

Private School Application to Administer 2018–19 Florida Statewide Assessments

Attachment H: System Requirements and Minimum Specifications for Computer-Based Testing

- Documents regarding the system requirements and minimum specifications for both assessment vendors, AIR and Pearson.
- Updated system requirements and specifications should be accessed through the FDOE website prior to test administration.
- Refer to statement number 25 in the 2018–19 application.
- Sign and return the signature page at the end of this attachment.

System Requirements for Online Testing 2017–2018

Overview

This document was developed by the American Institutes for Research (AIR) and the Florida Department of Education (FDOE) and contains technology requirements to help Florida districts and schools prepare for online testing using AIR’s Test Delivery System. In the 2017–18 school year, the following Florida Standards Assessments (FSA) will be delivered online using AIR’s systems:

- **ELA Writing:** Grades 8–10 & Retake
- **ELA Reading:** Grades 4–10 & Retake
- **Mathematics:** Grades 3–8, Algebra 1 Retake, Algebra 1 EOC, and Geometry EOC

This document includes the following sections:

- [Supported Operating Systems and Devices](#)
- [Supported Web Browsers for Online Systems](#)
- [Secure Browsers for Online Testing](#)
- [Requirements for Peripheral Equipment](#)

Supported Operating Systems and Devices

This section lists the system requirements for administering computer-based assessments. Please refer to the [Secure Browser page](#) on the FSA Portal for the most up-to-date supported operating systems and devices.



Warning: Support for New Desktop Operating Systems

Operating systems that become available but do not appear on the portal or in the following tables are not supported. Do not upgrade to new operating systems on computers that will be used to administer online assessments without ensuring the updates meet the required specifications.

Desktops, Laptops, and Netbooks

Computers used for testing must meet the specifications for each supported operating system as shown in the table below. To ensure optimal student experiences for online testing, any computer that takes a noticeably long time (for example, 10 seconds or more) to start and run applications should be avoided for use with online testing.

Supported Operating Systems	Minimum Requirements for Current Computers
Windows 7 (Professional and Enterprise) 8 (Professional and Enterprise) 8.1 (Professional and Enterprise) 8 RT 10 (Professional, Educational, and Enterprise)	1.1 GHZ Processor 1 GB RAM or greater memory 200 MB hard drive space
Mac OS X (Intel) 10.9–10.12	1.1 GHZ Processor 1 GB RAM or greater memory 200 MB hard drive space
Linux* Fedora 25 Ubuntu 14.04, 16.04 LTS (Gnome)	1.1 GHZ Processor 512 MB of RAM 200 MB hard drive space Required Libraries/Packages: <ul style="list-style-type: none"> • GTK+ 2.18 or higher • GLib 2.22 or higher • Pango 1.14 or higher • X.Org 1.0 or higher (1.7+ recommended) • libstdc++ 4.3 or higher • libreadline6:i386 (Ubuntu only) • GNOME 2.16 or higher

* Text-to-speech (TTS) tracking does not function correctly on Linux OS. If students require the use of this accommodation (TTS with tracking), they must use a different operating system.

Tablets

While the specifications for computers, laptops, and netbooks are more general, only supported tablets running a supported operating system are permitted. These supported tablets have been tested for use with AIR's Test Delivery System and may be used for student testing.

Supported Operating Systems	Supported Tablets	Related Requirements
iOS (iPads) 9.3 10.2, 10.3 11.1	iPad 2 iPad 3 4 th Generation (Retina Display) 5 th Generation (Retina Display) iPad Air iPad Air 2	With iOS 9 and later, the AIRSecureTest app supports Autonomous Single App Mode (ASAM) and Single App Mode (SAM). For more information, refer to the <i>Technical Specifications Manual</i> .
Android 5.1, 6.0, 7.0, 7.1	Google Nexus 10 Asus Transformer Pad Asus Memo Pad Dell Venue 10 HP Pro Slate 10 Samsung Galaxy Tab 4 Education LearnPad Quarto	The secure browser keyboard must be enabled after installation of the mobile secure browser. For more information, refer to the <i>Secure Browser Installation Manual</i> .
Windows 8, 8.1, 10	AIR supports any tablet running these versions of Windows (Educational and Professional) but has done extensive testing only on Surface Pro, Surface Pro 3, Asus Transformer, and Dell Venue.	N/A

