ICT FOUNDATION PROGRAMME — LESSONS 1–10

Stage 3, batch 1 · Term 1, Weeks 1–5 · Modules M1–M2

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0. How this batch is built

ITEM	DETAIL
Stage	**3 of 5** — detailed lesson plans, batch 1 of 6
Covers	Lessons **1–10**, Term 1 Weeks 1–5
Modules	A1 diagnostic · M1 Digital Systems · M2 Files, Storage and Backup
Duration	10 × 60 minutes
Confirmed environment	12 students · 12 Windows laptops · LibreOffice primary, Office mapped
Scheme reference	`ICT-Scheme-of-Work.md`, §2

Every lesson plan contains the same 24 elements, in the same order: number and title, module, duration, starting point, outcomes, success criteria, vocabulary, resources, preparation, timed sequence, teacher actions, student activities, demonstration, guided practice, independent practice, differentiation, extension, likely errors, formative checkpoints, exit ticket, homework, portfolio evidence, offline alternative, and the link to the next lesson.

Timings always total 60 minutes. Where a lesson deviates from the standard shape, the reason is stated.

File names. Every file a student saves follows `L##_Surname_Topic`. The convention is taught in Lesson 1 and marked in every later lesson. A file with the wrong name is treated as a file that cannot be found.

Software paths. Instructions give the LibreOffice route first, then the Microsoft Office equivalent in square brackets. Windows paths assume Windows 10/11.

Vocabulary. Each lesson lists the terms that need a Burmese gloss. Write them on the board in both languages before the lesson; do not translate them silently mid-explanation.

Batch map

#	LESSON	MODULE	OUTPUT
1	Start here — diagnostic and induction	A1	`L01_Surname_Diagnostic`
2	What a computer is for	M1	Labelled diagram
3	Input, output and storage devices	M1	Device selection table
4	Inside the box	M1	Annotated spec comparison
5	Software and file types	M1	File-type table
6	Safe lab, first-line faults	M1	Fault log, 3 rows
7	Folders and names	M2	Folder screenshot
8	Moving, copying, renaming	M2	File audit sheet
9	Storage, backup, recovery	M2	One-page recommendation
10	Finding things again	M2	Retrieval log, 4 methods

LESSON 1 — Start here: diagnostic and induction

1. At a glance

Lesson	1 of 60
Module	A1 — Term 1 assessment block (diagnostic component)
Topic	Lab induction, folder setup, baseline diagnostic
Duration	60 minutes
Starting point	None assumed. Students may never have saved a file to a named folder
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Log in to a laptop and follow the four lab rules without prompting.
2. Create the course folder structure in the correct location.
3. Save a document to a named folder using the course naming convention.
4. Complete a short baseline task that shows what they can already do.

3. Success criteria

- The folder `ICT Foundation` exists in `Documents`, with subfolders `01_Lessons`, `02_Assessments`, `03_Resources`.
- One file is saved as `L01_Surname_Diagnostic` inside `01_Lessons`.
- The diagnostic checklist is completed by the teacher, not by the student.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
file	A saved piece of work with a name	Yes
folder	A container for files	Yes
save	Write the work to storage so it survives closing	Yes
desktop	The first screen after login	Yes

5. Resources

- 12 laptops, charged, logged in or with login cards ready
- One printed A5 card per student: the folder path and the naming convention
- Diagnostic passage, printed and also in `03_Resources\diagnostic.txt`
- Teacher checklist (below), one per student
- No printer needed this lesson

6. Preparation

- Confirm every laptop boots and can log in **before** students arrive. A login failure during a diagnostic wastes the baseline.
- Create the `03_Resources` folder on each laptop with `diagnostic.txt` inside — or place it on the shared drive and give the path on the card.
- Print the A5 cards and the checklist.
- Decide the seating plan and write it on the board. Seating changes later cost file-location confusion.
- Have two spare laptops if possible.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–10	Induction	Welcome; names; four lab rules; seating	Listen; log in; find their seat
10–45	Diagnostic	Read the tasks aloud once; observe; record on checklist; do not teach	Complete five baseline tasks independently
45–55	Folder setup	Demonstrate the folder tree once; circulate	Create the tree; save the diagnostic file correctly
55–60	Close	Collect checklists; state next lesson	Shut down; push chairs in

> **Deviation from the standard shape.** There is no demonstration-and-practice cycle before the diagnostic, because the diagnostic must measure what students can already do. Teaching first destroys the baseline.

8. Teacher actions and explanations

Opening script:

> "This year you will produce work on this laptop every lesson. By the end, you will have a folder of evidence you can show a school or an employer. Today I am not teaching you much. I am finding out what you can already do, so I know what to teach."

The four lab rules — write on the board and leave them there all year:

1. No food or drink near the laptops.
2. Save before you stand up.
3. Do not open, move or unplug the machines.
4. Report a fault; do not fix it yourself.

9. Student activities and outputs

Diagnostic tasks (35 minutes, independent):

TASK	TIME	WHAT TO DO	WHAT IT SHOWS
1	5 min	Type the printed passage into a new document	Keyboard and basic typing
2	10 min	Save it as `L01_Surname_Diagnostic` in `Documents\ICT Foundation\01_Lessons`	Can create or find a location and save

TASK	TIME	WHAT TO DO	WHAT IT SHOWS
3	5 min	Make the first line bold and centred	Basic formatting
4	10 min	Create a folder called `Practice` inside `01_Lessons`, move the file into it, then move it back	File operations
5	5 min	On paper: what is a file, what is a folder, what does **Ctrl+S** do?	Vocabulary and understanding

Output: `L01_Surname_Diagnostic` and a completed teacher checklist.

10. Demonstration

Demonstrate only **after** the diagnostic, and only the folder setup:

1. Open File Explorer with **Win+E**.
2. Go to **Documents**.
3. Right-click → **New** → **Folder** → type `ICT Foundation`.
4. Open it; create `01_Lessons`, `02_Assessments`, `03_Resources`.
5. Show the address bar so students can see the full path.

> "Three folders, three jobs. Lessons in one, assessments in another, anything I give you in the third. If your work is not in the right folder, it is not submitted."

11. Guided practice

Students create the tree while the teacher circulates. Check three things per student: the location, the spelling, and that the diagnostic file is inside `01_Lessons`. Do not fix it for them; ask them to read the path aloud.

12. Independent practice

The diagnostic itself is the independent practice. The teacher observes and records, and resists the urge to correct. If a student cannot log in, help with login only and note it.

