**Hardware Types: Compare & Contrast Worksheet**

**Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Date:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Class/Group:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Task Overview**

Research and complete the comparison grid to evaluate the purposes and features of the following physical computer types: Personal Computers (desktops/laptops), Mobile Devices (smartphones/tablets), Servers, and Embedded Devices.

*Use trustworthy sources, note your references, and be specific (include examples, model names, specs, figures).*

**Learning Intent & Success Criteria**

* Identify typical purposes and functions of each device category.
* Compare key features including cost, resilience, performance, and manageability.
* Support comparisons with concise, evidence-based notes and real examples.

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| --- | --- | --- | --- | --- |
| **Criteria** | **Personal Computers** | **Mobile Devices** | **Servers** | **Embedded Devices** |
| **Typical Purpose / Use Cases** |  |  |  |  |
| **Key Functions** |  |  |  |  |
| **Initial Purchase Cost (£) — typical range** |  |  |  |  |
| **Total Cost of Ownership (TCO) — power, support, licensing** |  |  |  |  |
| **Performance (CPU/GPU/RAM/IO) — indicative** |  |  |  |  |
| **Power Consumption / Battery Life** |  |  |  |  |
| **Portability / Form Factor** |  |  |  |  |
| **Resilience & Reliability (e.g., redundancy, durability, MTBF)** |  |  |  |  |
| **Scalability / Expandability (RAM/Storage/Nodes)** |  |  |  |  |
| **Security Features (TPM/Secure Boot/MDM/Isolation)** |  |  |  |  |
| **Manageability (remote admin, updates, monitoring)** |  |  |  |  |
| **Connectivity (I/O, network, wireless, peripherals)** |  |  |  |  |
| **Operating Systems / Software Ecosystem** |  |  |  |  |
| **Environmental Impact (materials, energy, E‑waste)** |  |  |  |  |
| **Lifecycle / Upgradeability / Maintainability** |  |  |  |  |
| **Compliance & Safety (e.g., CE, FCC)** |  |  |  |  |
| **Real‑World Examples / Models** |  |  |  |  |
| **Notes & Evidence (source snippets, metrics)** |  |  |  |  |

**Research Guidance**

* Use official vendor documentation (e.g., Dell, Lenovo, Apple, HPE, AWS on‑prem servers) and reputable reviews (e.g., Tom’s Hardware, AnandTech).
* Record URLs and access dates. Aim for UK pricing where possible.
* Prefer quantitative comparisons (clock speeds, cores, watts, benchmark notes) over vague terms.

**Your Sources (URLs):**

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**Extension Challenge**

Recommend a suitable device type (or combination) for each scenario: a) school IT suite refresh, b) mobile field data capture team, c) start‑up web app deployment. Justify with 3–5 concise bullet points each.