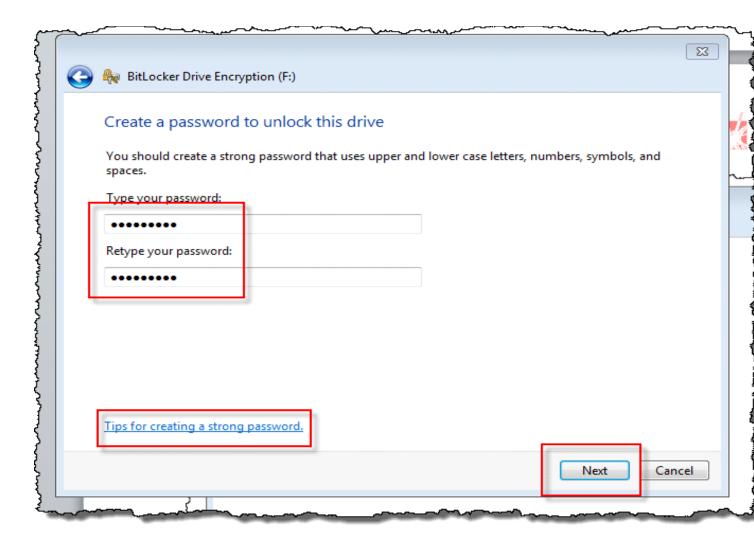


You are presented with five options.



- Change password to unlock the drive starts a process for changing the password. This is explained below.
- **Remove password from this drive** removes the security from the drive so it is open for anyone to view. Not recommended.
- Add a smart card to unlock the drive cannot be used at present because we do not have card readers attached to the computers.
- Save or print recovery key again will save the key or print it as described above in section 3.2.
- Automatically unlock this drive on this computer. The computer and the drive are "paired", and it is assumed that only you will be using this drive on this computer. On any other computer a password will be needed to access the drive.

Of the five, changing the password is the most logical. When you select this a window opens prompting you to enter a new password.



It is worth reading the **Tips for creating a strong password** before you choose your new password. Click **Next** when you have entered the new password. The change will then be confirmed.



Click **OK** to complete the process.

11. How do I find "illegal" files using Windows 7?

In this context "illegal" files are taken to be those that should not be kept in University data storage.

There are several ways to find files: the method you use will depend on your confidence with the computer and what you intend to do with them. You will need to set up the search criteria and the two most useful are **file size** and **date last accessed**. Using file size, you can identify large files that can be compressed so they take up lest storage space. Using date last accessed allows you to identify files that have not been accessed for a long time and are therefore probably redundant. You can then either delete the file or save it to an archive on a DVD or other media such as a USB memory stick.

Page: 5 of

To access the storage areas, click on the Windows icon,

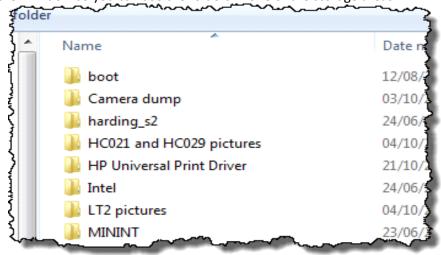
at the bottom left of the screen.

From the list presented select . This will open Windows Explorer and give you a view of all the storage areas attached to your computer. Select the storage area you want to open by double clicking on it. This will open a new window showing the top level of its contents.

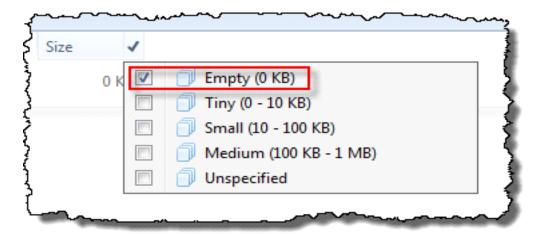
12. Looking for empty folders or files with 0 bytes in them

Open an explorer window so you can see the folders in one of the storage areas.

Computer

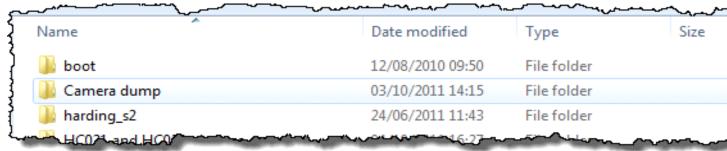


Now **right click** on the space just to the right of the column heading **Size.** This will bring up a pick window with several options in it. Check **Empty (0 KB).**

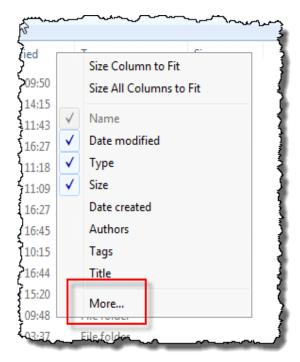


A list of all the folders and files containing 0 bytes will now be displayed and these can be deleted by highlighting them and pressing the **Delete key.**

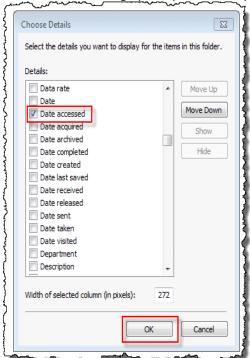
13. Searching for files by data last accessed



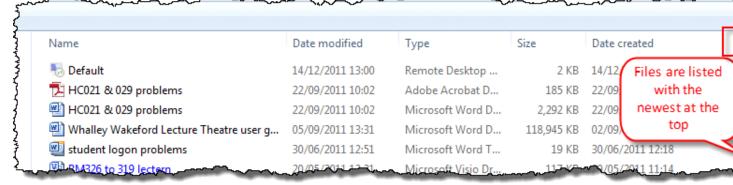
If you **right click** on the **Size** heading at the top, a window opens allowing you to choose more options for the number and type of columns of information displayed.



Click on **More** at the bottom of the window to bring up the pick list of options.



Scroll down the list until you come to **Date accessed** and check the box and then click **OK**. A new column will now be added to the search page. If you open a folder, the files will be listed in chronological order with the newest at the top.



If you **left click** on the column heading **Date accessed** the order in which the files are displayed is reversed so the oldest are at the top of the list.

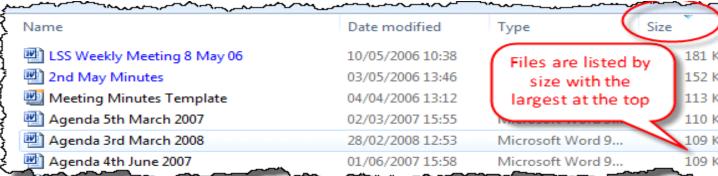
You can now identify easily those files that have not been accessed for a long time and decide what you want to do with them.

14. Searching for files using file size

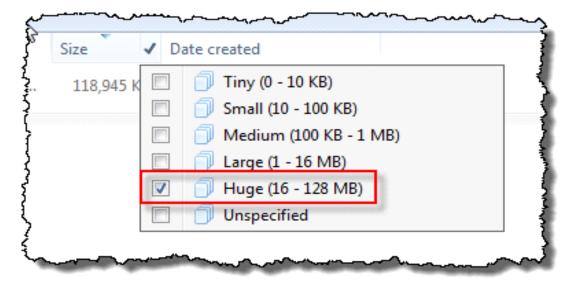
By default, files are listed in columns with the headings **Name**, **Date Modified**, **Type** and **Size**. To list the files in order of decreasing size, **left click** on the column heading **Size**.



A small downwards pointing arrowhead will be displayed and the files listed by size with the largest at the top.



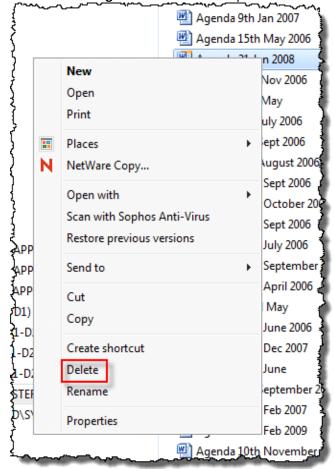
You can further refine the search by **left clicking** just to the right of the column heading **Size**. This opens a window which allows you to select files by size.



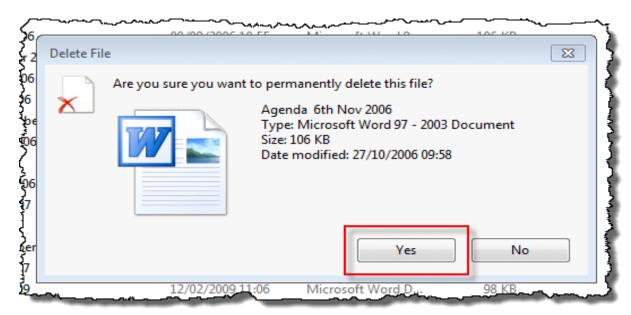
If you check **Huge (16 – 128 MB)** only files whose size is in that range will be displayed with the largest at the top. You can then decide what you want to do with them.

15. Removing files by deleting files in Windows 7

Select the file you want to remove and **right click** it. This will open a window as shown below.



Select **Delete** and you will be asked to confirm the action.



Select **Yes** and the file will be deleted.

Note - you cannot undo this action.

16. Deleting files from the computer hard disc

If you want to delete a file from the hard disc on your computer, **right click** it and select **Delete**: you will be asked if you want to move the file to the recycle bin.

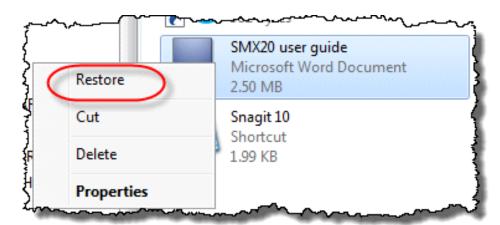


When you click on **Yes** the file will be removed to the recycle bin: it can be recovered from here providing you have not emptied the recycle bin by doing a disc clean up as described in 3.7 below or you have right clicked on the **Recycle Bin** icon on the desk top and selected **Empty Recycle Bin**.

17. Emptying the recycle bin

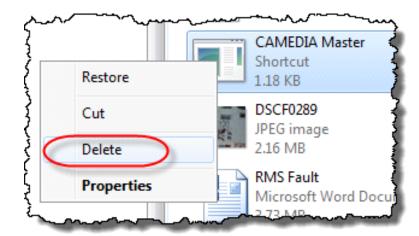
Files deleted from your computer's hard disc are sent to the recycle bin, so no space saving is achieved. To free up space, you must empty the recycle bin.

Double click on the recycle bin icon, you what files are in the recycle bin. If there are files you do not want to completely delete, **right click** on them and select **Restore** from the pick list presented.

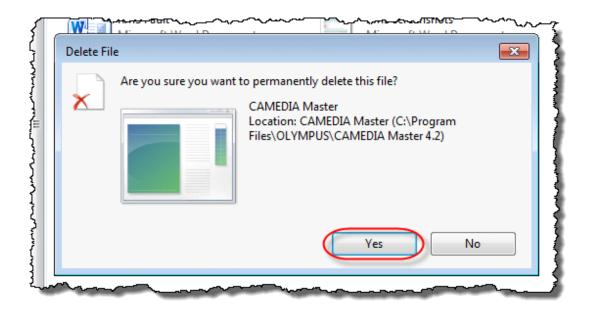


The file will be restored to the location it was deleted from. If it is a large file, a progress bar gives an indication of how long it will take.

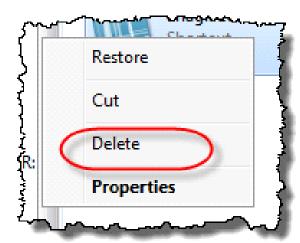
To delete an individual file from the recycle bin, **right click** it and select **Delete**.