13. Differentiation

- **Support:** a card showing the exact path and a screenshot of the tree. Pair a student who cannot type with a printed passage they can copy slowly; do not reduce the task.
- **Extension:** add a fourth folder `04_Archive` and a `README.txt` explaining the structure in one sentence.

14. Extension challenge

Create a second file called `L01_Surname_Notes` containing three sentences about what they want to be able to do by the end of the course.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
Saved to the default folder	File is in Documents root, not `01_Lessons`	Ask the student to read the address bar aloud, then use **Save As**
Wrong name	`diagnostic`, `L1`, spaces, no surname	Rename with **F2**; do not accept it
Folder created inside another folder	`ICT Foundation\ICT Foundation`	Show the address bar; delete the inner folder
Cannot find Documents	Confused by OneDrive Documents	Use the File Explorer sidebar; state the path on the board
Login failure	Cannot reach the desktop	Spare laptop; note on checklist

16. Formative checkpoints

- **Minute 20:** every student has a document open with text in it.
- **Minute 35:** every student can point to `01_Lessons` in the address bar.
- **Minute 50:** spot-check three random files by opening them.

17. Exit ticket

On paper: "*Write the full path of your lessons folder.*" Collect. A student who cannot write the path has not understood location, and needs the card again next lesson.

18. Homework

Optional, no computer required: list five devices in your home that contain a computer, on paper.

19. Portfolio evidence

- `L01_Surname_Diagnostic`
- Teacher diagnostic checklist, filed not graded.

20. Offline alternative

The entire lesson is offline. The passage and checklist are printed; `diagnostic.txt` is on the local drive.

21. Connection to the next lesson

Lesson 2 names the four functions every one of those home devices performs — input, process, output, storage — and uses the laptops in front of them as the example.

LESSON 2 — What a computer is for

1. At a glance

Lesson	2 of 60
Module	M1 — Digital Systems and the Lab
Topic	Hardware, software and the four functions
Duration	60 minutes
Starting point	Lesson 1: a course folder exists; students can save a file
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Distinguish hardware from software with three examples of each.
2. Name the four functions of a computer — input, process, output, storage — and give one device for each on their own laptop.
3. Label a diagram of a laptop with the four functions.

3. Success criteria

- The diagram has all four functions labelled correctly.
- At least one example per function is a device the student can physically point to.
- The student can say why a keyboard is input and a screen is output without prompting.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
hardware	The parts you can touch	Yes
software	The instructions the machine follows	Yes
input	Data going in	Yes
process	What the machine does to the data	Yes
output	The result coming out	Yes
storage	Where data is kept when it is not being used	Yes

5. Resources

- Laptops, one per student
- Blank laptop diagram, A4, one per student
- Six device cards per table (keyboard, screen, speaker, microphone, USB drive, webcam)
- Board space for the four-function diagram

6. Preparation

- Print the diagram and cards.
- Check that every laptop has a webcam, speakers and at least one USB port accessible.
- Write the four function names on the board, spaced, before students enter.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Three questions on Lesson 1	Answer orally or on paper
5–8	Objective	State the four functions; give the lesson's product	Listen
8–18	Demonstration	Label a laptop on the board, thinking aloud	Follow; point at their own machine
18–28	Guided practice	Call out a device; class names the function	Answer; justify in one sentence
28–50	Independent	Circulate while students label and sort cards	Label diagram; write example per function
50–55	Review	Project two diagrams; name one good decision and one error	Compare with own
55–60	Exit ticket	Read the question; collect	Write answer

8. Teacher actions and explanations

Retrieval (5 min): "*Where is your lessons folder? What is the file called? What does Ctrl+S do?*"

Demonstration script:

> "Everything in this room is either hardware or software. Hardware you can drop on your foot. Software you cannot. A laptop is hardware; the program that lets me type is software."

> "A computer does four things, and only four. It takes data **in**. It **processes** it. It sends a result **out**. And it **stores** it for later. Every device you will ever use is one of those four, or a combination."

Label the board diagram: keyboard → input; CPU/RAM → process; screen/speaker → output; SSD → storage.

> "A phone is all four in your hand. A USB stick is only storage. A printer is only output. A webcam is only input."

9. Student activities and outputs

Students label the printed laptop diagram, then complete a four-row table:

FUNCTION	DEVICE ON THIS LAPTOP	WHAT IT DOES
Input		
Process		
Output		
Storage		

Then they sort the six device cards on the table into the four functions. Two cards need discussion: a touchscreen (input *and* output) and a USB drive (storage, but can also be input/output when read or written).

Output: labelled diagram and completed table, saved as `L02_Surname_Functions` (photograph the paper or type the table).

10. Demonstration

1. Hold up the keyboard. "*Input. It sends keystrokes in.*"
2. Point at the screen. "*Output. It shows the result.*"
3. Tap the case near the drive. "*Storage. It keeps the file when the power is off.*"
4. Point at the processor area. "*Process. This is where the work happens.*"
5. Hold up a USB stick. "*Storage only. It does not think.*"

11. Guided practice

Call out devices in random order: printer, microphone, speaker, webcam, touchscreen, USB stick. Students answer chorally, then one student justifies. Correct the touchscreen answer explicitly: "*It is both. Input when you touch it, output when it shows you something.*"

12. Independent practice

Students complete the diagram and table alone. The teacher circulates and asks one question per student: "*Point to your process. Why is it not input?*" Students who finish early sort the cards and write the two "both" cases.

13. Differentiation

- **Support:** provide the table with the first row completed. Accept a drawing instead of writing where language is a barrier.
- **Extension:** add a fifth row for "communication" and explain why a network card is not one of the four functions.

14. Extension challenge

Find one device in the room that performs **three** functions and explain each in a sentence.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
Calls the screen "storage"	"It keeps the picture"	Ask: does the picture survive the power off?
Lists software as hardware	"Windows is hardware"	Ask: can you touch it?
Forgets process	Diagram has three labels	Point at the case; ask where the work happens
Touchscreen listed once	Only input or only output	Demonstrate both with a touch and a display
Saves diagram without name	`Diagram1`	Rename; mark the naming rule

16. Formative checkpoints

- **Minute 20:** every student can point to one input and one output.
- **Minute 35:** the four-row table has no blank cells.
- **Minute 50:** three students explain "process" in their own words.

17. Exit ticket

"*Name one device that is both input and output, and say why.*"

18. Homework

Optional: list three devices at home and write which of the four functions each performs.

19. Portfolio evidence

`L02_Surname_Functions` — labelled diagram plus table.

20. Offline alternative

Fully offline. The device cards replace any video; the diagram replaces an interactive.

