

Criteria for choosing mobile devices and related technologies

The requirement levels in the recommendations are expressed using specific word, based on the RFC 2119 terminology.



- 1. **MUST**
- 2. **SHOULD**
- 3. **MAY**
- 4. **SHOULD NOT**
- 5. **MUST NOT or SHALL NOT**

MUST	the element is an absolute requirement of the specification
SHOULD	there may be valid reasons in particular circumstances for ignoring a particular element, but all implications must be understood and carefully weighed before choosing a different path
MAY	the element is truly optional
SHOULD NOT	there may be valid reasons in particular circumstances where a particular behaviour is acceptable or even useful, but all implications should be understood, and the case carefully weighed before implementing any behaviour described with this notation
MUST NOT	the element is an absolute prohibition of the specification

Figure 1: Required level of recommendations

1. Hardware Features

Mobile devices must comply with a set of characteristics and recommendations to ensure proper use in school

Feature	Recommendation for mobile device	Reason
screen size	SHOULD be greater than 9 but to a maximum of 14 inches	A size smaller than 9 inches penalizes the possibilities of reading and producing content. A screen size bigger than 14 inches might be too big for the schoolbag and the table during lessons
resolution	SHOULD be min 1080p	To display documents, graphs, tables and text properly and to work on the device the resolution should be 1080p (FHD) or more. 720p (HD) is possible, but for proper work in Office it is too less.
weight	SHOULD NOT exceed 1.2 kg excluding accessories	For the same reasons as above.
connectivity	MUST have Wi-Fi	Students and teachers need to connect to the internet via the school's Wi-Fi network
screen cast	MAY be able to wirelessly connect to a beamer or screen.	This encourages the sharing of students' work in the classroom and collaborative work.
battery life	SHOULD offer sufficient battery life for one school day.	The classrooms are not equipped to load all the students' mobile equipment. Note that during a normal school day, the device is not necessarily permanently switched on. In case of a smaller device (< 10 inches) 30 Wh and in case of a bigger device 50 Wh are good.

storage	Available memory SHOULD be at least 32 GB and SHOULD be a Flash Memory (SSD, EMMC...) MAY be equipped with an external memory.	The mobile device also MAY be equipped with an external memory such as a micro SD card to expand its memory capacity. A spinning hard drive (HDD) is not so durable in a mobile device.
RAM	Laptops or convertibles (Windows, Linux, MAC OS, Chrome OS) MUST have at least 4GB	The device gets very slow when the RAM is fully used by the OS and the applications. For proper work enough RAM is very important.
camera	SHOULD have at least one camera	In order to make photos of documents or students' work and make small videos for learning reasons. The quality of the camera SHOULD be adapted to the use.
Microphone	SHOULD have a built-in microphone	
Touch screen	SHOULD have touch screen	The device SHOULD have a touch screen while using the calculator software. Touch pen MAY be used.

2. Accessories

Feature	Recommendation for mobile device	Reason
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protection	Protective cover or shell SHOULD be associated with the mobile device (if it is not reinforced to limit damage).	<p>To sustain the lifetime the device SHOULD be protected in some way to avoid damages on screen and device.</p> <p>The protective cover SHOULD allow the mobile device to be placed in an upright or tilted position, not just flat, making it easier to view the media.</p>
keyboard	A physical keyboard SHOULD be associated with the mobile device	<p>Tablets all have virtual keyboards, which are not suitable for mass content production, especially in Secondary. Thus, a physical keyboard compatible with the mobile equipment SHOULD be associated with the mobile equipment.</p> <p>However, the virtual keyboard has the advantage of being able to adapt to the context of use of the device (e.g. various languages) and offers a solution to the problem of specific characters.</p>
accessories	MAY be associated with the mobile device, but MUST be adapted so as not to interfere with its use	<p>Mobile equipment must be able to respond to many situations and allow a variety of uses. Accessories MAY be associated with the mobile device (e.g. pointing pen, fine-tip stylus for writing with the hand, technical probes, etc.), depending on the educational uses expected in the school or establishment, or special needs (e.g. disability compensation).</p> <p>Several subjects or situations (modern languages, music education, school outings, podcasting, certain cases of visual impairment) require the use of headphones or earphones.</p> <p>The accessories selected to complement the mobile equipment MUST be adapted so as not to degrade its use. For example, make sure that the protective cover does not obstruct the camera, microphone, speakers, plugs, buttons...</p>

3. Software

Software	Recommendation	Reason
Operating system	The mobile device MUST have the latest updates for the operating system of the device.	The mobile device MUST have received the latest updates for the operating system (Windows 10 or Mac OS X) iOS, ChromeOS or Android do not support all the software.
Virus protection	The mobile device MUST have up-to-date virus protection software	To protect personal data and the school's network, the personal device MUST have up-to-date virus protection software.
GeoGebra Classic 6	GeoGebra classic 6 MUST be installed on the mobile device	The software MUST be installed on the mobile device. This is the calculator software for the maths lessons and needs to be used with or without connection to the school's Wi-Fi network. You can download the software here, for free: www.geogebra.org/download
Office 365	Office 365 MAY be installed on the mobile device	The Office365 suite MAY be installed on the mobile device. This is no mandatory software to follow the lessons. You can download the software here, for free: office365.eursc.eu . You sign in to the software with your student account: <i>123456ab@student.eursc.eu</i>