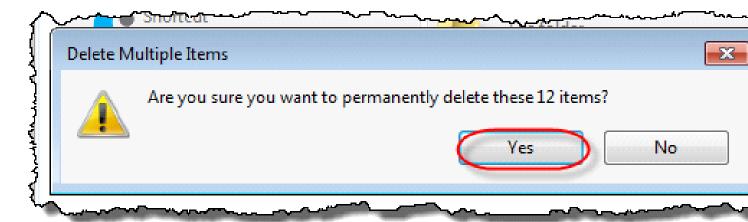
You will be asked to confirm your choice: click on Yes to complete the deletion.



To delete multiple files, **left click** on the first file, hold down the **shift key** and **left click** the last file. This will highlight all the selected files. Now **right click** any file and from the pick list presented, select **Delete.**



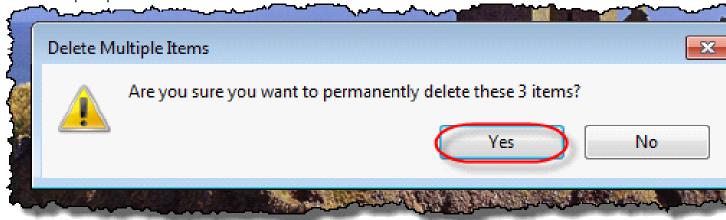
You will be asked to confirm your selection: click on Yes to complete the action.



If you are confident all the files in the recycle bin are no longer required, you can **right click** on the recycle bin icon on the desktop. From the pick list presented, select **Empty Recycle Bin.**



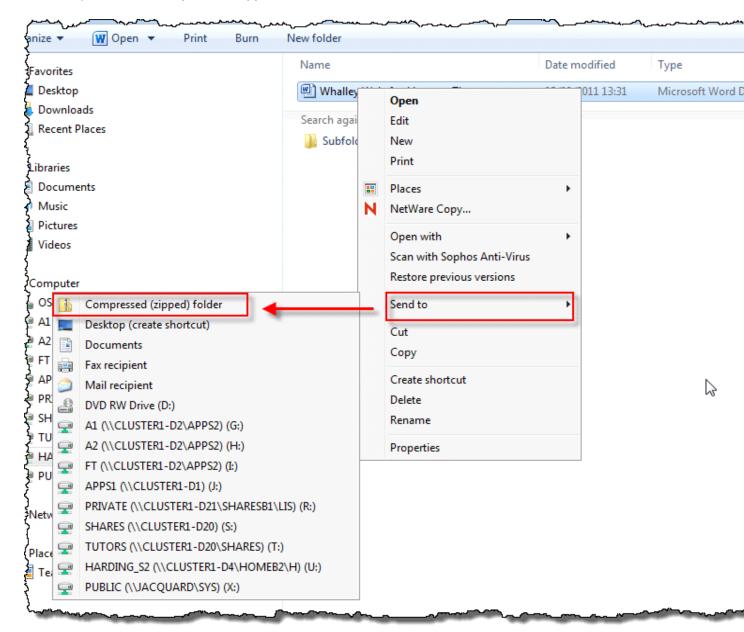
You will be prompted to confirm the action: select **Yes**.



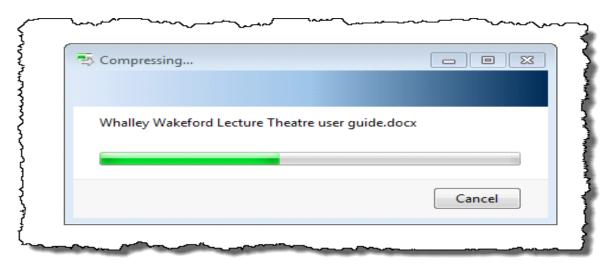
Note: whichever of the three methods outlined above you use, the files are *permanently* deleted. They cannot be recovered!

18. Saving space by compressing files in Windows 7

Large files can be compressed so they take up a smaller amount of storage space. Select the file you want to compress so that it is highlighted. Then **right click** on it and choose **Send to.** From the second list that opens, select **Compressed (zipped) folder** as shown below.



A new window with a progress bar will open.

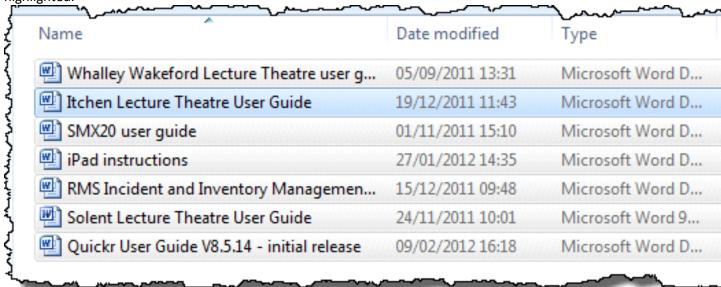


If you want to stop the process, you can click **Cancel**. When the compression is completed the progress window disappears and a new zipped folder entry in the folder is created.

Whalley Wakeford Lecture Theatre user g... 17/02/2012 10:36 Compressed (zipp... The original file can now be deleted, or better still, copied to an archive.

19. Saving space by archiving files to a CD or DVD in Windows 7

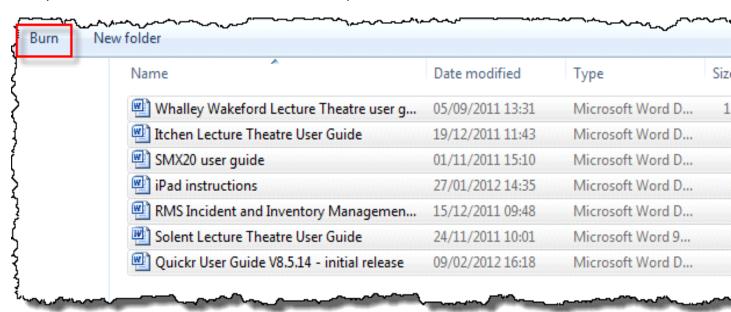
Select the file or files you want to archive to CD or DVD. If you want to copy a block of files, select the first file and hold down the **Shift** key and then select the last file. All the files in the selection will be highlighted.



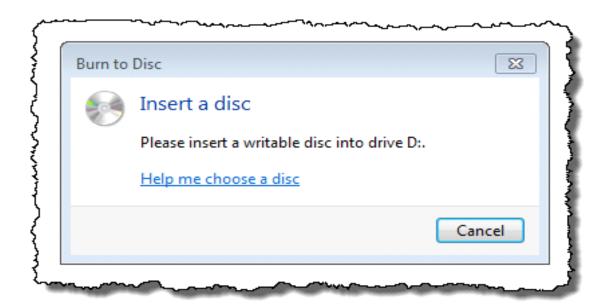
If you only want to archive a selection of files, select the first file and then hold down the **Control (Ctrl) key** and then select one by one the other files you want to archive. In the example below the first, third, fourth and sixth files have been selected.

	50
Date modified	Туре
05/09/2011 13:31	Microsoft Word D
19/12/2011 11:43	Microsoft Word D
01/11/2011 15:10	Microsoft Word D
27/01/2012 14:35	Microsoft Word D
15/12/2011 09:48	Microsoft Word D
24/11/2011 10:01	Microsoft Word 9
09/02/2012 16:18	Microsoft Word D
	05/09/2011 13:31 19/12/2011 11:43 01/11/2011 15:10 27/01/2012 14:35 15/12/2011 09:48 24/11/2011 10:01

Once you have selected the files, click on **Burn** on the explorer toolbar.

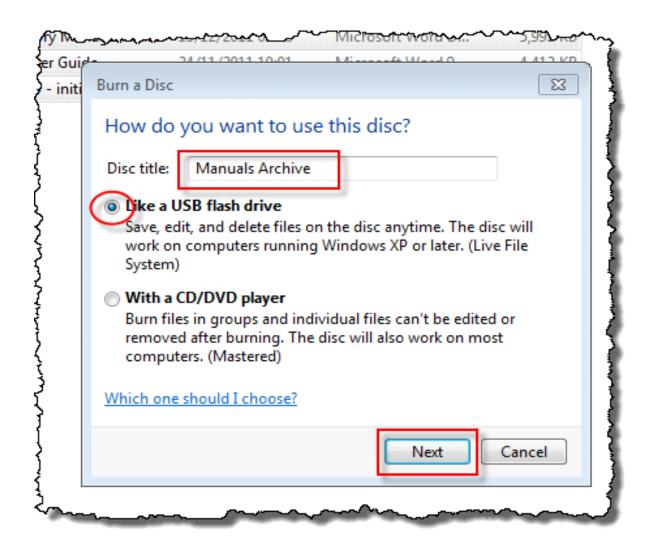


You will be prompted to insert a blank CD or DVD into the drive on your computer.



When you close the disc drawer you will be asked what type of disc you want to create. There are two options:

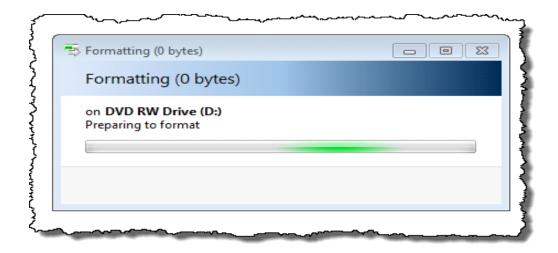
- Like a USB flash drive. With this option the disc behaves exactly as though it is a USB flash drive. Files can be added to it and deleted making it very flexible. The disadvantage of this type is that it can only be used on computers running Windows XP, Vista or Windows 7. Other operating systems will not recognize the disc.
- With a CD/DVD player. With this option files are "burnt" to the disc so it cannot be edited later. It will work with earlier versions of Windows and can be played in a CD/DVD or Blu-ray player.



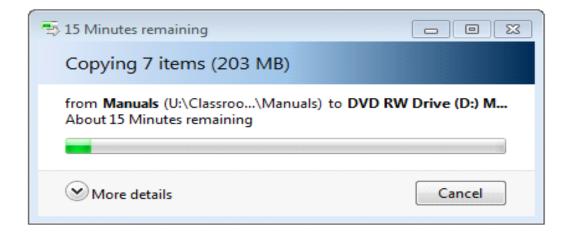
It is recommended that you use **Like a USB flash drive** because of its flexibility but if you want to know more about the options, select **Which one should I choose?** and you will be taken to a support page which gives greater detail on the topic.

You should also add a name, preferably something that gives a clue as to the contents and then click **Next**.

The disc will then be formatted.

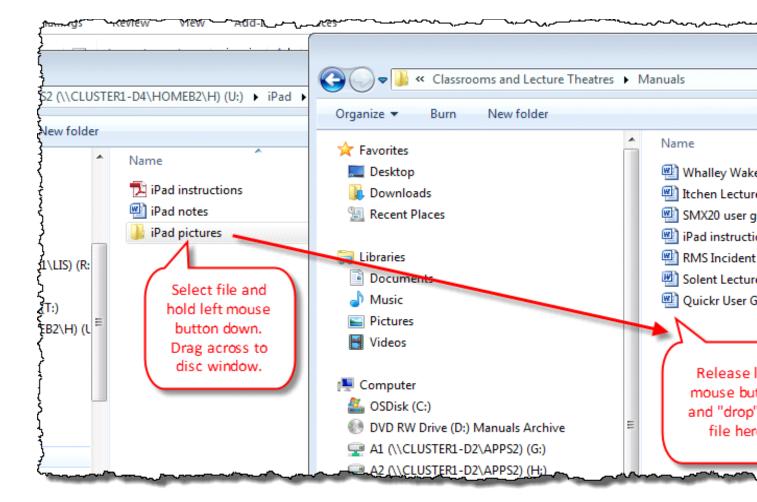


Once the drive has been formatted, the files will be copied to it. The progress bar will give an indication of how long this will take.