21. Connection to the next lesson

Lesson 3 takes the four functions apart: which input device for which job, which storage for which risk, and why a shop and a hospital need different choices.

LESSON 3 — Input, output and storage devices

1. At a glance

Lesson	3 of 60
Module	M1 — Digital Systems and the Lab
Topic	Choosing devices for a purpose
Duration	60 minutes
Starting point	Lesson 2: the four functions and one example of each
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Classify ten devices as input, output or storage.
2. Choose a suitable device for three scenarios and give one reason for each choice.
3. Explain one trade-off between two storage devices.

3. Success criteria

- All ten devices classified correctly.
- Three scenario choices are justified in a full sentence, not a word.
- One trade-off is stated using "but" or "because".

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
peripheral	A device connected to the computer	Yes
scanner	Turns paper into a digital image	Yes
plotter	A printer for large drawings	Yes
solid-state	Storage with no moving parts	Yes
capacity	How much can be stored	Yes
trade-off	What you give up to get something else	Yes

5. Resources

- Ten device cards per table, with a picture and a name
- Three scenario cards: school office, clinic reception, small shop
- A3 comparison sheet for two storage devices
- Laptops for typing the final table

6. Preparation

- Print and cut the cards; keep one set per table.
- Check the scenario cards are readable at the back of the room; enlarge if needed.
- Decide the pairing for the card sort: mixed ability, not friends.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Four functions; three devices	Answer
5–8	Objective	Scenarios; the word "justify"	Listen
8–18	Demonstration	Model one scenario aloud, including the rejected option	Follow
18–28	Guided practice	Sort ten cards as a class; challenge two	Sort; defend
28–50	Independent	Circulate; check reasons	Choose devices for three scenarios; write reasons
50–55	Review	Two students read a justification; class improves it	Compare

TIME	PHASE	TEACHER	STUDENT
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "A device is not good or bad on its own. It is suitable or unsuitable **for a job**. A projector is excellent in a classroom and useless in a pocket."

Model the first scenario aloud:

> "Clinic reception needs to copy a patient's paper form into the computer. Input? A scanner. Why not a camera? It could work, but the page would be crooked and the text unreadable. Why not type it? Slower and introduces mistakes. Scanner — because it captures the whole page accurately in one step."

> "Notice what I did. I named a device, rejected one alternative, and gave a reason. That is what 'justify' means."

9. Student activities and outputs

SCENARIO	NEED	STUDENT CHOOSES	REASON REQUIRED
School office	Print 200 letters; scan a signed form		One sentence each
Clinic reception	Capture a paper form accurately; keep records for years		One sentence each
Small shop	Take payment; print a receipt; back up daily sales		One sentence each

Then complete the storage comparison:

	USB FLASH DRIVE	EXTERNAL HARD DRIVE
Capacity		
Speed		
Portability		

	USB FLASH DRIVE	EXTERNAL HARD DRIVE
Risk of loss		
Best for		

Output: `L03_Surname_Devices` — scenario table plus comparison.

10. Demonstration

1. Show a scanner and a camera image of the same page; ask which is more useful and why.
2. Show a receipt printer and an A4 printer; ask which a shop needs.
3. Show a USB stick and an external drive; ask which to carry and which to leave for backup.

11. Guided practice

Sort the ten cards as a class. Deliberately place the touchscreen and the USB drive in the wrong column to force an argument. Accept any answer that names the function and the context.

12. Independent practice

Students work through the three scenarios. The teacher checks that every choice has a reason with a "because". A table of devices with no reasons is returned.

13. Differentiation

- **Support:** give the scenario table with the device column filled and ask only for reasons.
- **Extension:** add a fourth scenario — a travelling salesperson who must carry 500 product photographs.

14. Extension challenge

Recommend a storage plan for a photographer who produces 20 GB a month and cannot use cloud storage. Name two devices and one risk.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
"Best" with no reason	"A scanner is best"	Ask: best for what job?
Confuses storage with memory	"RAM stores my files"	Ask: what happens to RAM when the power goes off?
Chooses a device not in the scenario	Suggests a 3D printer for letters	Redirect to the need, not the novelty
One-word reasons	"Faster"	Require a full sentence with "because"

ERROR	WHAT YOU SEE	RESPONSE
Saves in the wrong folder	File in Documents root	Return to the path on the board

16. Formative checkpoints

- **Minute 25:** every table has ten cards sorted.
- **Minute 40:** three reasons read aloud and improved by the class.
- **Minute 52:** spot-check two files for the naming convention.

17. Exit ticket

"*A shop must keep five years of receipts. Choose one storage device and give one reason and one risk.*"

18. Homework

Optional: ask an adult at home which device they would never give up, and why, on paper.

19. Portfolio evidence

`L03_Surname_Devices`.

20. Offline alternative

Fully offline; the cards and printed images carry the whole lesson.

21. Connection to the next lesson

Lesson 4 opens the box: what the processor, memory and storage actually do, and what the numbers in an advertisement mean.

LESSON 4 — Inside the box

1. At a glance

Lesson	4 of 60
Module	M1 — Digital Systems and the Lab
Topic	CPU, memory, storage; reading a specification
Duration	60 minutes
Starting point	Lesson 3: input, output and storage devices

Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. State what the CPU, RAM and storage each do, in one sentence each.
2. Explain what GHz and GB measure.
3. Compare two laptop specifications and recommend one for a stated user, with a reason.

3. Success criteria

- The three explanations are accurate and use the words "process", "temporary" and "permanent" or their equivalents.
- The recommendation names the user's need, not the biggest number.
- The student can say why more RAM does not make a file bigger.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
processor	The part that carries out instructions	Yes
RAM	Working memory, lost when power goes off	Yes
SSD / HDD	Permanent storage, with or without moving parts	Yes
gigahertz	Billions of cycles per second	Yes
gigabyte	About a thousand million bytes	Yes
specification	The list of parts and numbers	Yes

5. Resources

- Two printed laptop advertisements, A4, one pair per table
- One laptop per student, with **Settings** → **System** → **About** reachable
- Three sentence-strip cards: "The CPU…", "RAM…", "Storage…"

6. Preparation

- Choose two advertisements with a clear difference: one cheap with an HDD and 4 GB RAM, one more expensive with an SSD and 8 GB.
- Check that students can open Settings on the lab machines.
- Write the three sentence stems on the board.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Devices and functions	Answer
5–8	Objective	"What do the numbers mean?"	Listen
8–18	Demonstration	Open Settings; map the numbers to the parts	Follow on own machine
18–28	Guided practice	Read advertisement 1 together; challenge two claims	Annotate
28–50	Independent	Circulate; check reasoning	Compare two laptops; write recommendation
50–55	Review	Two recommendations; class critiques	Compare
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "Three parts do three different jobs. The **CPU** carries out instructions — it is the worker. **RAM** is the desk the worker uses — fast, small, and cleared when the power goes off. **Storage** is the filing cabinet — slower, bigger, and it keeps things when the power is off."