Chromebooks

All Chromebooks running a supported Chrome OS may be used for student testing. AIR will support any device that Google actively supports for auto-update. AIR will not support any device that Google does not support for auto-update. Information on Google's auto-update policy, including currently supported devices, can be found at <https://support.google.com/edu/android/answer/6220366>.



Note: For Chrome OS and automatic updates, AIR recommends turning off or delaying automatic updates of the Chrome operating system. Doing so will allow AIR to review changes from Google and address any updates that pose a potential risk to student testing.

Automatic update settings are configured in Google's admin console.

Supported Operating Systems	Supported Devices	Related Requirements
Chrome OS 59–62	All Chromebooks	Kiosk mode must be enabled. For more information, refer to the <i>Secure Browser Installation Manual</i> .

Thin Clients: NComputing for Windows

The following table lists the supported hardware and software for NComputing solutions.

Supported Server Host	Supported Server Software	Supported Terminals
Windows Server 2008 R2	vSpace Server 8.4	L300, firmware version 1.11.xx
Windows Server 2012 R2	vSpace PRO 10	
Windows Server 2016 R2		
Windows 10		

Supported Web Browsers for Online Systems

This section lists the supported web browsers for 2017–2018. It also provides information regarding AIR’s secure browsers for student testing. Frequent browser updates occur throughout the year.

Supported Web Browsers by Operating System

The table below lists the supported operating systems and corresponding web browsers for each AIR application. AIR recommends using recent versions of supported web browsers. Each application requires disabling pop-up blocking software and enabling JavaScript. Be sure to use the correct combination of operating system and web browser. For example, Windows 10 requires Internet Explorer 11 or Edge.

Supported Operating Systems	Supported Devices	Supported Browsers	TA Sites	Student Practice Test	AVA	TIDE	FSA R
Windows^a							
7 (Professional and Enterprise)	Desktops, laptops	Chrome 59–62	✓	✓	✓	✓	✓
		Firefox 52–54	✓	✓	✓	✓	✓
		Internet Explorer 11	✓	✓	✓	✓	✓

System Requirements for Online Testing

Supported Operating Systems	Supported Devices	Supported Browsers	TA Sites	Student Practice Test	AVA	TIDE	FSA R
Windows^a							
8 (Professional and Enterprise) 8.1 (Professional and Enterprise)	Desktops, laptops	Chrome 59–62	✓	✓	✓	✓	✓
		Firefox 52–54	✓	✓	✓	✓	✓
		Internet Explorer 11	✓	✓	✓	✓	✓
8 RT	Surface Pro Surface Pro 3 Asus Transformer Dell Venue	Internet Explorer 11	✓	✓	✓		✓
10 (Professional, Educational, and Enterprise)	Desktops, laptops	Chrome 59–62	✓	✓	✓	✓	✓
		Firefox 52–54	✓	✓	✓	✓	✓
		Internet Explorer 11, Edge	✓	✓		✓	✓
Mac OS X							
10.9–10.12	Desktops, laptops	Chrome 59–62	✓	✓	✓	✓	✓
		Firefox 52–54	✓	✓	✓	✓	✓
		Safari 7–11	✓	✓		✓	✓
Linux^b							
Fedora 25	Desktops, laptops	Chrome 59–62	✓	✓	✓	✓	✓
		Firefox 52–54	✓	✓	✓	✓	✓
Ubuntu 14.04, 16.04 LTS (Gnome)	Desktops, laptops	Chrome 59–62	✓	✓	✓	✓	✓
		Firefox 52–54	✓	✓	✓	✓	✓
iOS							
9.3	Supported iPads	Safari 9	✓	✓	✓		✓
10.2, 10.3	Supported iPads	Safari 10	✓	✓	✓		✓
11.1	Supported iPads	Safari 11	✓	✓	✓		✓