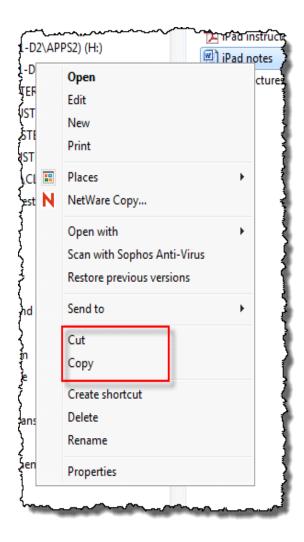
When all the files have been copied to the disc, the window will disappear.

More files (providing there is enough capacity) can be added to the disc later by opening two explorer windows; one for the source and one for the disc. Select the file to be copied and hold the left mouse button down and then drag the file across to the other window and release the mouse button to drop it into the window. The file will be copied to the disc.

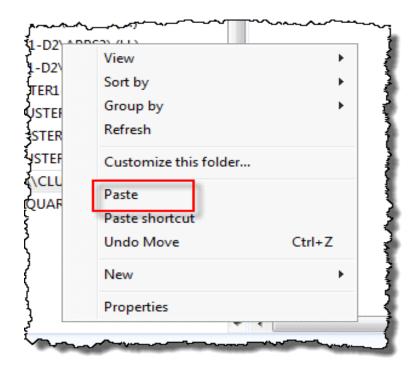


You could also select the file and then click it with the **right mouse** button. From the menu that appears select either **Cut** or **Copy**.

- Select **Cut** if you want to remove the file from its original location. There will only be one copy of the file when you have completed this operation.
- Select **Copy** if you want to leave a copy of the file in its original location. This means there will be two copies of the file when you have completed the operation.

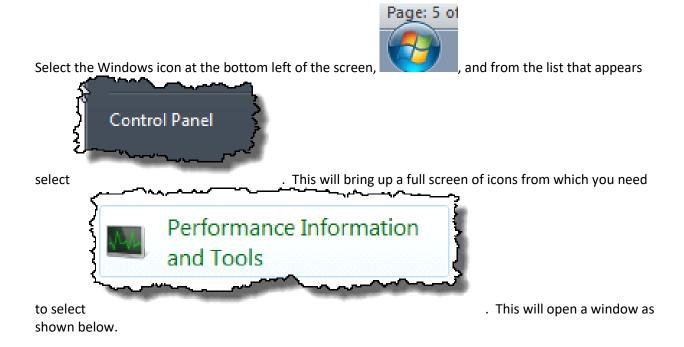


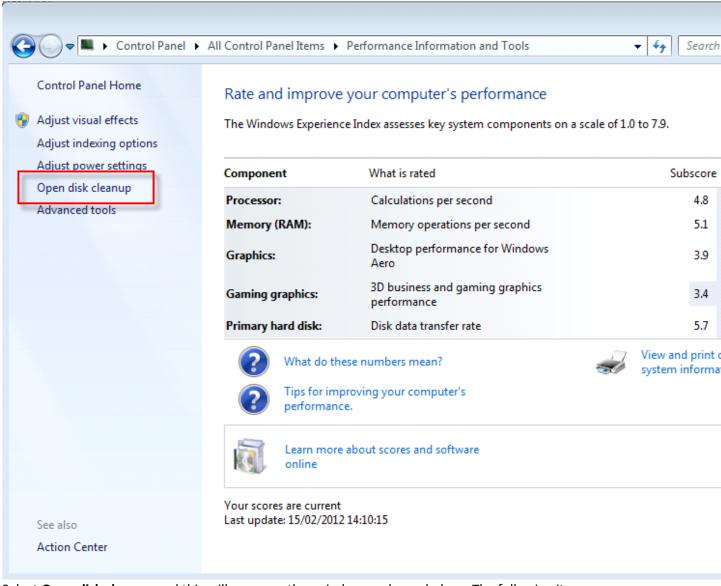
In the destination window (the disc window) **right click** and select **Paste** from the options presented and the file will be copied to the disc.



Note: CDs and DVDs should be kept in a case to prevent them becoming scratched. Cased discs should also be stored in a cool dark place.

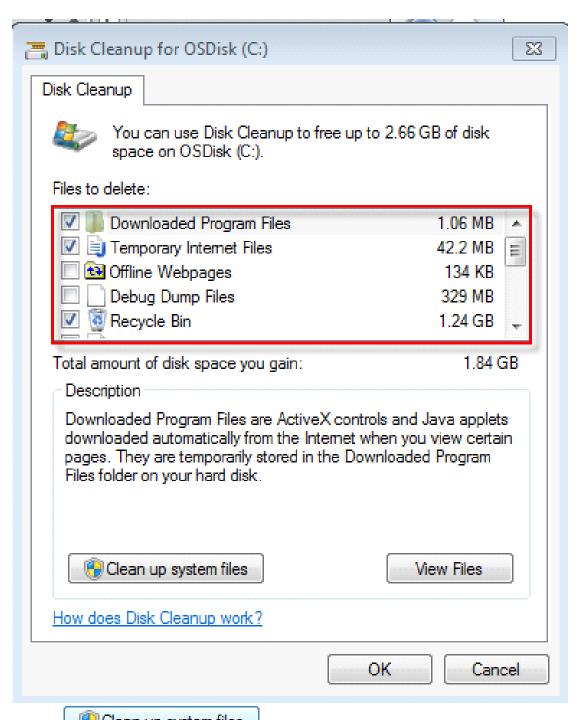
20. Cleaning up a Windows 7 hard drive



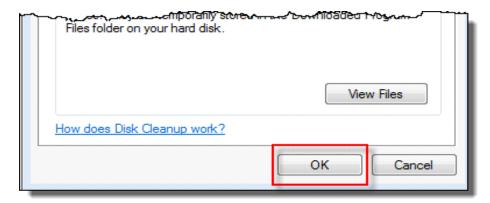


Select **Open disk cleanup** and this will open another window as shown below. The following items should be ticked in the **Files to delete** box in the centre of the window:

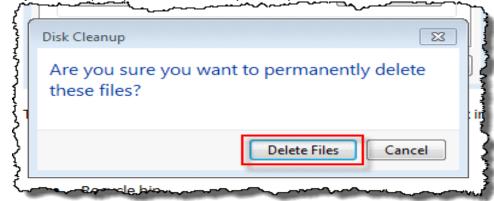
- Downloaded program files.
- Temporary internet files
- Recycle bin.
- Temporary files
- Thumbnails



Then click on at the bottom left of the screen: this makes sure there are no incorrect files in the operating system. The window will disappear for a short while and then reappear as shown below.



Click on OK: you will be prompted to make sure you really do want to delete the files.



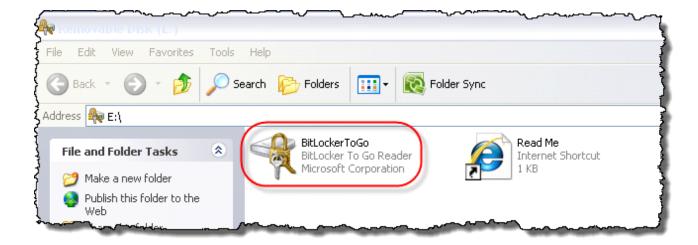
Click on **OK** to complete the process by deleting all the files in the types you have selected. A progress bar will indicate how the process is going.

21. Windows XP Operating System

Note 1: you cannot create a BitLocker encrypted drive with a Windows XP computer. You need to create the drive using a computer running Windows 7 Ultimate or Enterprise.

Note 2: you can only read or copy files from a BitLocker enabled device. You cannot save to it in Windows XP.

Insert the drive into a USB slot on the computer. A window will open as shown below.



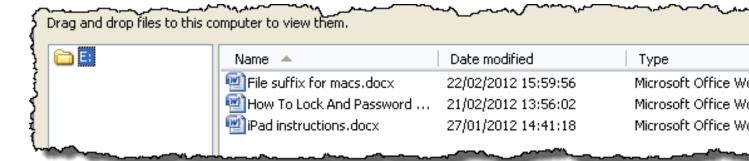
The **Read Me** file contains general information about BitLocker and how to use it.

Double click on the **BitLocker ToGo** icon. This will open a window asking you for the password.



Enter your password in the space provided and click on **Unlock**. If you tick the box beside **Show password characters**, the password will show up in the clear i.e., not as a row of dots.

Once the correct password has been entered the files will show up as normal.



To work on the file, you must first save it onto the desktop. If you **double click** on a file in the encrypted drive, you will get the following message.



How To Lock And Passw...

Click on **Yes** and the file will be copied to the desktop selecting it and holding down the **left mouse button** and then dragging it to the desktop. You can then work on the file and edit it. When you save it, the file is saved back to the desktop location. **You cannot save it back to the encrypted drive: this is only possible if you transfer the file to a computer running Windows 7.**

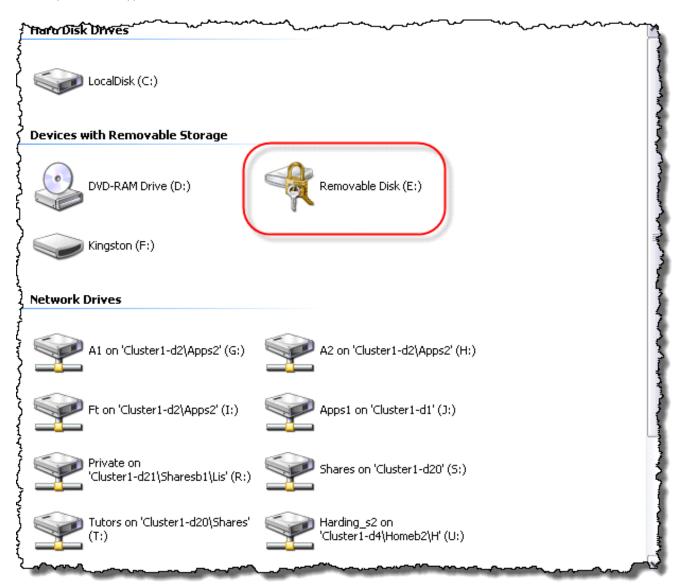
If you try to save the file to the encrypted drive, you will get the following error message.



Click **OK** to terminate the process.



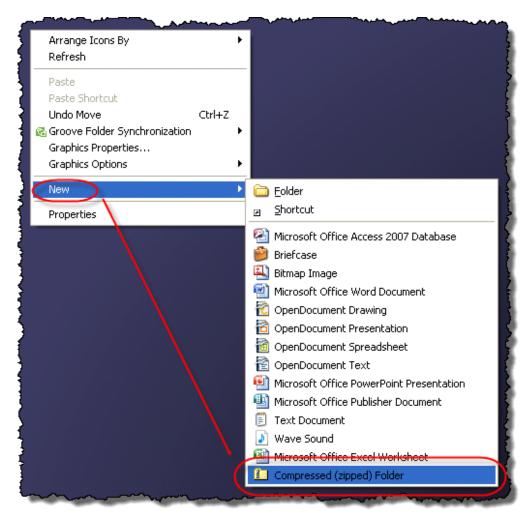
You can also access the removable drive by clicking on the **My Computer** icon desktop. The encrypted drive will be shown as in the screenshot below.



Double clicking on the icon will initiate the decryption process which works as described above.

22. Password protecting folders in Windows XP

You can make your data more secure in Windows XP by creating password protected folders. You can do this inside any folder you have or from the desktop. **Right click** inside the folder or on the desktop and select **New** and then from the pick list presented, select **Compressed (Zipped) Folder.**



This will create a compressed folder either on the desktop or in the folder where you were. Type a name for the folder and press **Retern**.