> "GHz tells you how many cycles the processor completes each second. A higher number is usually faster, but it is not the whole story — the design of the processor matters too. Do not buy on one number."

> "GB is capacity. 8 GB of RAM is more workspace. 256 GB of storage is a bigger filing cabinet. These are not the same kind of GB, and one does not fix the other."

9. Student activities and outputs

1. Open **Settings** → **System** → **About** and record the processor, installed RAM and storage.
2. Annotate both advertisements: circle the CPU, underline the RAM, box the storage.
3. Complete:

QUESTION	ADVERTISEMENT A	ADVERTISEMENT B
Processor		
RAM		
Storage type and size		
Price		
Best for		

1. Write a recommendation for a named user — a student writing essays, or a designer editing photographs — in three sentences: choose, give two reasons, name one limitation.

Output: `L04_Surname_Specs`.

10. Demonstration

1. Open Settings → About on the projector.
2. Point to the processor name and GHz; explain cycles.
3. Point to installed RAM; explain temporary workspace.
4. Point to storage; explain permanence.
5. Open Task Manager (**Ctrl+Shift+Esc**) and show RAM in use; close three applications and show it fall.

11. Guided practice

Read advertisement 1 together. Ask: "*Which number is the processor? Which is the workspace? Which is the filing cabinet?*" Challenge the phrase "fast processor" on the advert: fast at what?

12. Independent practice

Students compare the two adverts and write the recommendation. The teacher checks that the recommendation names the user and a limitation. A recommendation with no limitation is returned.

13. Differentiation

- **Support:** provide the comparison table with the part names filled and only the numbers to find.
- **Extension:** explain why a computer with 16 GB RAM can still feel slow if the storage is full.

14. Extension challenge

Find the specification of the laptop you are using and write a 40-word advertisement for it that is accurate and not misleading.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
"More GHz is always better"	Recommendation based on one number	Ask about the other parts and the user's need
Confuses RAM and storage	"8 GB RAM stores my files"	Ask what happens to RAM when the power is off
Thinks GB is a speed	"256 GB is fast"	Separate capacity from speed
No limitation stated	Three sentences of praise	Require one honest limitation
Cannot find Settings	Opens Control Panel	Show **Win+I**, then System → About

16. Formative checkpoints

- **Minute 20:** every student has read their own machine's RAM aloud.
- **Minute 35:** three annotations checked against the advert.
- **Minute 52:** two recommendations read and critiqued.

17. Exit ticket

"*Why does a computer with more RAM not necessarily open a file faster?*"

18. Homework

Optional: ask an adult what they use their computer for, and whether their machine is fast enough, on paper.

19. Portfolio evidence

`L04_Surname_Specs` — annotated adverts and recommendation.

20. Offline alternative

Fully offline. The advertisements are printed; Settings and Task Manager are local.

21. Connection to the next lesson

Lesson 5 moves from parts to instructions: what an operating system does, what an application does, and how the file extension tells you which program will open a file.

LESSON 5 — Software and file types

1. At a glance

Lesson	5 of 60
Module	M1 — Digital Systems and the Lab
Topic	Operating system, applications, file extensions
Duration	60 minutes
Starting point	Lesson 4: CPU, RAM and storage
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Explain the difference between an operating system and an application.
2. Match ten file extensions to the program that opens them and the type of content.
3. Turn on file-name extensions in File Explorer and explain why the extension matters.

3. Success criteria

- The OS explanation names at least two jobs: managing hardware and providing a workspace.
- All ten extensions matched correctly.
- Extensions are visible in File Explorer at the end of the lesson.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
operating system	Software that runs the machine and the desktop	Yes
application	Software that does a particular job	Yes
extension	The last part of a file name, after the dot	Yes
default program	The program that opens a file when double-clicked	Yes
compatible	Able to open or work with the file	Yes

5. Resources

- Laptops, one per student
- Ten extension cards: `.docx` , `.odt` , `.pdf` , `.xlsx` , `.ods` , `.jpg` , `.mp3` , `.mp4` , `.zip` , `.exe`

- The resource pack folder `L05\filetypes.zip` — eight sample files to open, plus a readme explaining the two deliberate omissions
- Projector

6. Preparation

- Extract `L05\filetypes.zip` to `03_Resources\filetypes` and test that each file opens.
- **Do not distribute an executable.** The `.exe` is a card for discussion only; the pack deliberately contains no `.exe`.
- Check that extensions are hidden by default on the lab image — the lesson turns them on.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	CPU, RAM, storage	Answer
5–8	Objective	"The extension tells you what is inside"	Listen
8–18	Demonstration	Open five sample files; show hidden extensions	Follow
18–28	Guided practice	Match five cards together	Match; defend
28–50	Independent	Circulate	Match all ten; write the table
50–55	Review	Two rows read aloud; correct errors	Compare
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "The operating system is the floor the whole building stands on. It talks to the hardware, shows you a desktop, and lets applications run. Windows is an operating system. LibreOffice Writer is an application — it does one job."

> "A file name has two parts: the name you choose and the extension the system uses. `report.docx` — `report` is yours, `.docx` is the type. Change the extension and you have not converted the file; you have lied about it."

Demonstrate the lie: rename `photo.jpg` to `photo.txt`, open it, show the garbage. Rename it back.

9. Student activities and outputs

EXTENSION	OPENS WITH	CONTENT TYPE	RISK
`.docx`	Word / Writer	Text document	Low
`.odt`	Writer	Text document	Low
`.pdf`	PDF viewer	Fixed layout document	Low, but can carry links
`.xlsx` / `.ods`	Calc	Spreadsheet	Formulas can run
`.jpg`	Image viewer	Photograph	Low
`.mp3`	Media player	Audio	Low
`.mp4`	Media player	Video	Low
`.zip`	Archive tool	Compressed folder	Can hide anything
`.exe`	Windows	Program	**High — runs code**

Output: `L05_Surname_FileTypes`.

10. Demonstration

1. Show extensions hidden; open the folder.
2. Turn them on: **View → Show → File name extensions**.
3. Open `.docx`, `.pdf`, `.jpg`, `.mp3`, `.zip` one by one.
4. Hold up the `.exe` card and do **not** open anything executable from an unknown source; explain why. No executable is distributed with this course.
5. Rename a `.jpg` to `.txt` and back.

