Overview

A smooth and successful exam day depends on digital preparedness and swift troubleshooting. Technology coordinators should ensure that the exam rooms have internet access and accessible outlets or power strips.

Before exam day, ensure the digital testing app is made available on all student devices. Support the school’s AP coordinator in any exam readiness activities.

**IMPORTANT**: Please help ensure that all students taking digital exams log in to the digital testing app ahead of exam day. This activity confirms that the app is installed correctly and that students will be able to access it on exam day.

On exam day, confirm school-provided devices (if used) are fully charged and working properly, and that staff and students are able to connect to the school’s Wi-Fi.

If technical issues arise, assist students, using the guidance in this document.
Test Administration Application: Test Day Toolkit
All staff will need a College Board professional account to access Test Day Toolkit. They can use their own device or one provided by the school.

Student Testing Application
All students will need a College Board account to sign in to the digital testing application.

IMPORTANT: All students planning to take in-school digital AP Exams should sign in to their College Board account before exam day to complete a required update. This update will make their account more secure and easier to access.

If students don’t complete this step, they may encounter delays on exam day or be unable to test.
Technical Readiness
Make sure your school’s network can support digital testing.

Network Access
An internet connection is required to start the exam, but students will be able to keep testing even if their connection drops momentarily.

Make sure staff and students are able to connect to the school’s Wi-Fi on their device. Proctors will need to display the Wi-Fi name and password so students can connect personal devices to the network, if applicable.

Network Speed and Strength
We recommend at least 1 Mbps for each student testing at the same time over the same network.

Test the wireless coverage and range in every exam room to make sure it can support the expected number of students testing at peak times.

To check each exam room:
1. Start with the number of access points indicated by the table below. Because environmental factors affect network performance, you may need more.
2. Choose a time when competing network activity approximates exam day conditions.
4. Check for areas with weak signal strength or low bandwidth by running the speed test in multiple seating areas within the room. If bandwidth is low, try to minimize competing network activity on exam day.

RECOMMENDED RATIOS OF DEVICES TO WIRELESS ACCESS POINTS

<table>
<thead>
<tr>
<th>Testing Device</th>
<th>Ratio of Devices to 802.11g WAP</th>
<th>Ratio of Devices to 802.11n WAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.11g</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>802.11n</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>Mix of 802.11g and 802.11n</td>
<td>20</td>
<td>50</td>
</tr>
</tbody>
</table>

Ports and Protocols
The table below lists the ports and protocols used by the digital testing application. Ensure that all necessary content filters, firewalls, and proxy servers are open.

REQUIRED PORT CONFIGURATION

<table>
<thead>
<tr>
<th>Port/Protocol</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>443/TCP</td>
<td>HTTPS (secure connection)</td>
</tr>
</tbody>
</table>
URLs for Testing

To ensure successful transmission of student responses, we strongly encourage schools to add this URL to allow internet traffic to and from College Board and set it at the root level using a wildcard. *.collegeboard.org
General Guidance for Exam Day

Technology coordinators should be prepared to troubleshoot individual and widespread issues that may arise. Notify the AP coordinator about any technical issues that impact testing.

Individual Student Device Issues

If a student’s issue requires more effort than what is outlined in this guide (e.g., hardware repair), the student will be unable to complete the digital exam. The student can request a paper late-testing exam from the AP coordinator.

Note: Students in this situation may be able to take the exam on a backup device, if available, but only if they have not yet entered the room code for the exam.

When assisting students with Wi-Fi or testing app issues on personal devices, follow local policies regarding student-owned technology.

Buildingwide Issues

If there is a power or internet outage that prevents the start of testing between 8 and 9 a.m. local time on the scheduled exam day, the AP coordinator should call AP Services for Educators at 877-274-6474 and select the appropriate menu option.

If internet connectivity is lost after testing starts, students should continue testing while troubleshooting occurs. During this time, proctors will not be able to monitor the exam from Test Day Toolkit. Proctors should record any incidents that occur as instructed in the Responding to Problems and Reporting Incidents section of the Exam Day Guide.

If connectivity is not restored before students complete the exam, do not delay dismissal. The proctor should dismiss students who have finished testing. These students will have up to 5 days to connect to Wi-Fi and submit the exam through the testing app. Students using a school-managed device on exam day will need to use that same device to reconnect and submit their exam. Do not make the device available to other students or delete the application and any of its data until the exam has been successfully submitted.