Next **double click** the compressed folder to open it. Now using **My Computer**, navigate to where the files are that you want to protect. Select the file to be moved into the compressed folder by **right clicking and holding** and then drag the file to the compressed folder and release the right mouse button. From the pick list presented, select Move **Here**.



Don't use **Copy Here** because this will leave a copy of the file in its original location: it will not be protected. Do this for all the files/data you want to protect.

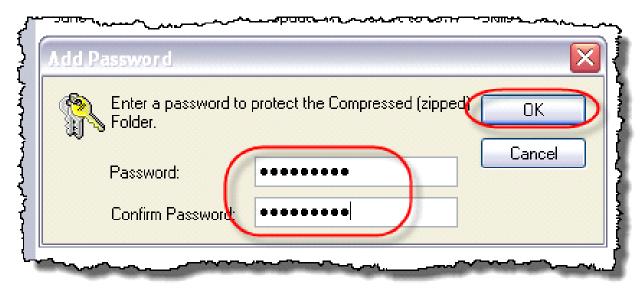
When all the files are in place, click on the **folder name** in the address bar so it is highlighted.



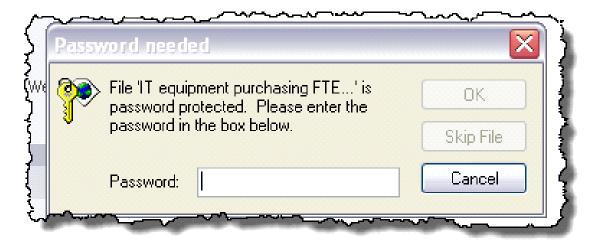
Now click on File and select Add a Password.



You will be asked to enter a password and then confirm it. When done, click **OK** to complete the process.



Other people will be able to see and open the folder, but they will not be able to open individual files without the password. If they try, they will see:



Without the password they will not be able to open any files in the protected folder.

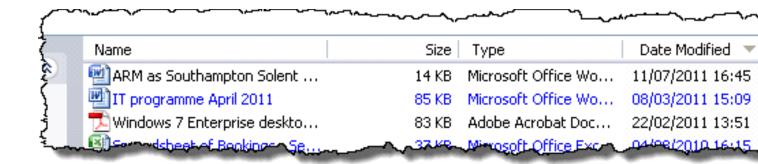
Note: only files put into the folder at the time of its creation and password allocation will be protected. Any files added at a later time will be "in the clear" and accessible by anyone.

23. How do I find "illegal" files using Windows XP?

You need to be able to see all the metadata of files before you can start analyzing them by size etc. To do this, select **View** and from the pick list presented, make sure **Details** is selected. A dot beside it indicates it is selected.

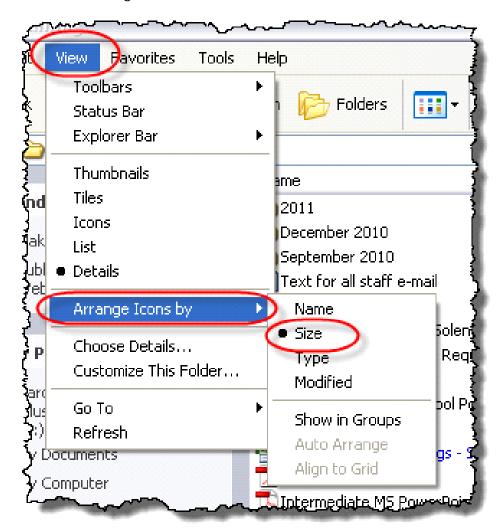


Files will be shown in an Explorer window as shown below.



24. Finding files by size

Click on **View** at the top of the explorer window and then select **Arrange Icons by** followed by **Size** the files will be listed with the largest at the bottom of the screen.



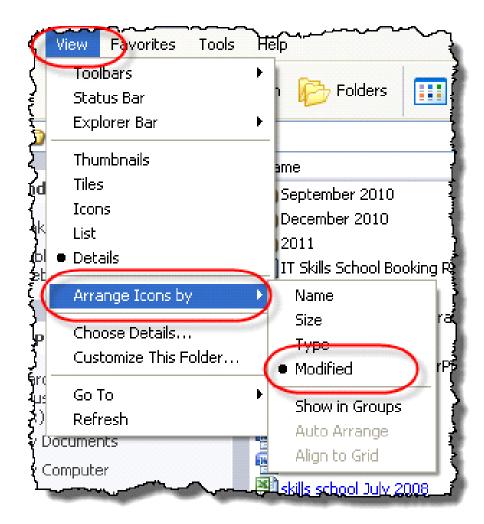
If you click on the down arrow next to **Size**, you can reverse the order so the largest are shown at the top of the screen.

į	3- 4-	- W	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	33,7
d d	Name	Size 🕒	Туре	Date Modified
j	<u></u> 2011	, and a	File Folder	16/02/2011 10
ļ	i 🛅 December 2010		File Folder	28/06/2010 0
ζ	in September 2010		File Folder	28/06/2010 09
į	🖳 🌉 Text for all staff e-mail	12 KB	Microsoft Office Wo	15/01/2008 08
			المن الم حكم المنافرة المنافرة	<u></u>

You can now easily identify large files for deleting or archiving, see section xxx below.

25. Finding files by date last modified

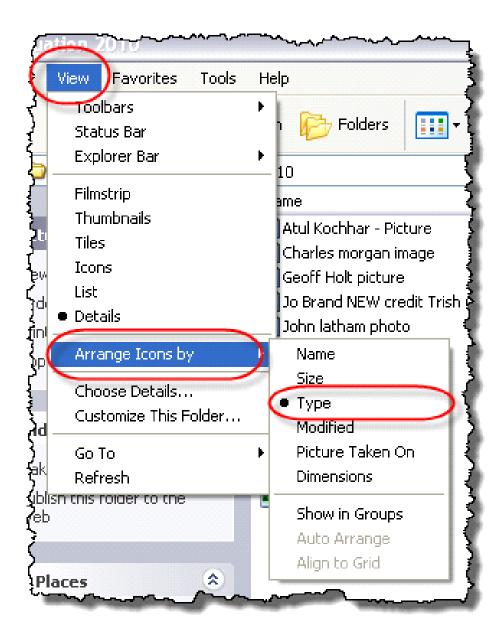
Click on **View** at the top of the explorer window and then select **Arrange Icons by** followed by **Modified:** the files will be listed in date order of when last modified.



Files are displayed with the oldest last modified at the top allowing you to easily identify any that can be deleted or archived. See section 4.4 and 4.7 below.

26. Finding files by type

Click on **View** at the top of the explorer window and then select **Arrange Icons by** followed by **Type:** the files will be listed by type in alphabetical order.



If you look at the column headed **Type**, you will be able to see what type of file each is. Any "illegal" files such as video files can be easily identified and removed.

Leason	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	·	
₹Name	Size	Type 🔺	Da
Atul Kochhar - Picture	201 KB	JPEG Image	19/]
(Marles morgan image	6,110 KB	JPEG Image	18
Geoff Holt picture	2,786 KB	JPEG Image	08
🛂 Jo Brand NEW credit Trish Grant	794 KB	JPEG Image	19/
All John latham photo	93 KB	JPEG Image	22/
🔁 Julian photo	1,331 KB	JPEG Image	30🕻
Mindersley photo	60 KB	JPEG Image	02
Paphitis photo	603 KB	JPEG Image	02
Rod-Bransgrove-Main	37 KB	JPEG Image	06 %
Maraduation_2010	2,655 KB	Microsoft Office Po	01 🔏
graduation2010	60,876 KB	Movie Clip	24/5
Terry butcher pic	1,762 KB	TIF Image	06/5

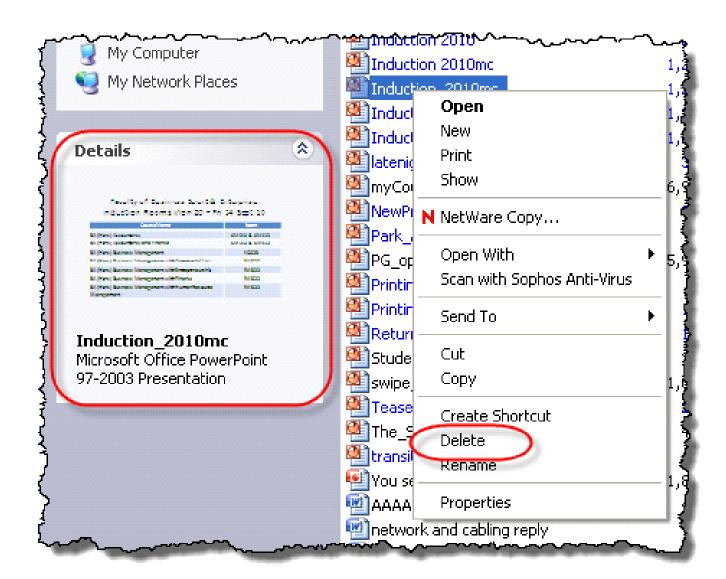
In the screenshot above a movie clip has been highlighted as an example of an "illegal" file.

27. Saving space by deleting files in Windows XP

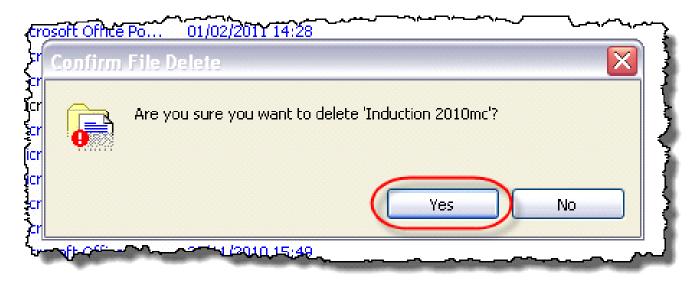
There are two main locations where you may want to delete files from your network storage or from your computer's hard drive.

28. Deleting files from network storage

Use Windows Explorer to identify files for deletion as described in section 4.3 above. **Right click** on the file you wish to delete. From the pick list that appears, select **Delete**. A preview of the file is displayed in the **Details** pane on the left of the Explorer window.



You will be prompted to confirm that you do really want to delete the file.

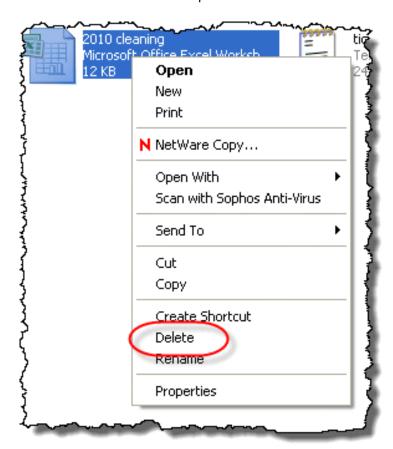


Click on Yes to delete the file.

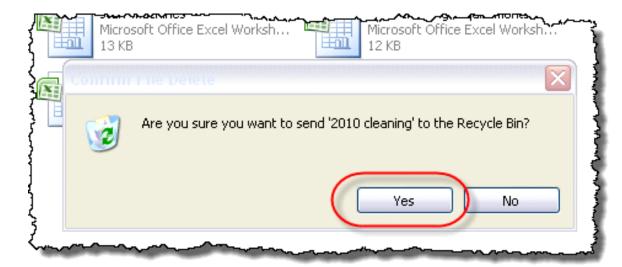
Note: this action cannot be undone.

29. Deleting files from the computer's hard disc

Use Explorer to look at the file structure on your computer's hard disc. You can search through the files by type, size and date last modified: see section 4.3 above. When you have identified a file to be deleted **right click** on it and select **Delete** from the pick list.

