

SYSTEM AND BANDWIDTH REQUIREMENTS

Here are the minimum system requirements for the MAP[®] suite. See the [MAP Help Center](#) for details.

Student Testing Requirements

Student technology requirements depend on whether or not your schools require secure testing:

- **Secure Testing:** Recommended for MAP Growth[™]. With proper setup, tools from NWEA will prevent students from accessing other websites. When implementing MAP Growth, your district can choose a setting that requires all students to use one of the secure testing tools.
- **Browser-Only Testing:** Only recommended for MAP Skills[™] and MAP Reading Fluency[™]. For MAP Growth[™], testing with a standard browser is possible, but students could access outside resources during the test. As a result, you risk **compromising your assessment** of their performance and growth.

Secure Testing

As a best practice, use NWEA secure testing browsers and apps (also called "lockdown browser") for MAP Growth[™] testing. With proper set-up, these tools prevent students from accessing other websites.

Device	Operating System	Secure Testing Tool ‡
Windows [®] PC *	Windows 7, 8.1, or 10	NWEA secure browser for PC
Macintosh [®]	Mac OS [®] X v10.11 to 10.14	NWEA secure browser for Mac, running on Safari [®] 9 minimum– 12 maximum
iPad [®]	iOS 10 to 12.	For MAP Growth, use NWEA Secure Testing App For MAP Reading Fluency [™] , use Reading Fluency Secure Testing App, most recent version (updated regularly—check the maintenance dates and NWEA status page)
Chromebook [™] *	Google Chrome [™] OS 65 or higher	NWEA Secure Testing App

‡ For all NWEA tools, you must use the versions posted February 2018 or later. For installation instructions, see the [System and Technology Guide](#).

* Touch screens are not supported, and Chromebook tablets are only supported with an external keyboard.

Recommended: Set up computer user accounts dedicated to testing, and disable digital assistants (Siri[®] and Cortana[®]), voice dictation, and unsupported screen readers (ChromeVox[™] and VoiceOver[™]). See the [System and Technology Guide](#) for details.

Browser-Only Testing

Testing with only a standard browser is advised for MAP Skills™ and MAP Reading Fluency™, because the risk to assessment integrity is low. For MAP Growth™, your school assumes the risk from browser-only testing.

Device	Operating System	Browser Choices for:	
		MAP Skills or Growth	MAP Reading Fluency
Windows® PC	Windows 7, 8.1, or 10	Firefox 56 or higher, Chrome 65 or higher	Chrome 68 or higher
Macintosh®	Mac OS® X v10.11 to 10.14	Chrome 65 or higher, Firefox 56 or higher, Safari® 9 minimum– 12 maximum	Chrome 68 or higher
iPad®	iOS 10 to 12.	Safari® 9 minimum– 12 maximum	Testing app required – see prior table
Chromebook™	Google Chrome™ OS 65 or higher	Chrome 65 or higher	Chrome 68 or higher

Note: For MAP Reading Fluency, you must also meet these requirements: [Headphones for Students on page 3](#)

Teachers and Staff Requirements

Device	Operating System	Microsoft	Safari	Firefox	Chrome
Windows® PC	Windows 7, 8.1, or 10	Edge or IE 11 or higher	Not supported	56 or higher	65 or higher
Macintosh®	Mac OS® X v10.11 to 10.14	Not supported	Safari® 9 minimum– 12 maximum	56 or higher	65 or higher
Chromebook™	Google Chrome OS (v65 or higher is best)	Not supported	Not supported	Not supported	65 or higher
iPad®	Not fully supported				

Other requirements: Follow specific browser settings, such as allowing cookies and pop-ups; see the [System and Technology Guide](#).

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. For computer display, follow these specifications:

- Screen Resolution Minimum: 1024 x 768 for students, and 1280 x 1024 for staff
- Scaling or Zoom: 100%
- Color Depth: 32-bit recommended (minimum 16-bit)

Headphones for Students

For tests aimed at early learners, students can hear questions read through audio playback. For the best experience, use headphones.

In addition, there are specific headphone recommendations for testing with MAP Reading Fluency:

- Over the ear, not buds
- Noise cancellation
- Boom microphone, on the end of a stiff arm that extends in front of the child's mouth rather than attached to the headphone cord
- USB connection for better sound quality

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 they may experience delays.

- Grades 3+ testing — **2 Mbps** for every 30 computers concurrently testing.
- Grades K-2 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 MAP Growth 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 website 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 = acceptable
- 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 Whitelist and Email Configuration

For the following URLs, you should: add to your white lists, exclude from caching, and prioritize the traffic. Update both hardware (such as firewall, content filter, and proxy server/cache) and software (such as antivirus and anti-malware). Allow the changes to propagate before testing.

- **Sites for test and administration:**

For MAP suite:

```
https://cdn.mapnwea.org
https://item.mapnwea.org
https://practice.mapnwea.org
https://studentresources.nwea.org
https://sso.mapnwea.org
https://teach.mapnwea.org
https://test.mapnwea.org
newrelic.com
```

Also, if using Text-to-Speech accommodation tools:

```
https://nweaservices.speechstream.net
https://nweaservicesbackup.speechstream.net
https://nweatoolbar.speechstream.net
https://nweacache.speechstream.net
https://speechstreamtoolbar-webservices.texthelp.com
```

Also, if using MAP Skills™:

<https://skillsnav.mapnwea.org>
school.nettrekker.com

Also, if using MAP Reading Fluency™:

<https://readingfluency.mapnwea.org>
<https://readingfluency-cdn.mapnwea.org>
<https://lmapl.mapnwea.org>

- **Sites for training, documentation, and analytics:**

<https://community.nwea.org>
<https://dpdol.nwea.org>
<https://legal.nwea.org>
<https://prolearning.nwea.org>
<https://prolearningonline.nwea.org>
<https://start.nwea.org>

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

*@nwea.org