College Board Support

For any technical questions or issues concerning the installation of the software or launching the exam on student devices, call AP Services for Educators at 877-274-6474 and select the appropriate menu option.
Student Testing Application Setup

Before Exam Day

Before exam day, uninstall any previous versions of the digital testing app (e.g., 2021 Digital AP Exams) from testing devices.

Then, follow the instructions at cb.org/digital-install to push the student testing app to school-managed devices. Students using personal devices will download the app themselves by going to https://player.app.collegeboard.org/.

On Exam Day

After students arrive at their exam room, they’ll sign in to the testing application with their College Board account. Students enter the room code provided by the proctor to begin the check-in process. Each room’s code is provided in Test Day Toolkit. The app will also prompt students to close any extra apps that may be running before they begin the exam.
Starting the Exam

To start the exam, students enter the start code their proctor reads at the end of the script. Each room's start code is provided in Test Day Toolkit.

**IMPORTANT:** If students have trouble starting the exam, make sure they’re entering the correct start code for their exam room and that they’re connected to Wi-Fi.
Troubleshooting Student Devices

Help students troubleshoot errors using the steps below. If students are still stuck and cannot open the app, sign in, or launch the exam, call AP Services for Educators at 877-274-6474 and select the appropriate menu option.

Troubleshooting Individual Issues: Students may have already taken some steps to resolve their issues. Ask the student if they have: followed the instruction in the error message (if applicable), restarted the testing app, or restarted the device.

The app won’t open.
If you see these messages, try to restart the app. If that doesn’t work, call AP Services for Educators immediately.

“Something Went Wrong”
“We Can’t Open the Application”
“We Ran Into a Problem”

The student can’t sign in.
If you see one of these error messages, the student may not have their correct email or password:

“Your College Board Account Is Locked”
“You’re Locked Out of the App for x Minute(s)”

Students will need their College Board account to sign in to the testing app.

Check that the student is using their correct College Board account information. The student must wait the prescribed time, if any, and attempt to sign in again.

After a student has 10 failed sign-in attempts, they will be locked out of the app. The AP coordinator should contact AP Services for Educators, with the student present, to try to reset student access.

IMPORTANT: Beginning in late February, students will be required to update their College Board accounts to be more secure and easier to access. Before exam day, students should sign in to their College Board account to be automatically guided through this update.

If the student hasn’t completed the required College Board account update, you may see one of these error messages:

“Please sign in with a valid email address. If you’ve never signed in with your email, update your account below.”

“Your email or password is wrong. Please try again. If you’ve never signed in with your email, update your account below.”

“Your email or password is wrong. Use the links below for help or call 877-348-5728 (U.S.) or +1-212-307-9731 (international).”
“Your account is locked. Use the link below to unlock it. If you need help, call 877-348-5728 (U.S.) or +1-212-307-9731 (international).”

“Your account update is incomplete. Please update your account using the link below.”

These students will need access to the email address associated with their College Board account in order to complete the update and sign in to the testing app.

The student's device doesn't have enough free hard drive space.
If the student's app displays "You Don't Have Enough Free Space," they should exit the app and make additional space by deleting unwanted files. Once this is complete, relaunch the app and try again.

The student can't access the exam with the start code.
They may have been reassigned to a new testing room since they first started the exam. Direct the student to use the code from their initially assigned testing room. If they haven't been reassigned, check that they are entering the correct start code and that they're connected to Wi-Fi.

The student isn't running the latest version of the current app.
On all devices: If the student's app displays "Update the Exam App Now," the student should restart the application immediately to receive updates.

On Mac laptops: If the student's app displays the "App Update Failed. Please Follow These Steps" message, have the student take the steps listed below. If the issue persists, contact College Board for support.

1. In your Downloads folder, double-click CB_Digital_Exams.dmg.
2. Drag the Acorn icon (or the file named CB_Digital_Exams.dmg) into the Applications folder.
3. In your Applications folder, double-click the Acorn icon to open the app.
4. When the app opens, it should update automatically. Then you can sign in with your College Board email address and password.

Note: If any device has an outdated version of the app, used for emergency in-home testing in 2020 or 2021, that app should be uninstalled before installing the current digital testing app.