System Requirements for Online Testing

Supported Operating Systems	Supported Devices	Supported Browsers	TA Sites	Student Practice Test	AVA	TIDE	FSA R
Android							
5.1, 6.0, 7.0, 7.1	Supported tablets	Chrome 59–62	✓	✓	✓		
Chrome OS							
59–62	Chromebooks	Chrome 59–62	✓	✓	✓		✓

^a AIR supports any tablet running Windows 8 and 8.1 Pro, and Windows 10 (Educational and Professional) but has done extensive testing only on Surface Pro, Surface Pro 3, Asus Transformer, and Dell Venue.

^b Text-to-speech (TTS) tracking does not function correctly on Linux OS. If students require the use of this accommodation (TTS with tracking), they must use a different operating system.

Delaying Firefox Updates

AIR conducts quality assurance on the most recent Firefox versions for each system except the student testing site (which requires the secure browser). AIR recommends you delay installation of new versions of Firefox that could impact system performance. Postponing updates allows AIR time to review changes and verify that each system works correctly with the new version.

To learn how to disable automatic updates for Firefox, see <https://support.mozilla.org/en-US/kb/forum-response-turning-auto-update>. You may need to disable automatic updates again after installing a newer version of Firefox.

Secure Browsers for Online Testing

The secure browser must be downloaded and installed on all computers that will be used for student testing. All secure browsers can be downloaded from the FSA Portal (www.FSAssessments.org).

Supported Operating Systems	Supported Devices	Supported Secure Browser
Windows 7 (Professional and Enterprise) 8 (Professional and Enterprise) 8.1 (Professional and Enterprise) 8 RT 10 (Professional, Educational, and Enterprise)	Desktops/Laptops/Netbooks	10.0

Supported Operating Systems	Supported Devices	Supported Secure Browser
Mac OS X 10.9–10.12	Desktops/Laptops	10.0
Linux^a Fedora 25 Ubuntu 14.04, 16.04 LTS (Gnome)	Desktops/Laptops/Netbooks	10.0
iOS (iPads) 9.3 10.2, 10.3 11.1	iPad 2 iPad 3 Fourth generation (Retina Display) Fifth generation (Retina Display) iPad Air iPad Air 2	AIRSecureTest Mobile Secure Browser
Android 5.1, 6.0, 7.0, 7.1	Google Nexus 10 Asus Transformer Pad Asus Memo Pad Dell Venue 10 HP Pro Slate 10 Samsung Galaxy Tab 4 Education LearnPad Quarto	AIRSecureTest Mobile Secure Browser
Chrome OS 59–62	Chromebooks	AIRSecureTest kiosk application

^a Text-to-speech (TTS) tracking does not function correctly on Linux OS. If students require the use of this accommodation (TTS with tracking), they must use a different operating system.

Requirements for Peripheral Equipment

Monitors and Screen Display Requirements

All supported computers, laptops, netbooks, and tablets must meet the following requirements.

Screen Dimensions

Screen dimensions must be 10" or larger (with the exception of iPads with a 9.7" display, which are included). This means the following devices are **not** supported:

- Apple iPad Mini
- Google Nexus 7 and similar-sized Android tablets
- Netbooks with screen dimensions smaller than 10"

Screen Resolution

All devices must meet the following minimum resolution. Larger resolutions can be applied as appropriate for the monitor or screen being used.

- Desktops, laptops, and tablets: 1024 × 768
- Netbooks: 1024 × 600

Depending on the screen size, students may need to use vertical or horizontal scroll bars to view all test-related information. Students may also use the Zoom tool in the online test to enlarge the content on the screen.