11. Guided practice

Match five cards as a class. Ask for the reason, not just the answer: "*How did you know* `.mp4` *is video?*" Accept "because it is the one my phone produces" — that is real knowledge.

12. Independent practice

Students complete the ten-row table and turn on extensions. The teacher checks three students' File Explorer settings.

13. Differentiation

- **Support:** give the table with the "opens with" column filled; ask only for content type and risk.
- **Extension:** explain why a `.zip` can be dangerous even though it is not a program.

14. Extension challenge

Find one file on the laptop whose extension you do not recognise, and work out what it is without opening it.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
Renames `file.docx` to `file.pdf` and expects conversion	File will not open correctly	Explain conversion versus renaming; use Export As
Extensions still hidden	Cannot see the dot	Walk through View → Show
Runs the `.exe`	Warning dialog	Stop; explain the risk; never run unknown executables
Says `.pdf` is "a Word file"	Confusion about fixed format	Show that text can be selected but layout is fixed
Thinks the OS is an application	"Windows is an app"	Ask what would run the apps without it

16. Formative checkpoints

- **Minute 20:** every student can see extensions.
- **Minute 35:** five rows checked.
- **Minute 52:** one student explains why renaming is not converting.

17. Exit ticket

"*A friend sends you `homework.pdf.exe`. What is it, and what do you do?*"

18. Homework

Optional: list three file types on your phone and what they contain.

19. Portfolio evidence

`L05_Surname_FileTypes`.

20. Offline alternative

Fully offline; all sample files are local. No download is required.

21. Connection to the next lesson

Lesson 6 turns to the room itself: safe practice, and the first three faults a user should be able to diagnose without calling for help.

LESSON 6 — Safe lab, first-line faults

1. At a glance

Lesson	6 of 60
Module	M1 — Digital Systems and the Lab
Topic	Lab safety; power, display and application faults
Duration	60 minutes
Starting point	Lesson 5: hardware, software and file types
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Apply the four lab rules and explain the reason for each.
2. Diagnose three common faults in order: power, display, frozen application.
3. Record a fault with the symptom, the check and the action taken.

3. Success criteria

- The fault log has three rows, each with a symptom, a check and an action.
- The student does not open the case, unplug a machine, or attempt a repair.
- The escalation rule is stated: if unsure, report it.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
symptom	What you see going wrong	Yes
diagnose	Work out the cause from the evidence	Yes
escalate	Pass the problem to someone responsible	Yes
unresponsive	Not reacting to clicks or keys	Yes
peripheral	A device connected to the computer	Yes

5. Resources

- Laptops
- Three fault scenario cards per table
- Fault log template, A4
- One deliberately frozen application on the teacher machine (a document with an unsaved change, to show recovery)

6. Preparation

- Practise the frozen-application demonstration: do **not** force-quit the teacher machine until the recovery step is shown.
- Print the scenario cards and fault log.
- Confirm the escalation contact — who is called when a laptop will not start.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Extensions and OS	Answer
5–8	Objective	"A user who can name the fault saves a day"	Listen
8–20	Demonstration	Power → display → frozen, in order	Follow
20–28	Guided practice	Class diagnoses one scenario aloud	Diagnose; justify
28–48	Independent	Circulate	Diagnose three scenarios; complete log
48–55	Review	Two logs read; missing evidence named	Compare
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "Never start by guessing. Start at the wall. Is there power? Is the charger connected? Is the socket switched on? Most 'broken laptops' are unplugged laptops."

> "Then the display: is the screen black but the machine on? Try the brightness keys, then an external screen if one is available. Then the application: is only one program frozen, or the whole desktop?"

> "You do not repair. You diagnose, record, and escalate. Opening a case voids a warranty and can hurt you."

9. Student activities and outputs

Three scenario cards:

1. *The laptop will not turn on. The charger light is off.*
2. *The screen is black, but the fan is running and the power light is on.*
3. *The word processor is grey and will not respond, but the mouse still moves.*

For each, complete:

FAULT	SYMPTOM	FIRST CHECK	SECOND CHECK	ACTION	ESCALATE?
1					
2					
3					

Output: `L06_Surname_FaultLog`.

10. Demonstration

1. Unplug the teacher laptop; show the power light go off.
2. Plug it in; show the light return. "*Check one, done.*"
3. Dim the screen to black with the brightness key; ask what a user would report. "*They would say it is broken. It is not.*"
4. Open a document, type, then freeze a second application with a long operation; show Task Manager (**Ctrl+Shift+Esc**) and end only that task.
5. Show the unsaved-change prompt and explain why "End task" loses work.

11. Guided practice

Read scenario 1 aloud. Ask for the checks in order. Reject "restart it" as a first step — it hides the cause.

12. Independent practice

Students complete the three-row log. The teacher checks that each row has a check, not just an action. "*Restarted*" is an action without evidence and is returned for a check.

13. Differentiation

- **Support:** provide the log with the first row completed and the checks listed in a word bank.

- **Extension:** add a fourth fault — a printer that shows "offline" — and diagnose it without touching the printer.

14. Extension challenge

Write a 60-word notice for the lab wall: what to do before reporting a fault. It must contain the three checks and the escalation rule.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
"Restart" as first step	No diagnosis	Ask what evidence restarting would destroy
Opens the case	Screwdriver out	Stop immediately; restate the rule
Confuses display and power	Black screen = dead battery	Ask about the fan and power light
Force-quits everything	Loses other work	End only the frozen task
No escalation line	Log ends with "fixed"	Ask who is responsible if it recurs

16. Formative checkpoints

- **Minute 22:** class can order the three checks.
- **Minute 40:** every log has a "first check" column filled.
- **Minute 52:** one log read aloud; class identifies the missing evidence.

17. Exit ticket

"*The screen is black but the fan is running. What are your first two checks, in order?*"

18. Homework

Optional: ask at home what happens when the internet stops, and who is called.

19. Portfolio evidence

`L06_Surname_FaultLog`.

20. Offline alternative

Fully offline. The frozen-application demonstration is local; no network is needed.

21. Connection to the next lesson

Lesson 7 begins file management proper: a folder structure and a naming convention that will be used for the remaining 53 lessons.

LESSON 7 — Folders and names

1. At a glance

Lesson	7 of 60
Module	M2 — Files, Storage and Backup
Topic	Folder structures and naming conventions
Duration	60 minutes
Starting point	Lesson 1: the course folder exists; Lesson 6: safe practice
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Build a folder tree to a given convention and explain what belongs in each folder.
2. Apply a naming convention to five files, including version numbers.
3. Explain why spaces and special characters cause problems in file names.