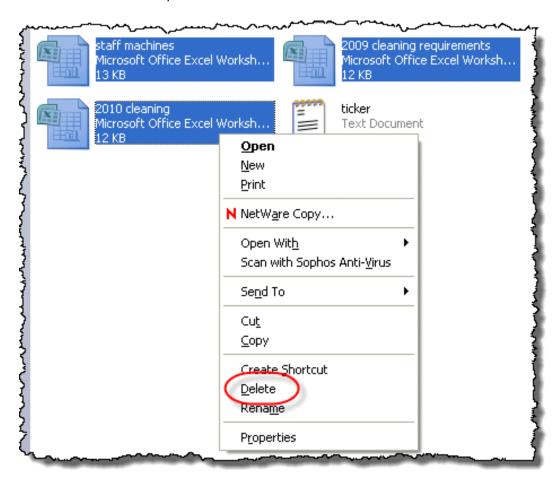


You will be prompted to confirm your selection.

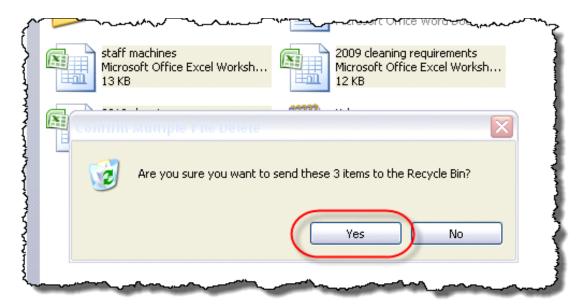


Click **Yes** to send the file to the recycle bin.

If you have several files to delete, you can speed the process up by holding the **Control (Ctrl) key** down and clicking on each file in turn. This enables a multiple selection. Then **right click** one of the selected files and select **Delete** from the pick list.



You will be prompted to confirm your selection.



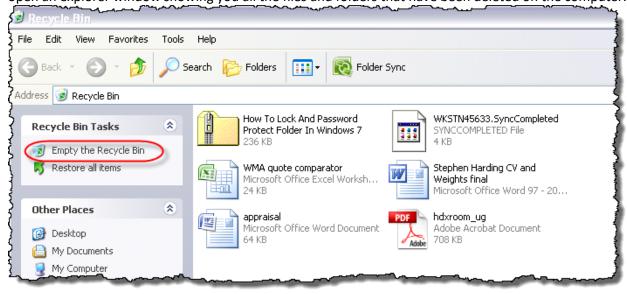
Select **Yes** to send the files to the recycle bin.

The files are still on your computer's hard drive. To completely delete them follow the procedure described in the following section 4.5.

30. Saving space on the computer by emptying the recycle bin on a Windows XP computer.

Open the recycle bin by **double clicking** on the recycle bin icon on the desktop open an explorer window showing you all the files and folders that have been deleted on the computer.

Recycle Bin

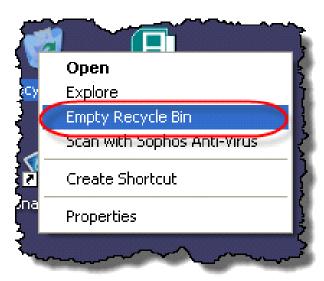


Check carefully to see if there are any files that you wish to keep: these should be restored. To restore a file, select it so it is highlighted and then **right click** it. This will bring up a pick list of options: select **Restore** and the file will be restored to its original location.



To empty the recycle bin, click on **Empty the Recycle Bin.** You will be prompted to confirm the action. Click **Yes** to empty the bin.

Alternatively, you can **right click** the recycle bin icon on the desktop and select **Empty Recycle Bin** from the pick list presented. You will be prompted to confirm that you do want to empty the recycle bin.

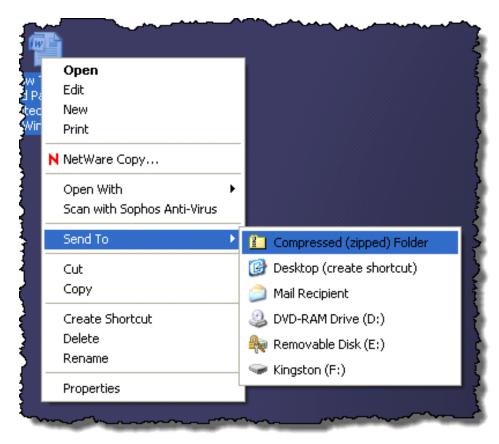


The disadvantage of using this method is that you do not get the chance to review the files you are discarding.

Note: deleting files from the recycle bin cannot be undone!

31. Saving space by compressing files in Windows XP

Large files can be compressed so they take up a smaller amount of storage space. Select the file you want to compress so that it is highlighted. Then **right click** on it and choose **Send to.** From the second list that opens, select **Compressed (zipped) folder** as shown below.



A compressed or zipped folder will be created with the file inside.



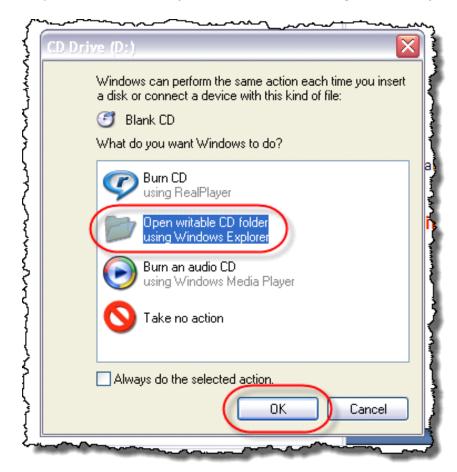
To access the compressed file, **double click** on the compressed folder icon and this will open an explorer window as shown below.



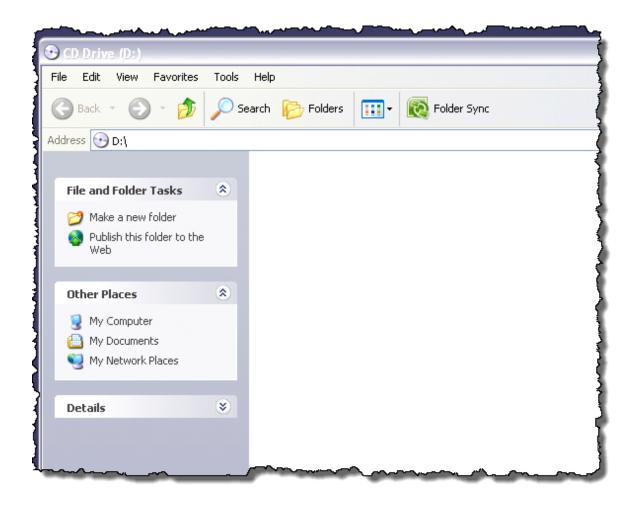
Double clicking on the file icon will open the file to your screen where you can edit it as normal.

32. Saving space by archiving files to a CD or DVD using Windows XP

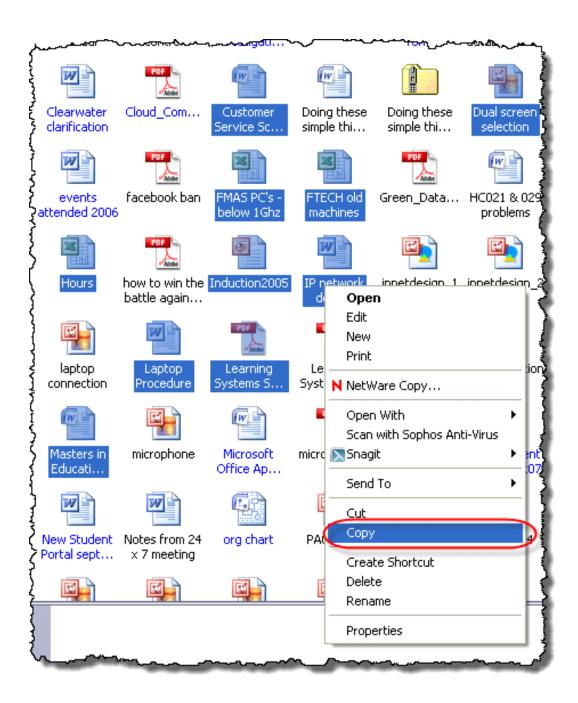
Place a blank CD or DVD into the optical drive on the computer. After a short while a window will open giving you several options. **Double click Open writable CD folder using Windows Explorer** and click **OK**.



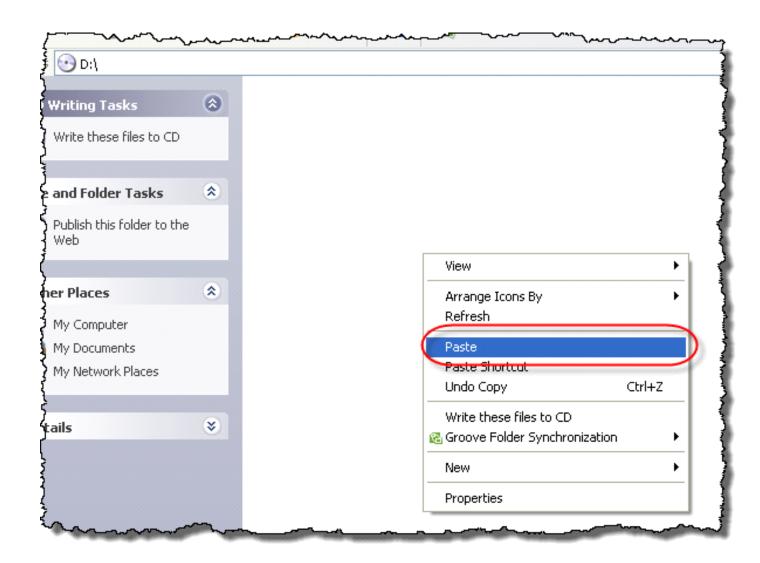
This will open an explorer window for the CD/DVD.



Click on **My Computer** on the desktop, and navigate to where the files are that you want to archive. If you have several files to copy, **single click** on the first file and then hold down the **Control (Ctrl) key**. Keep the control key held down and single click the remaining files you want to copy. As you click on them, they will become highlighted. When all the files are selected, right **click** and select **Copy.**



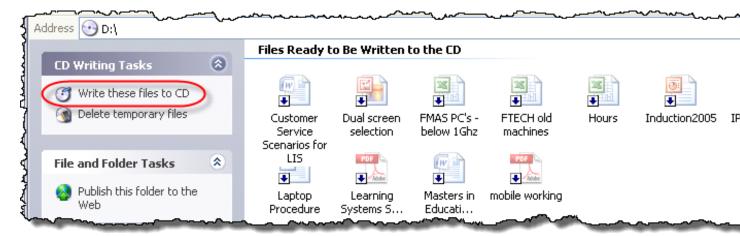
Now go to the explorer window for the CD and **Right Click** on the window. From the options presented select **Paste**.



A window will open showing the progress of file copying. Depending on how many files have been selected and how big they are, this may take several minutes.



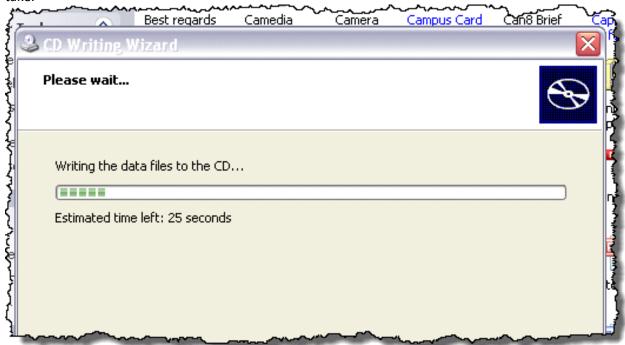
When all the files have been copied, the explorer window for the CD will look like that shown below.