Headphones/Earbuds

Students may need headphones/earbuds to listen to audio during the test.

- Students with the text-to-speech accommodation on computer based assessments require headphones/earbuds.
- All ELA Reading assessments require headphones for listening and/or animation items.

School assessment coordinators should determine how many students will need headphones/earbuds prior to testing to ensure that there is an adequate supply on hand.

The following headphones/earbuds are supported:

- Wired headphones/earbuds with a 3.5 mm connector.
- USB headphones/earbuds with a wired or wireless connection.
- The following Bluetooth headphones: Logitech H800, SoundBot SB270, and ECO Sound ECO-V300.

Wired headphones/earbuds with a 3.5 mm connector or USB headphones/earbuds (wired or wireless) are recommended over Bluetooth, as they provide better clarity and accuracy.

Mice

Mice on mobile devices are not supported. Wireless or wired two- or three-buttoned mice that are compatible with the operating system on desktops and laptops are supported. No other mice should be used, especially mice equipped with a “browser back” button that could potentially log students out of a test.

Keyboards

External keyboards are strongly recommended for tablets used for testing. Students may use mechanical, manual, or Bluetooth-based keyboards. Some external keyboards have additional “shortcut” buttons that can create security issues. These buttons may allow students to open another application or the tablet’s default on-screen keyboard. AIR strongly cautions against using keyboards that have these shortcut buttons.

Keyboards with the Android Operating System

Testing on an Android mobile device requires installation of the secure browser keyboard to disable predictive text. Any external keyboard that has a shortcut button to open the tablet's default keyboard is not permitted as the default keyboard will override the mobile secure browser keyboard.

AIR has determined that the EZOWare Slim Full Size Keyboard contains a shortcut button that opens the default keyboard and should NOT be used with Android tablets.

Change Log

Location	Change	Date
Desktops, Laptops, and Netbooks, Tablets, Supported Web Browsers by Operating System, Secure Browsers for Online Testing	Updated supported operating systems.	9/1/17
Tablets, Chromebooks, Supported Web Browsers by Operating System, Secure Browsers for Online Testing	Updated supported operating systems.	11/8/17
Mice	Updates to types of compatible mice.	11/8/17
Tablets, Chromebooks, Supported Web Browsers by Operating System, Secure Browsers for Online Testing	Add support of Chrome 62.	11/20/17

TestNav System Requirements

The information in this document is taken from <https://support.assessment.pearson.com/display/TN/TestNav+System+Requirements>. Check the website for the most up-to-date information.

TestNav App Update

TestNav app version 1.6.x is required after its July 2017 release. Users will see an error message if a testing device does not have the updated version installed. *Note that customers may take the 1.6.x release at varying times, depending on testing sessions.*

TestNav App	Update Process
Android app	Auto update – No action required.*
Chrome app	Auto update – No action required.*
Windows Store app	Auto update – No action required.*
iOS app	Download updated version from App Store.
Desktop app	Download updated version from download.testnav.com .

*Unless the auto-update feature is disabled. If disabled, download updated versions from the appropriate app store.

 The requirements in this section reflect TestNav minimum requirements; however, some customers slightly vary requirements for their specific organizations.

Refer to the requirements on this page to set up browser-based TestNav or installable TestNav.