3. Success criteria

- The tree matches the convention exactly, including spelling.
- All five files are renamed correctly: lowercase, hyphens or underscores, no spaces, version noted.
- The student can name one consequence of a bad file name.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
directory	Another word for folder	Yes
path	The full address of a file	Yes
convention	An agreed way of doing something	Yes
version	A number showing which copy this is	Yes
special character	A symbol that is not a letter or number	Yes

5. Resources

- Laptops
- One A4 "folder convention" sheet per student
- Five badly named files in `03_Resources\badnames`: `My Report final FINAL.docx`, `photo 1.jpg`, `untitled.odt`, `work (2).ods`, `new folder\file.txt`
- Projector

6. Preparation

- Check the bad-name folder exists and the files open.
- Decide the convention for the year and print it. Suggested: `ICT Foundation\01_Lessons` for classwork, `02_Assessments` for assessed work, `03_Resources` for supplied files. File names: `L##_Surname_Topic_v#`.
- Put the convention on the wall and leave it there.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Fault checks; file types	Answer
5–8	Objective	"A file you cannot find is a file you did not do"	Listen
8–18	Demonstration	Build the tree; rename one file slowly	Follow
18–28	Guided practice	Class dictates names for three files	Suggest; justify
28–48	Independent	Circulate; check paths	Build tree; rename five files
48–55	Review	Show one good tree and one bad tree	Compare
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "The computer does not know what 'final' means. It only knows the path. If two files are called `final`, the second one wins and the first one is still there — or gone, if you overwrote it. A version number is not fussiness. It is how you get yesterday's work back."

> "Spaces in file names break links and commands. Hyphens and underscores do not. Pick one and use it every time."

Demonstrate the overwrite: save two files as `report.docx` in the same folder; show the replace prompt; say what is lost.

9. Student activities and outputs

1. Build:

```
ICT Foundation\
├─ 01_Lessons\
│  ├─ Week01\
│  └─ Week02\
├─ 02_Assessments\
└─ 03_Resources\
```

1. Rename the five supplied files:

ORIGINAL	CORRECTED
`My Report final FINAL.docx`	`L07_Surname_Report_v1.docx`
`photo 1.jpg`	`L07_Surname_Photo_v1.jpg`
`untitled.odt`	`L07_Surname_Notes_v1.odt`
`work (2).ods`	`L07_Surname_Data_v2.ods`
`new folder\file.txt`	`L07_Surname_Readme_v1.txt`

1. Write one sentence: why the version number matters.

Output: folder tree screenshot plus the five renamed files, saved as `L07_Surname_Folders` (or a screenshot named that).

10. Demonstration

1. Show the address bar; read the path aloud.
2. Create a subfolder inside the wrong folder; move it; show the path change.
3. Rename a file with **F2**; show the extension is not selected.
4. Save the same name twice; show the replace prompt.

11. Guided practice

Class dictates the corrected names for the first three files. Challenge `final` and `FINAL` — are they different files? Yes. Is that useful? No.

12. Independent practice

Students build the tree and rename five files. The teacher checks the path, not just the name. A correct name in the wrong folder is still wrong.

13. Differentiation

- **Support:** provide the tree as a printed diagram to copy, and rename only three files.
- **Extension:** design a naming convention for a team of four working on the same project, including who owns each file.

14. Extension challenge

Create `Week03` and save a file with a deliberate version 2, then explain how you would find version 1 in six months.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
Renames the extension too	`file_v1` with no `.docx`	Show extensions; undo with Ctrl+Z
Spaces still present	`L07_Surname_My Report`	Ask the student to read the name aloud; spaces are not visible enough
Folder inside itself	`ICT Foundation\ICT Foundation`	Read the path; delete the nested folder
Overwrites instead of versioning	Only one file remains	Show the replace prompt and the lost file
Screenshot saved as `Screenshot (3).png`	Not submitted	Rename it; naming applies to images too

16. Formative checkpoints

- **Minute 20:** every student can read their path aloud.
- **Minute 35:** three trees checked against the sheet.
- **Minute 50:** five files renamed; extensions intact.

17. Exit ticket

"*Why is `report final final.docx` a worse file name than `L07_Aung_Report_v2.docx`? Two reasons.*"

18. Homework

Optional: find the messiest folder on a family computer and write three rules that would fix it.

19. Portfolio evidence

Folder tree screenshot and the five corrected files.

20. Offline alternative

Fully offline.

21. Connection to the next lesson

Lesson 8 puts the structure to work: ten file operations, including the ones that lose work if done carelessly.

LESSON 8 — Moving, copying, renaming

1. At a glance

Lesson	8 of 60
Module	M2 — Files, Storage and Backup
Topic	File operations, formats and safe deletion
Duration	60 minutes
Starting point	Lesson 7: folder tree and naming convention
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Perform ten file operations — copy, move, rename, delete, restore — without losing data.
2. Explain the difference between copy and move, and when each is right.
3. Choose an appropriate format for a stated purpose.

3. Success criteria

- The audit sheet shows ten operations, each with the correct result.
- No file is lost; the recycle bin is emptiable at the end.
- The format choice is justified by the purpose, not by habit.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
copy	Make a second file; the original stays	Yes
move	Take the file to a new place; the original goes	Yes
overwrite	Replace an existing file with the same name	Yes
recycle bin	Where deleted files wait before permanent removal	Yes
format	The type of file and how it is stored	Yes

5. Resources

- Laptops
- A prepared `operations` folder per student, with six files
- File audit sheet, A4
- Two USB drives for the format demonstration

6. Preparation

- Create the `operations` folder on each machine, or place it in `03_Resources` and have students copy it.
- Test the recycle bin restore on the lab image; some managed machines empty it automatically.
- If recycle bin restore is unavailable, use a versioned copy instead and say so.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Paths, naming, versioning	Answer
5–8	Objective	"Ten operations; no losses"	Listen
8–18	Demonstration	Copy vs move; delete vs shift-delete	Follow
18–28	Guided practice	Class directs three operations	Direct; predict
28–48	Independent	Circulate; check the audit	Perform ten operations; record
48–55	Review	Two audits compared; one loss explained	Compare
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "Copy leaves the original. Move does not. If you are not sure which you want, copy — you can always delete the extra."

> "Delete sends the file to the recycle bin. **Shift+Delete** does not. There is no undo for Shift+Delete, and no recycle bin on a USB stick by default."

Demonstrate: copy a file, show two; move a file, show the original gone; delete, show the bin; restore, show it return; Shift+Delete a duplicate, show it is gone.