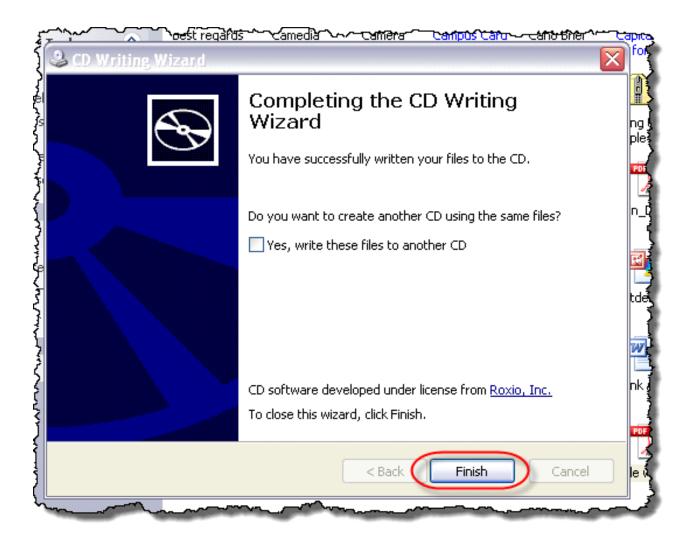
On the left of the window, select **Write these files to CD**. This will start a wizard.



Give the CD a name (the wizard will insert the date by default) and click **Next**. A progress window will open and show how far the process has gone. It will also give some idea of how long the process will take.



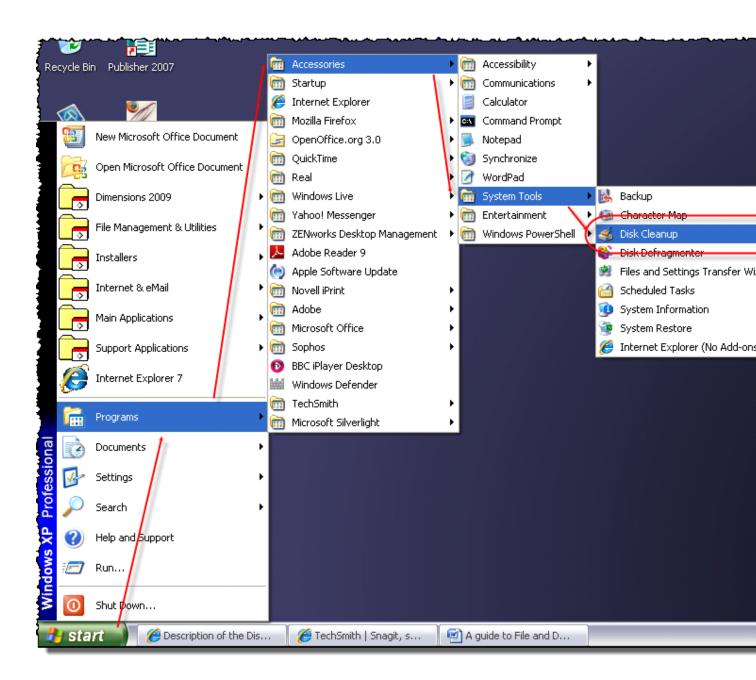
When all the files have been burnt onto the CD the following window will open. Click on **Finish**: the window will close, and the finished CD is ejected from the drive.



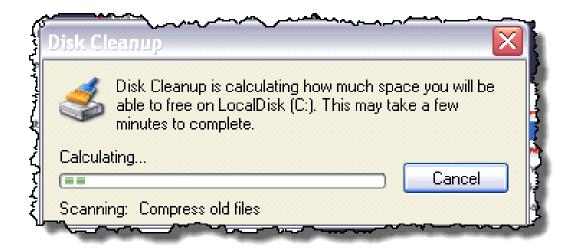
Label the CD, place it in a case and store in a cool dry place.

33. Cleaning up a Windows XP hard drive

Click on at the bottom left of the screen. From the list that comes up, select **Programs**, then select **Accessories**, then **System Tools** and finally, **Disc Cleanup**.

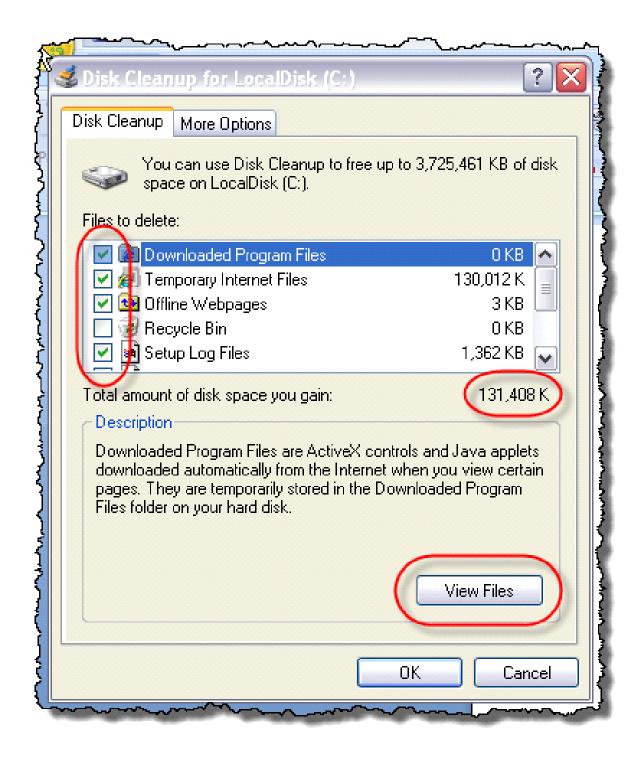


When you click on **Disc Cleanup** a window opens and the disc cleanup tool examines the hard drive and calculates how much space can be saved. If there are a lot of temporary files this can take quite a long time.

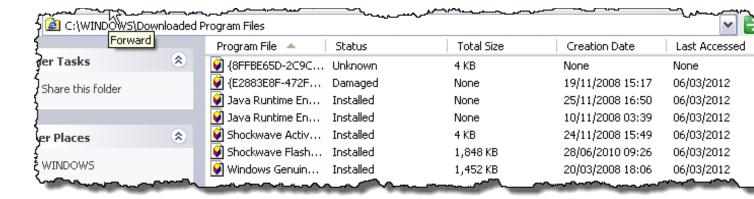


Once the potential free space has been calculated you will be shown a window where you can select the areas of the disc you want cleaned up by ticking the check boxes on the left.

The space saved is shown on the middle of the window on the right.



If you click on **View Files** a list of files to be removed is displayed in a new window.



If you are happy with the selection, close the window by clicking on the red cross at the top right of the window. Then click **OK** at the bottom of the **Disc Cleanup** window.

You will be prompted to confirm the action. Click on Yes.



A progress bar is displayed showing you how far through the process the tool is.



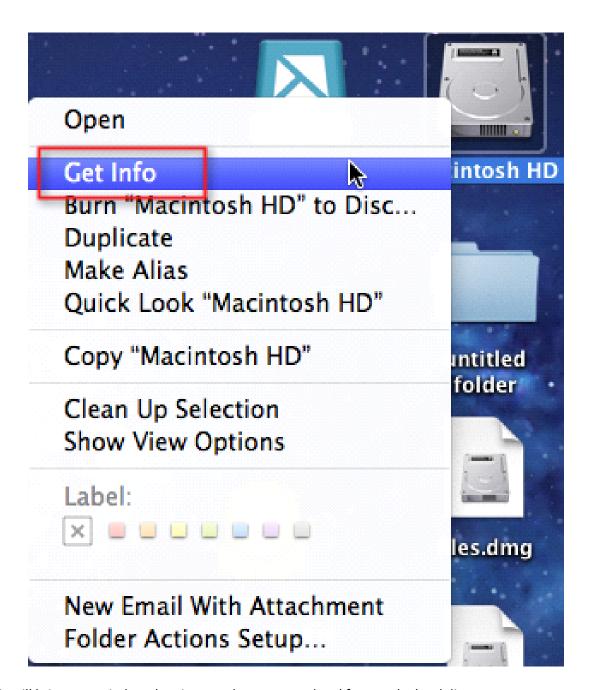
When the process has finished, the window closes, and you will be returned to the desktop.

34. Apple Mac Operating System

It is important to monitor the free space on your Apple Mac's hard drive. To do this **right click** on the hard disc icon on the desktop.



From the menu that appears, select **Get Info**:



This will bring up a window showing you the space used and free on the hard disc.

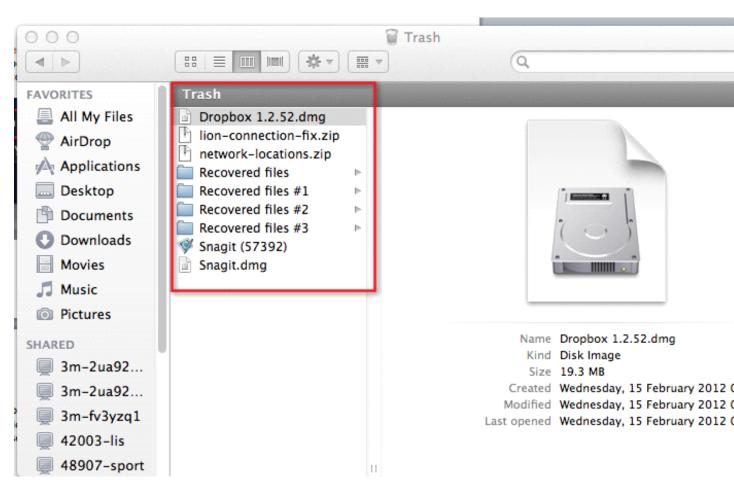
🔿 🔘 🗐 Macintosh HD Info Macintosh HD Modified: 22 February 2012 13:21 7 Spotlight Comments: ▼ General: Kind: Volume Created: 21 February 2012 09:31 Modified: 22 February 2012 13:21 Version: 10.7.3 Format: Mac OS Extended (Journaled) Capacity: 159.18 GB Available: 148.8 GB Used: 10,377,252,864 bytes (10.38 GB on disk) Shared folder ▶ More Info: Name & Extension: ▼ Preview: Sharing & Permissions:

35. Freeing up space by emptying the trash cans

Over a period of time, the trash cans can accumulate many files which cumulatively take up a lot of space on the hard drive. To find out what is in trash, **right click** the icon on the dock.

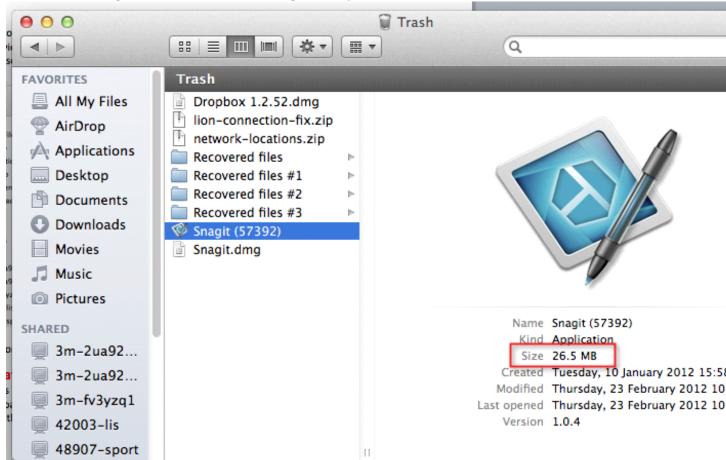


This gives you two choices, to open trash or to empty it. It is recommended that you choose **Open** and view the contents of trash just to make sure there is nothing that you cannot afford to lose.