Hardware Requirements¹

Specifications	Windows	OS X, macOS	Linux	iOS	Android	Chrome OS
Supported devices	Desktops Laptops Tablets	Desktops Laptops	Desktops Laptops	iPads	Tablets	Chromebooks Chromeboxes
Processor	x86/x32 and x64	Intel-based™	x86/x32 and x64	any	any	any
Memory	Recommended 4 GB RAM Minimum 2 GB RAM	Recommended 4 GB RAM Minimum 2 GB RAM	Recommended 2 GB RAM Minimum 1 GB RAM	Recommended 2 GB RAM Minimum 1 GB Ram	Recommended 4 GB RAM Minimum 2 GB RAM	Recommended 4 GB RAM Minimum 2 GB RAM
Minimum screen size	9.5-in	9.5-in	9.5-in	9.5-in	9.5-in	9.5-in
Minimum screen solution	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1024 x 768
Other	<ul style="list-style-type: none"> Windows RT tablets are not supported External keyboard and mouse (or touchpad) for touchscreen devices required 	Local File access to home directory		<i>External (wired) keyboard recommended</i>	External keyboard required <i>Wired hardware is recommended</i>	Convertible Chromebooks can not be used in tablet mode

Specifications	Windows	OS X, macOS	Linux	iOS	Android	Chrome OS
	<i>Wired hardware is recommended</i> <ul style="list-style-type: none"> Local File access to home directory 					

¹These requirements do not supersede the minimum requirements of the supported operating systems (OSs). Refer to the minimum requirements for the OS.

 As a general rule regarding optimal online testing, you should avoid using any computer that takes noticeably long (10 seconds or more) to start and run applications.

Tests that Require Kiosk Mode

Kiosk mode prevents students from accessing any other web pages or applications besides TestNav while testing.

Installable TestNav

Use the links below to download and set up the app for your supported OS.

 Do not update your OS without verifying supported OS(s) in the table below. Only these listed versions will work with TestNav.

OS	Download Installable TestNav	Setup Instructions
Android 7.0	From Google Play	Set Up TestNav on Android Devices
Chrome OS 57 - 62	From Chrome Web Store	Set Up TestNav on Chromebook
iOS 10.2, 10.2.1, 10.3.1 – 10.3.3, 11.1 <i>For information on iOS 11.0, see technical bulletin, TestNav 8 – iOS 11 and TestNav</i>	From the App Store	Set Up TestNav on iPad
Linux Fedora 24 (64-bit); Ubuntu 16.04 (64-bit)	From TestNav downloads	Set Up TestNav Desktop on Linux
OS X: 10.9, 10.10, 10.11; macOS Sierra 10.12, 10.13³	From TestNav downloads	Set Up TestNav Desktop on OS X
Windows: 7, 8.1, 10 (includes Windows Store app)	From TestNav downloads	Set Up TestNav Desktop on Windows

Browser-based TestNav

If your program requires you to use browser-based TestNav, download [Firefox ESR](#). Then, see setup instructions.

OS	Download browser	Setup instructions
<ul style="list-style-type: none"> OS X: 10.9, 10.10, 10.11 macOS Sierra 10.12, 10.13³ 	Firefox ESR 52	Set Up TestNav with Firefox ESR 52
Windows: 7, 8.1, 10	Firefox ESR 52	

³Customers may add support for this OS at varying times.

Tests that Do Not Require Kiosk Mode

You can use either installable TestNav apps or the browsers in the table below.

Browser	OS
Firefox 52	Windows: 7, 8, 8.1 OS X: 10.9, 10.10, 10.11 macOS Sierra 10.12, 10.13

Browser	OS
Google Chrome 57 - 62	Windows: 7, 8.1, 10 OS X: 10.9, 10.10, 10.11 Chrome OS 50 - 62 Android 5.0 - 7.0
IE 11	Windows: 7, 8.1, 10
Microsoft Edge	Windows 10
Safari 9.x	OS X: 10.9, 10.10, 10.11 iOS 10.2, 10.2.1, 10.3.1 – 10.3.3, 11.1

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2017–18 Florida Statewide Assessments**

**Attachment H: System Requirements and Minimum Specifications for
Computer-Based Testing**

SIGNATURE PAGE

I hereby confirm that I have read and will abide by Attachment H: System Requirements and Minimum Specifications for Computer-Based Testing.

Signature

Name – Please Print

Position

Date