Laptop:

Different manufacturers = Different building processes

Battery => Lithium-Ion (Li-Ion)
Lithium-Ion polymer
} Doesn't affect battery life

Most used Part = Keyboard

Fix keyboard issues => use a usb-keyboard (external)

Memory: Small outline Dual In-line Memory Module (SO-DIMM)

↳ can be manually taken out if it's not soldered in Motherboard

Storage: Magnetic disk 2.5/3.5 inch for Laptops (old)

SSD (Solid-state drive)

↳ all Memory no spinning Disc

↳ newer laptops comes in M.2 factor → Installation => find slot and slide it inside

Smaller no SATA data/power cables

HDD → SSD: → use a imaging/cloning software

802.11 Wifi/BT: → often integrated in Motherboard

LAN = Local area Network

creates a PAN = Personal area Network

↳ is short range

Biometrics: Face-ID/fingerprint → may requires additional OS configuration

NFC: Near field communication => 4cm or less range

→ used for payments (Apple/G-Pay)

Data transfer

authentication (Workstations/warehouses)

Connecting mobile Devices

USB: Universal Serial Bus
↓
Micro-USB: smaller USB-plug
↓
Type A: still used for e.g. keyboard...

USB-C: 24-Pin double sided USB-connector
↳ acts as USB 2.0/3.0/3.1/4
↳ DP/HDMI/Thunderbolt can use this
↳ future safe

Lightning: Made by apple
- 8-Pin digital signals
- higher Power output for Apple devices

Hotspot/Tethering:
- Phone acts as a WiFi Router
- Depends on phone type and Drivers
BUT it's Mostly integrated to all relatively modern phones

Accessories:

Stylus Pen
↳ uses BT
↳ Pressure sensor to imitate real Pen/-cil feeling

Headset:
- Hands-free audio
↳ uses BT/cable (USB)
- older connector = TRRS (tip-ring-ring-sleeve) 3.5mm

Speakers (not phone):
- uses BT
- Battery powered

Camera/webcam:
- internal/external
- once connected acts as normal cam

Docking station:
- allows multi device connections
- saves un/plugging of cables

Port replicator:
- connector over USB
- affordable
- many different connection options

Trackpad:
- replaces mouse
- Battery powered (external)
↳ BT
- more or different features
↳ zooming

Drawing Pad: uses Stylus w/ external digitalizer

cross-device support
cross-OS support

Mobile Device Networks

Cellphone = Cell covers from Cellular Networks

enable/disable voice/data => button in settings
or
Airplane Mo

Started with 3G tech: introduced in 1998

- Features => send/receive large data

↳ new features => GPS; Mobile television; Video on demand; Video conferencing

3G → 4G/LTE upgrade:

Long-Term-Evolution

- based on GSM (Global System for Mobile Communications)
and
EDGE (Enhanced Data Rates for GSM Evolution)

up to 130 kbit/s —later→ up to 300 Mbit/s

4G/LTE → 5G: up to 10 gigabits/s

- IoT (Internet of Things)
↳ larger data
faster notifications

Wi-Fi:

- Limited range
- Wi-Fi calling
↳ if cellular coverage is not enough
Wi-Fi calling can be used as replacement

Subscriber Identity Module (SIM)

- Mobile Network Identity is stored on physical SIM card → transfer to new phone gives that phone the identity
- stores SIM ID & Phone Number

eSIM:

- Not physically available

GPS - Global Positioning System: uses Longitude, Latitude, altitude

- 4 Satellites = precise navigation

sometimes close cell towers

MDM - Mobile Device Management

Manage company devices
or
Personal - BYOD (Bring your own Device)

special software to manage all Devices centrally

configure rules on: apps, data, camera, etc...
↳ in control of entire Device
or
partition alone

BYOD: → needs to meet company req.
↳ difficult to set up
Difference between Personal / company Data

COPE - Corporate owned, personally enabled
- Company buys the device
- can be used personal / corporate
- organization has 100% control
↳ manage how data is maintained

MDM policy enforcement:
- no config from user needed
↳ MDM makes device changes
- 2FA can be added
- decide what apps can be installed or auto install apps

MDM - device sync
- many settings preconfigured
- different e.g. mail services configured over MDM
- what happens if device breaks, fails etc.

Data types: Calender, Contacts
- enable / disable network connections

Business apps:
- email
- what items appear in device