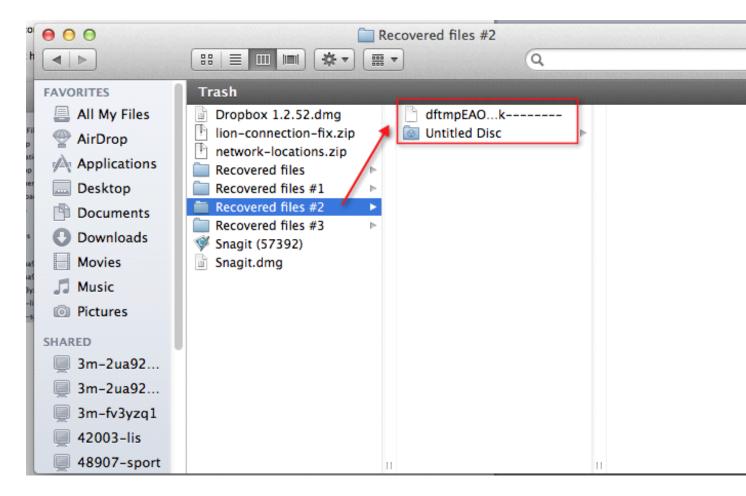


The trash contents are shown in the middle pane of the window.

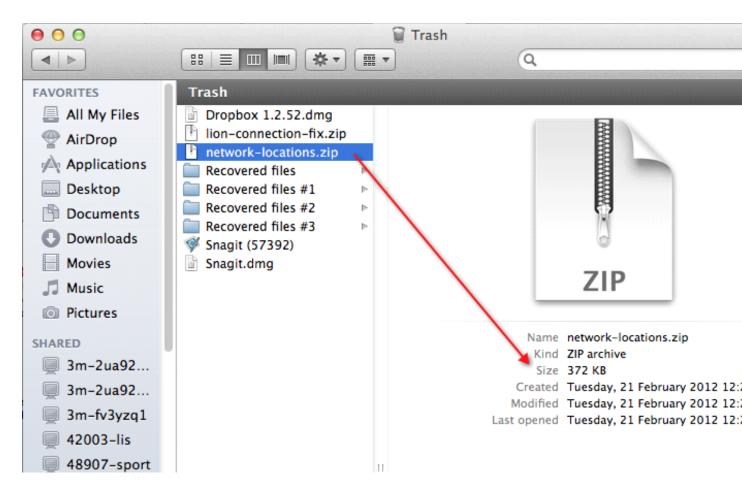
To find out how big the file is select it and the right-hand pane on the window will show the size:



If you select a folder, the middle pane will show its contents.



If a single file is selected, the data is displayed like this.



Any files or folders you might want to keep should be archived to CD/DVD, USB memory stick or removable hard drive, see section 5.5 below.

To empty the trash, click on at the top right of the trash window. You will be prompted to confirm the action.



Are you sure you want to permanently erase the items in the Trash?

You can't undo this action.

Cancel

Empty Trash

Click on **Empty Trash** and all the data will be removed and the trash can icon will show it is empty.



You should follow this procedure to empty the trash cans in the individual applications of iPhoto, iMovie and iTunes.

36. Creating an encrypted drive

The process on an Apple Mac is a little more complex in that you have to create an encrypted partition on the Mac hard drive into which files are saved. The encrypted partition is then copied to a memory stick or external hard drive.

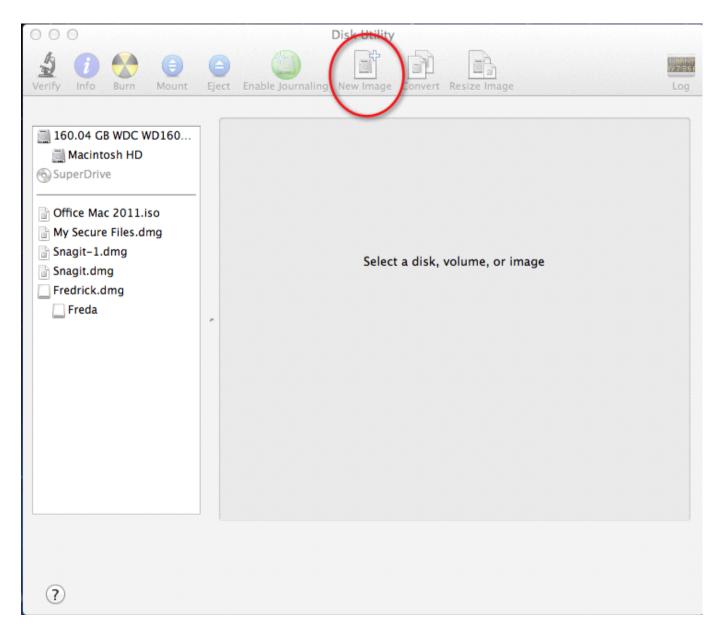


and find the disc utility

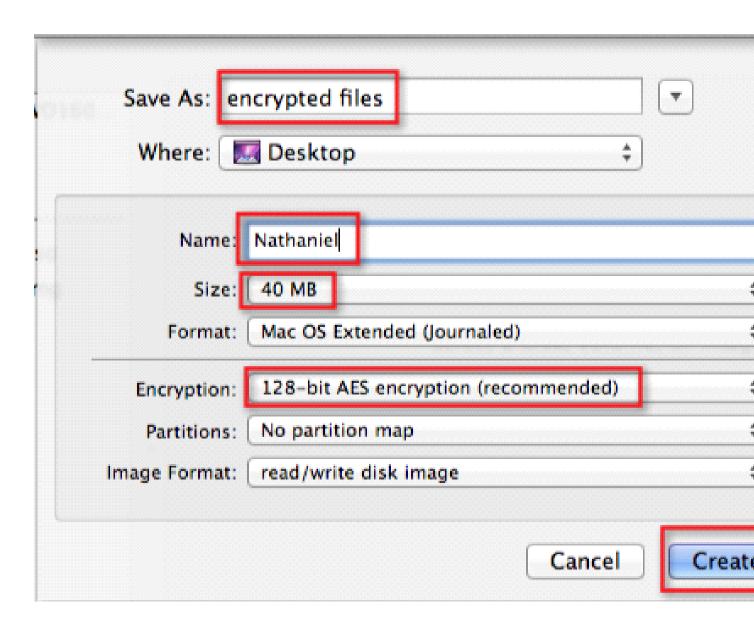
First click on **Mission Control**,

Double click on the icon to open the utility.





At the top centre of the window, select **New Image** and an image properties window will open.



You need to fill in the **Save As** pane with a name: in this example **encrypted files** has been chosen. In the **Size** pane, select a size from the drop-down menu. Be aware that whatever size you choose will be the size taken up on the memory stick or removable hard drive (any spare space is filled with stuffing data). Leave the format as the default shown when the window opened. In the **Encryption** pane select **128-bit AES encryption** and leave the **Partitions** and **Image Format** at the defaults. When all is complete, click on **Create**.

A new window will open asking you to create a password.



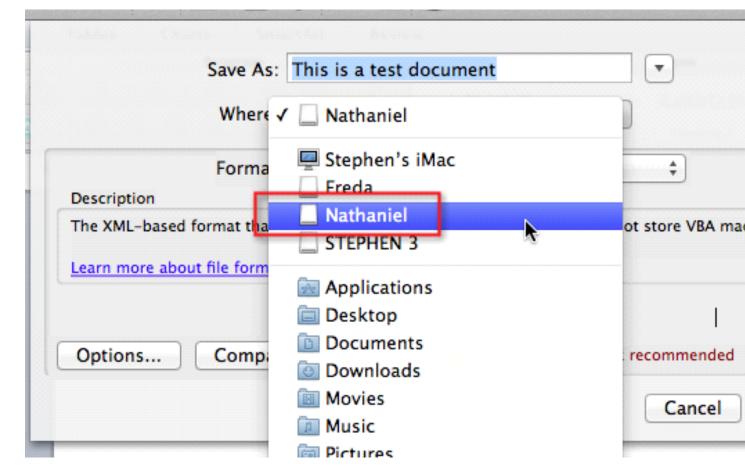
As you enter the password, the password strength indicator will tell you how strong the password is.

Uncheck the **Remember password in my keychain** and click **OK** to continue. You will see an icon on the desktop for the encrypted storage you have just created.



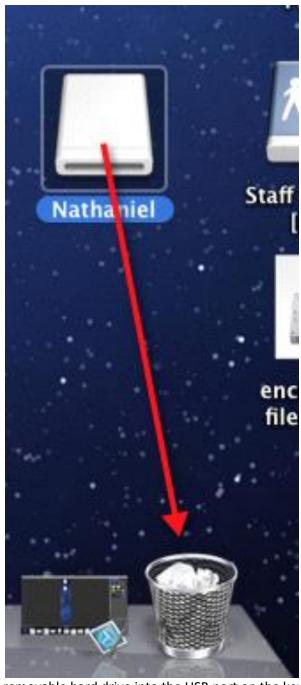
37. Using an encrypted drive on an Apple Mac

Create your document as normal, but when you save it, you can save it straight to the encrypted drive. In the **File** menu, select **Save As** to open the properties window.



The filename will be entered automatically from the first line of the document so you may wish to edit it. Click on **Where** and from the drop-down pick list select the encrypted drive. Then click **Save** to save the file in the encrypted drive.

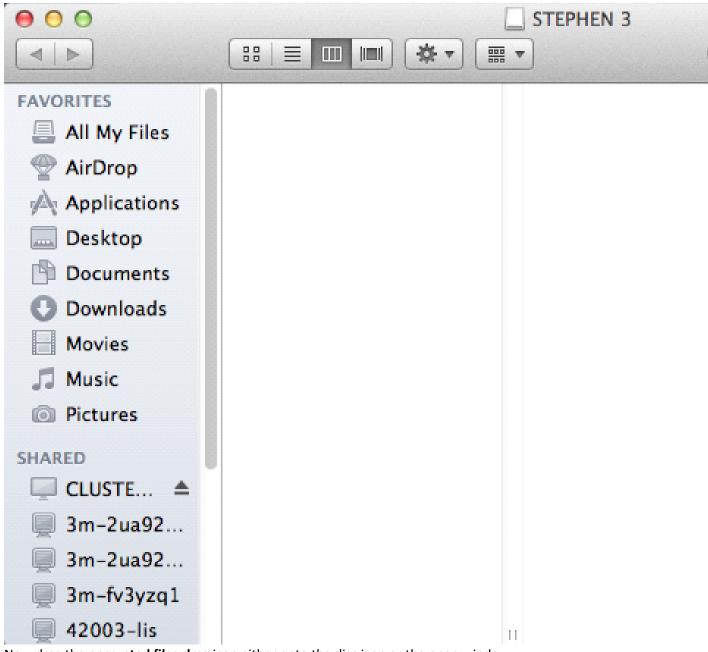
Once the file(s) have been saved, the disc image needs to be dismounted. Drag the icon across the desktop to the trash bin.



Then, plug the USB stick or removable hard drive into the USB port on the keyboard. An icon will be displayed on the desktop.



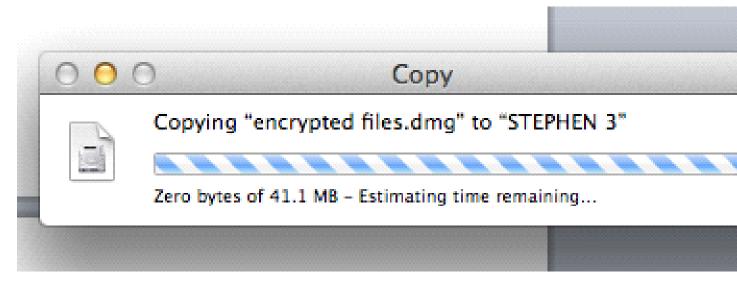
Double click on the icon to open the drive and show its contents.