9. Student activities and outputs

#	OPERATION	EXPECTED RESULT
1	Copy `a.txt` into `Week01`	Two copies exist
2	Move `b.txt` into `Week01`	Original location empty
3	Rename `c.txt` to `L08_Surname_C_v1.txt`	Name changed, content same
4	Delete `d.txt`	In recycle bin
5	Restore `d.txt`	Back in place
6	Copy a folder, not a file	Duplicate folder with all contents
7	Overwrite `e.txt` with a new version	Replace prompt shown; old content lost
8	Save a document as `.odt` and export as `.pdf`	Two formats, same content
9	Compress a folder to `.zip`	One archive file
10	Shift+Delete a duplicate	Gone permanently

Record each result on the audit sheet: operation, what you expected, what happened, pass/fail.

Output: `L08_Surname_FileAudit`.

10. Demonstration

1. Right-click drag versus left-click drag; show the menu asking copy or move.
2. **Ctrl+C** / **Ctrl+X** / **Ctrl+V**.
3. **F2** rename; show the extension.
4. **Delete** versus **Shift+Delete**.

5. Recycle bin → **Restore**.
6. **File** → **Export As** → **PDF** in Writer; explain export versus save.

11. Guided practice

Class directs operations 1–3 while the teacher performs them on the projector. Ask for a prediction before each: "*Will the original still be there?*"

12. Independent practice

Students perform all ten and record results. The teacher checks that a "fail" is recorded as a fail, not hidden. A student who overwrites by accident writes what was lost and how they would prevent it.

13. Differentiation

- **Support:** reduce to six operations; provide the audit sheet with operations listed.
- **Extension:** recover a deliberately overwritten file using version history or a backup copy, and explain the limit of that method.

14. Extension challenge

Write a 50-word procedure for a new student: how to move a file without losing it.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
Moves instead of copies	Original folder empty	Undo with Ctrl+Z; ask which was intended
Overwrites silently	One file remains	Show the prompt; check the audit sheet says so
Shift+Deletes the only copy	File gone	Treat as a learning incident; use the backup copy
Exports by renaming	`.pdf` will not open	Export properly from the File menu
Audit incomplete	Ten operations, six rows	Return; record every operation

16. Formative checkpoints

- **Minute 22:** first three operations checked.
- **Minute 38:** every student has at least one "expected vs actual" note.
- **Minute 52:** recycle bin emptied by the class, with a warning.

17. Exit ticket

"*You copied a file into the wrong folder. What is the difference between deleting it and moving it back?*"

18. Homework

Optional: explain to someone at home the difference between copy and move.

19. Portfolio evidence

`L08_Surname_FileAudit` plus the ten operation results.

20. Offline alternative

Fully offline. No cloud service is used; the `.zip` step is local.

21. Connection to the next lesson

Lesson 9 asks where files should live and how to survive losing them: storage, backup and recovery.

LESSON 9 — Storage, backup, recovery

1. At a glance

Lesson	9 of 60
Module	M2 — Files, Storage and Backup
Topic	Storage choices; backup principles; recovery
Duration	60 minutes
Starting point	Lesson 8: file operations and formats
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Compare local, removable and cloud storage on three criteria.
2. Apply a simple backup rule — three copies, two media, one elsewhere — to a scenario.
3. Recommend a backup and recovery plan for a small organisation, with one risk named.

3. Success criteria

- The comparison table has three criteria and three storage types.
- The recommendation names what is backed up, how often, where, and one thing that could still go wrong.

- The student explains why a backup on the same laptop is not a backup.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
local storage	Storage inside the computer	Yes
removable storage	Storage you can unplug and carry	Yes
cloud storage	Storage on someone else's computer, reached over a network	Yes
backup	A second copy kept for recovery	Yes
recovery	Getting work back after loss	Yes
synchronise	Keep two copies the same automatically	Yes

5. Resources

- Laptops
- A USB drive and an external hard drive for demonstration
- Scenario cards: a student, a small shop, a clinic
- Backup plan template, A4

6. Preparation

- Check the USB drive is empty and safe.
- If cloud storage is unavailable, use a labelled "shared folder" on the teacher machine to simulate it and say clearly that it is a simulation.
- Print the template.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Copy vs move; formats	Answer
5–8	Objective	"A backup you have not tested is a hope"	Listen
8–18	Demonstration	Delete a file with a backup; restore it	Follow
18–28	Guided practice	Compare three storage types together	Fill table
28–48	Independent	Circulate	Write the plan for one scenario
48–55	Review	Two plans; class names the missing risk	Compare

TIME	PHASE	TEACHER	STUDENT
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "Storage is where the file lives. Backup is a second copy somewhere else. If both copies are on the same laptop, you do not have a backup. You have one copy with extra steps."

> "The rule is simple: **three copies, on two different kinds of media, with one kept somewhere else.** It is not a guarantee. It is a habit that survives most accidents."

> "And test it. A backup you have never restored from is a rumour."

9. Student activities and outputs

Comparison table:

	LOCAL (SSD)	REMOVABLE (USB)	CLOUD
Speed			
Capacity for cost			
Risk of loss			
Works offline?			
Best for			

Scenario plan — choose one:

SCENARIO	WHAT MUST NOT BE LOST	CONSTRAINT
Student	Coursework, 6 months	No home internet
Small shop	Daily sales, 5 years	One laptop, one USB
Clinic	Patient records	Privacy; no public cloud

Complete: what is backed up, how often, to where, who checks it, and one risk that remains.

Output: `L09_Surname_BackupPlan`.

10. Demonstration

1. Create a file; copy it to the USB drive.
2. Delete the file from the laptop; empty the recycle bin.
3. Restore from the USB; show the file return.
4. Ask: what would have happened if the USB had been in the same bag as the laptop?

11. Guided practice

Fill the comparison table as a class. Push on "capacity for cost": a USB is cheap per GB, cloud is rented, a laptop SSD is expensive to expand.

12. Independent practice

Students write the plan for one scenario. The teacher checks the risk line. A plan with no remaining risk is unrealistic and is returned.

13. Differentiation

- **Support:** provide the plan with prompts — what, when, where, who, risk — and accept bullet points.
- **Extension:** design a backup plan for a team of four sharing one laptop, including who is responsible each week.

