SYSTEM AND BANDWIDTH REQUIREMENTS

Here are the minimum system requirements for NWEA Web-based products.

Online copy: https://teach.mapnwea.org/impl/QRM2_System_Requirements_QuickRef.pdf.

Student Testing Requirements

Device	Operating System	Browser for MAP	Browser Choices for Skills Navigator®
Windows® PC	Windows 7, 8, 8.1, or 10	MAP lockdown browser for PC, July 2015 release required* Note: Installation includes .NET Framework, which is required.	Firefox 45 or higher, Chrome 41 or higher
Macintosh®	Mac OS® X v10.8, .9, .10, or .11	MAP lockdown browser for Mac, Aug 2013 release (3.0.0.2) or later recommended, running on: Safari® 6.2‡ minimum – 9 max	Safari 6.2 minimum – 9 max, Firefox 45 or higher, Chrome 41 or higher
iPad®	iOS 8 or 9	MAP Testing App Latest update: July 2016	Safari® 8 minimum – 9 max (no App needed)
	Note: Testing not supported on iPad v.1, and Pro models require the latest MAP Testing App		
Chromebook™	Google Chrome™ OS 41 or higher	MAP Chromebook Testing App Latest update: July 2016	Chrome 41 or higher

* Check your version—On each PC, you can start the lockdown browser and type: Ctrl+Alt+V. If the pop-up that appears is a version below 5.0.185.0, you must re-install with the latest version, available from the MAP homepage.

Other requirements: Bring headphones for primary grades testing. Recommended: Set up computer user accounts dedicated to testing, and disable assistants like Siri and Cortana. See the System and Technology Guide for details.

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Teachers and Staff Requirements

Device	Operating System	Internet Explorer	Safari	Firefox	Chrome
Windows® PC	Windows 7, 8, 8.1, or 10	10 or 11		45 or higher	41 or higher
Macintosh®	Mac OS® X v10.8, .9, .10, or .11		Safari® 6.2‡ minimum – 9 max	45 or higher	41 or higher
Chromebook™	Google Chrome OS (v41 or higher is best)				41 or higher
iPad®	Not supported at this time				

Other requirements: PDF viewer, such as Adobe Reader®. Also, follow specific browser settings, such as allowing cookies and pop-ups for the MAP URL; see the *System and Technology Guide*.

‡ If Safari below 6.0, use Chrome or Firefox instead of the lockdown browser.

Hardware Specifications

Computer hardware must meet the minimum requirements specified by the manufacturers of the operating system and browser in use. Hardware that exceeds the minimum is recommended for an optimal experience. The resources for NWEA Web-based products are similar to other Web-based applications. For computer display, follow these specifications:

- Screen Resolution: 1024 x 768 or more

- Color Depth: 32-bit recommended (minimum 16-bit)

Network Bandwidth

The following bandwidth recommendations are based on best estimate calculations. Test sites that do not meet these recommendations will be able to deliver assessments, but may experience delays.

- MAP and Skills Navigator testing — **2 Mbps** for every 30 computers concurrently testing

- MAP for Primary Grades testing — **3 Mbps** for every 30 computers concurrently testing. More bandwidth is required because of audio and interactive features

- Look for limitation points in your internal network (such as school-to-district connections when the district has the main Internet connection)

- You may need to calculate the bandwidth requirements separately for each test season, depending on the tests planned. The requirements increase when you test more students, more subjects, or more schools.

Note: Additional bandwidth is needed at the beginning of each test. The initial load is approximately 2.2 MB, and the load time varies based on available bandwidth.

To perform an Internet speed test, use a Web site such as www.speedtest.net and select Portland, Oregon (the primary location of NWEA servers). For each building where testing will take place, perform the test at different times during the school day.

Wireless Recommendations

Here are general guidelines for Wireless Access Points (WAPs), based on 802.11 g, n, or ac:

- under 25 devices per WAP = Okay

- between 26 to 50 devices = Check the performance

- over 50 devices = Try to decrease the number of devices

- WAP in the same room as the testing devices

In the WAP configuration, strive to limit connections to just testing devices. Also, limit devices to connect only with the closest WAP (for example, avoid overlapping channels and disable promiscuous mode on devices). During testing, monitor for interference from rogue WAPs, non-testing devices, and non-testing activities, like iOS updates. If errors occur, try disabling automatic load balancing.

Firewall and E-mail Configuration

For the following URLs, you should: add to your white lists, exclude from caching, and prioritize the traffic. Example equipment includes your firewall (hardware and software), content filter, and proxy server/cache. Allow the changes to propagate before testing.

- **Sites for test and administration:**

    `*.mapnwea.org`

    Or, if you cannot use the asterisk (*) wildcard character: `https://teach.mapnwea.org`
    `https://test.mapnwea.org`
    `https://cdn.mapnwea.org`

    Also, if using Skills Navigator: `https://skillsnav.mapnwea.org`

- **Site for test warm-up practice (MAP only):**

    `http://warmup.nwea.org`

- **Sites for training and documentation:**

    `http://nwea.adobeconnect.com`
    `http://destinationpd.nwea.org/`

- **Allow in e-mail spam filter (both server and clients):**

    `*@nwea.org`