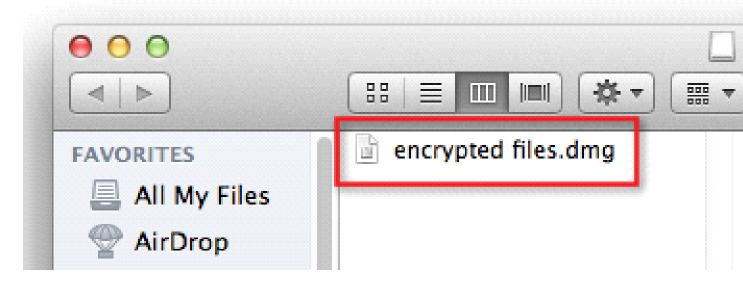
Now drag the **encrypted files.dmg** icon either onto the disc icon or the open window.



A green + sign will appear as the icon is dragged followed by a progress window showing how much of the file transfer has been completed.



When the transfer is complete, the encrypted image will be shown in the memory stick or removable hard drive's file window.



Finally drag the USB memory stick or removable hard drive icon to the trash bin to eject it.

You must do this before you remove the memory stick or removable hard drive.

38. Saving space by deleting files using an Apple Mac

To find files that are no longer required, have 0 bytes in them or are very large click on the Finder icon on the dock.

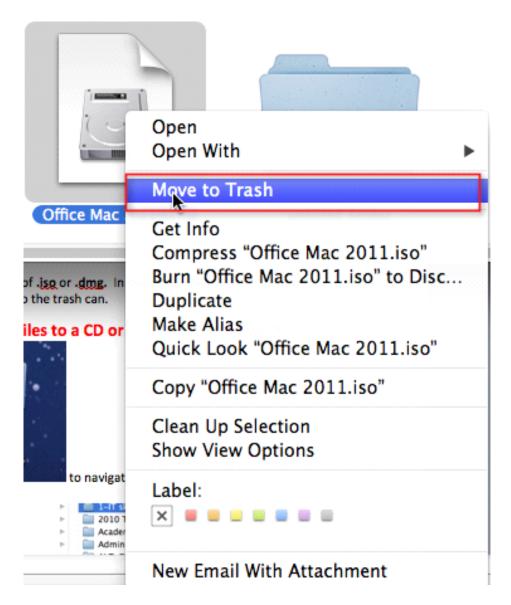


This will open a window showing you all the storage areas you have access to.

If you start by selecting **Desktop** you will be able to clean up the desktop.



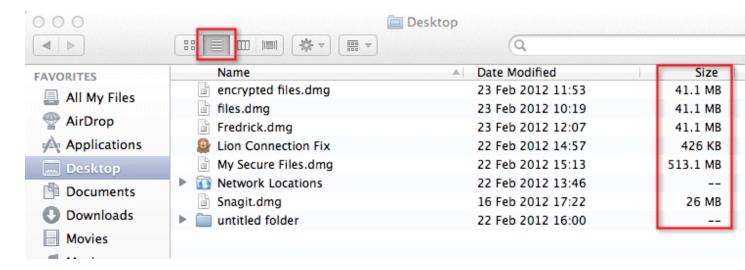
Look for any data with the file extension of .iso or .dmg. In the screenshot above there are examples of both: these should be sent to trash. Double right click on an icon and select Move to trash from the options presented.



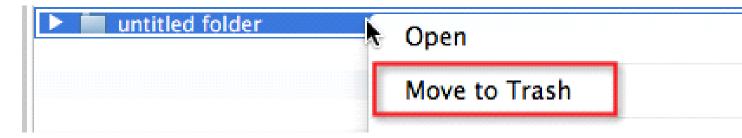
The icon will disappear, "paper" will appear in the trash bin, and if sound is turned on, you will hear the sound of rustling paper. Do this with any other .iso or .dmg data.

39. Finding files by size

To look at other areas where you have data stored, select them one at a time in the right pane of Finder's window. To be able to see the file size, you need to change the display by clicking on the button.



File size is shown in the column to the right of the window together with information as to what the file is. Files with 0 bytes or very large files can easily be identified. 0-byte files should be sent to trash. **Double right click** the file and select **Move to Trash** from the options presented.

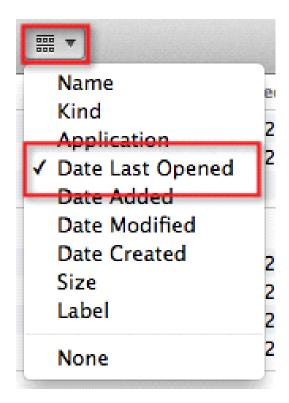


Large files can be dealt with in the same way or archived to CD, DVD or a removable hard disc. See section 5.5 below for details.

40. Finding files by date last opened

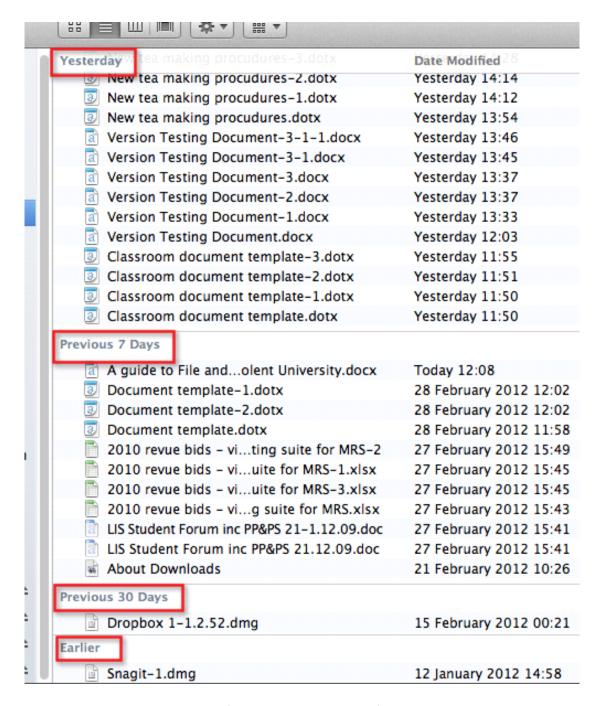
000

Click on the button at the top of the Finder window. From the drop-down list select **Date Last Opened** and make sure it is ticked. If it is not, click on it to tick it.



Files will now be grouped according to when they were last accessed. They are grouped into the following categories:

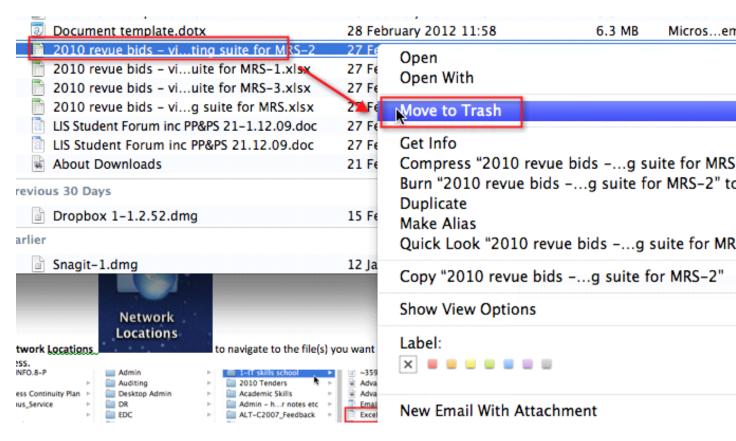
- 41. Files opened **Today** (not shown in the screenshot below)
- 42. Files opened Yesterday.
- 43. Files opened in the Previous 7 days.
- 44. Files opened in the previous 30 days.
- 45. Files opened **Earlier** than the previous 30 days.



By scrolling through the list rarely used files can be quickly identified. A decision can then be made as to whether the files are kept as they are, are archived to CD, DVD or removable hard drive or sent to trash. For archiving files, see section 5.5 below.

41. Deleting unwanted files

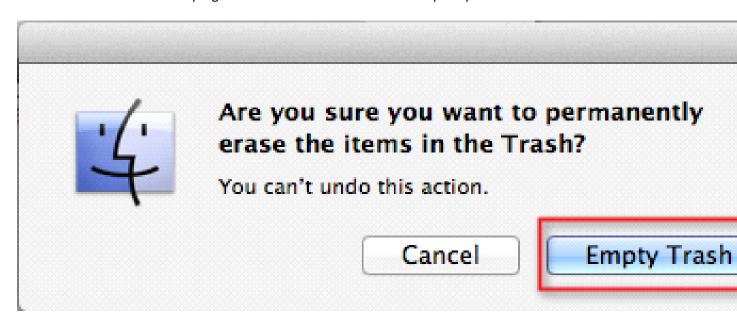
Any files not required should be deleted. First select the file, then **double right click** on it, and from the drop-down menu presented, select **Move to Trash**.



Once all the redundant files are in the trash it should be emptied. To empty the trash, click on

Empty

at the top right of the trash window. You will be prompted to confirm the action.



Click on **Empty Trash** and all the data will be removed and the trash can icon will show it is empty.

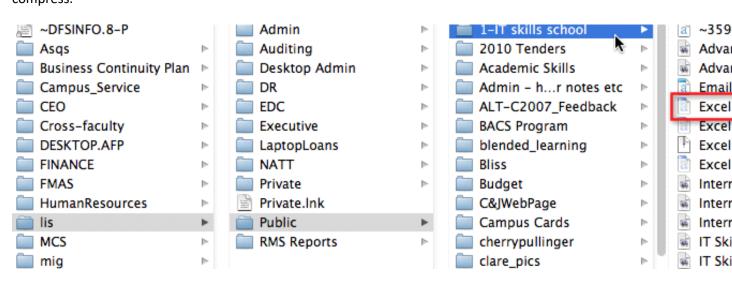


42. Saving space by archiving files to a CD or DVC using an Apple Mac

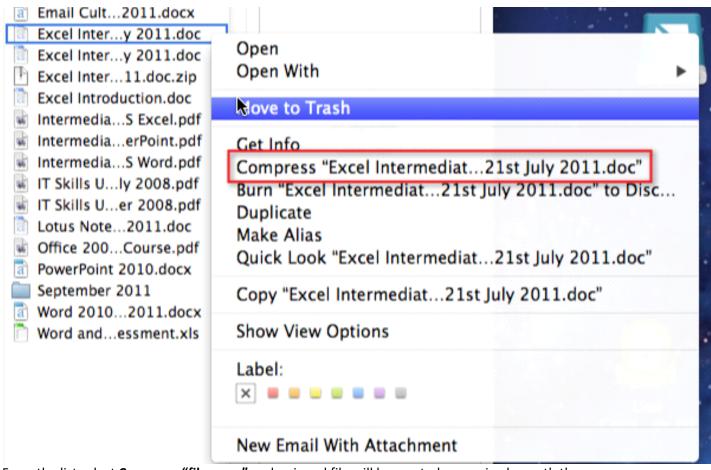


Use **Network Locations** compress.

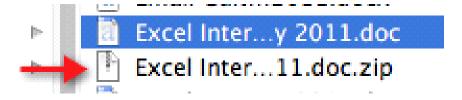
to navigate to the file(s) you want to



Next **right click** on the filename to bring up a pick list as shown below.



From the list select **Compress "filename"** and a zipped file will be created appearing beneath the uncompressed file.



The original (uncompressed) file should now be deleted otherwise no space saving has been achieved.

43. Document Revision Status

Date	Changes Made	Author
12/03/2012	Initial release	Stephen Harding