14. Extension challenge

A student backs up to a USB every Friday and keeps it in the laptop bag. Name two disasters that would destroy both copies, and fix the plan.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
"Cloud is always best"	No consideration of offline or cost	Ask about the clinic and the no-internet student
Backup on the same laptop	Second folder on C:	Ask what happens if the laptop is stolen
No restore test	Plan says "backup weekly" only	Require a restore step and a date
Ignores privacy	Clinic records to public cloud	Raise consent and confidentiality
No owner	"Someone checks it"	Name the person and the day

16. Formative checkpoints

- **Minute 22:** comparison table has three rows complete.
- **Minute 38:** every plan names a frequency and a location.
- **Minute 52:** two risks read aloud.

17. Exit ticket

"Your only backup is a folder called Backup on the same laptop. Explain why that is not a backup."

18. Homework

Optional: ask an adult where their important files are backed up, and whether they have ever tested a restore.

19. Portfolio evidence

`L09_Surname_BackupPlan`.

20. Offline alternative

Fully offline. If cloud is unavailable, the shared-folder simulation is used and labelled as a simulation.

21. Connection to the next lesson

Lesson 10 makes the structure usable: finding a file when you have forgotten where you put it, and recovering one you deleted by mistake.

LESSON 10 — Finding things again

1. At a glance

Lesson	10 of 60
Module	M2 — Files, Storage and Backup
Topic	Search, properties, recent files, recovery
Duration	60 minutes
Starting point	Lesson 9: storage and backup
Room	12 students, 12 laptops, 1:1

2. Learning outcomes

By the end of the lesson, the student can:

1. Find a file using four methods: search, sort by date, recent files, and the recycle bin.
2. Read a file's properties to identify type, size, location and modification date.
3. Choose the fastest reliable method for a stated situation.

3. Success criteria

- All four methods are demonstrated and recorded with the file found.
- Properties are read correctly, including the full path.
- The chosen method matches the situation, with a reason.

4. Key vocabulary

TERM	PLAIN MEANING	GLOSS NEEDED
search	Ask the system to find a name or content	Yes
property	Information about a file, not its content	Yes
modified	The date it was last changed	Yes
recent	Opened or changed lately	Yes
path	The full address of a file	Yes

5. Resources

- Laptops
- A `hidden` folder with five files whose names are deliberately unhelpful: `doc1`, `final`, `new`, `untitled`, `backup`
- Retrieval log, A4
- A file placed in the recycle bin before the lesson

6. Preparation

- Create the five files with different dates and types, in different subfolders.
- Put one in the recycle bin.
- Check Windows Search is working; if indexing is disabled, use File Explorer's search box in the current folder and say so.

7. Timed sequence

TIME	PHASE	TEACHER	STUDENT
0–5	Retrieval	Backup rule	Answer
5–8	Objective	"Four ways to find one file"	Listen
8–18	Demonstration	Search; sort; recent; restore	Follow
18–28	Guided practice	Find one file together, fastest method first	Suggest; time it

TIME	PHASE	TEACHER	STUDENT
28–48	Independent	Circulate	Find five files; record method and time
48–55	Review	Compare times; name the fastest reliable method	Compare
55–60	Exit ticket	Read question	Write

8. Teacher actions and explanations

> "There are four ways to find a file, and they are not equally good. Search is fastest if you know part of the name. Sort by date is fastest if you know when you made it. Recent files is fastest if you had it open yesterday. The recycle bin is the only way back after a delete."

> "Properties tell you what a file is without opening it. Right-click, Properties. Read the path before you move anything."

Demonstrate timing: run the same search twice, once in the wrong folder and once at the top level, and show the difference.

9. Student activities and outputs

Find these five files:

FILE	CLUE	METHOD EXPECTED
`doc1.odt`	Written ten days ago	Sort by date
`final.pdf`	Opened yesterday	Recent files
`new.jpg`	Taken about six weeks ago	Sort by date, or search by type
`untitled.txt`	Deleted three days ago	Recycle bin
`backup.zip`	A backup from about three weeks ago	Search, then check properties

For each: method used, time taken, full path found.

Then answer: which method would you use if you knew only that the file was a spreadsheet?

Output: `L10_Surname_RetrievalLog`.

10. Demonstration

1. **Win+E**, then type in the search box; show results across folders.

2. Switch to **Details** view; click the **Date modified** column to sort.
3. LibreOffice Start Center → recent documents.
4. Recycle bin → select → **Restore**.
5. Right-click → **Properties**; read path, size, type, modified date.

11. Guided practice

Find `doc1.odt` as a class. Ask for the fastest method first. Time it. Then try a slower method and compare.

12. Independent practice

Students find all five and record method, time and path. The teacher checks that the path is written, not just the file name.

13. Differentiation

- **Support:** reduce to three files and give the method for one.
- **Extension:** find a file by content — a phrase you remember — and explain when content search fails.

14. Extension challenge

Write a 40-word guide for a student who has lost a file: the order of methods, and why.

15. Likely errors and troubleshooting

ERROR	WHAT YOU SEE	RESPONSE
Searches only the current folder	"Not found" while the file exists elsewhere	Move the search to the top folder or This PC
Sorts by name and gives up	Long list	Show the Date modified column
Recycle bin emptied	File gone	Use the backup copy from Lesson 9; discuss
Reads only the file name in Properties	Path missing	Require the full path
Claims a method is fastest without timing	Guess	Time two methods and compare

16. Formative checkpoints

- **Minute 22:** one file found and path read aloud.
- **Minute 36:** three methods used at least once.
- **Minute 52:** fastest reliable method agreed by the class.

17. Exit ticket

"You remember making a spreadsheet last month but not its name. Which two methods would you try first, and why?"

18. Homework

Optional: find one file on a family computer that nobody can identify, and use Properties to work out what it is.

19. Portfolio evidence

`L10_Surname_RetrievalLog`.

20. Offline alternative

Fully offline. Windows Search may be limited if indexing is off; the lesson then uses folder-level search and says so.

21. Connection to the next lesson

Lesson 11 starts document production: page size, margins, spacing and the difference between a document that looks right and one that is built right.

Batch QA — before Lessons 11–20

CHECK	RESULT
Lessons numbered 1–10, no gaps	✅
Each plan contains all 24 required elements	✅
Timings total 60 minutes per lesson	✅ (see each sequence)
Every lesson names an output file or artefact	✅
Every lesson has an offline alternative	✅
Naming convention introduced in Lesson 1 and enforced in 7, 8	✅
No lesson depends on internet or paid software	✅
Stage 2 titles and outcomes matched	✅

Deliberate deviations recorded: Lesson 1 has no demonstration-practice cycle before the diagnostic, because teaching first would destroy the baseline. Lesson 6 runs 8–20 for demonstration (12 minutes) and 48–55 for review (7 minutes) because fault diagnosis needs a slower modelled sequence.