The student's device is having trouble with internet connectivity.
"Reconnect to the Internet Now"
If the app displays this message, the student's device may not be connected to the internet.
The student should check that their device is connected to the internet and try the app again. If that doesn’t resolve the issue, close and reopen the app and try again. If you can’t resolve the issue, call AP Services for Educators immediately.

The student's device is failing.

IMPORTANT: If your school is using managed devices for students, have a few extra devices on hand. They should be fully charged with the student testing app already loaded in case students run into issues with their initial device on exam day.
If the student's device fails (crashes, loses all power, or can’t start up) and they haven’t entered the room code yet, switch them to a new school-managed device. Students won’t be able to change devices after they’ve entered the room code and begun check-in.

If the student’s device fails after the student has already entered the room code and begun check-in, and a backup device isn’t available, the student can request a paper late-testing exam from the AP coordinator.
Troubleshooting Staff Devices

To verify their identity, we require a few extra steps the first time anyone signs in to Test Day Toolkit. For a smoother start to testing, we recommend that staff (i.e., proctors and room monitors) sign in to Test Day Toolkit for the first time before exam day.

Staff won’t be able to use the toolkit until their AP coordinator grants them full access on exam day, but they should see a “You’re all set” message if they sign in successfully.

A staff member has trouble accessing Test Day Toolkit:

- Direct them to the Exam Day Guide for instructions and troubleshooting tips.
- The AP coordinator can resolve most issues by using Test Day Toolkit to resend the access email or update staff access information.

A staff member’s device is failing.

- Provide them with another device.
- They can sign in to Test Day Toolkit from any device with internet access.
Student Device Requirements

Your school will decide if students are using personal and/or school-managed devices on exam day. All student devices should meet the following requirements:

Supported Operating Systems

<table>
<thead>
<tr>
<th>Operating System Versions</th>
<th>Minimum Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Windows</strong></td>
<td></td>
</tr>
<tr>
<td>- 10 (Home, Professional, Educational, and Enterprise)</td>
<td>1 GHz processor</td>
</tr>
<tr>
<td>- 11 (Home, Professional, Educational, and Enterprise)</td>
<td>2 GB RAM (64-bit)</td>
</tr>
<tr>
<td></td>
<td>1 GB RAM (32-bit)</td>
</tr>
<tr>
<td></td>
<td>250 MB of storage</td>
</tr>
<tr>
<td><strong>MacOS</strong></td>
<td></td>
</tr>
<tr>
<td>10.11–10.15; 11.0+</td>
<td>1 GHz processor</td>
</tr>
<tr>
<td></td>
<td>2 GB RAM (64-bit)</td>
</tr>
<tr>
<td></td>
<td>1 GB RAM (32-bit)</td>
</tr>
<tr>
<td></td>
<td>400 MB of storage</td>
</tr>
<tr>
<td><strong>iOS</strong></td>
<td></td>
</tr>
<tr>
<td>13.4 or later</td>
<td>iPad Pro</td>
</tr>
<tr>
<td></td>
<td>iPad Air 2 or later</td>
</tr>
<tr>
<td></td>
<td>iPad with Retina display (5th generation or later)</td>
</tr>
<tr>
<td></td>
<td>iPad Mini (4th generation or later)</td>
</tr>
<tr>
<td></td>
<td>16 GB+ versions only</td>
</tr>
<tr>
<td></td>
<td>150 MB of storage</td>
</tr>
<tr>
<td><strong>Chrome OS</strong></td>
<td></td>
</tr>
<tr>
<td>- 2017 or later, v83+</td>
<td>Chromebooks (School-Managed)</td>
</tr>
<tr>
<td>- The digital testing application runs in kiosk mode</td>
<td>150 MB of storage</td>
</tr>
<tr>
<td>- Devices must be configured through the school’s Google Admin Console and be part of an enterprise or education license</td>
<td>Note: Personal Chromebooks are not supported.</td>
</tr>
</tbody>
</table>

Note: Windows 7, Windows 8, and Windows 10 in S Mode are not supported.

Note: Intel and Apple M1 processors are supported.
# Hardware Considerations

Student devices should be checked before exam day to ensure they meet the minimum hardware requirements and align with the following guidelines:

## COMPUTER REQUIREMENTS

| Monitors and Screen Displays                  | • Minimum laptop screen size: 10 inches.  
|                                             | • Minimum tablet size: 8 inches.        
|                                             | • Minimum screen resolution: 1024 x 768. 
|                                             | • 2nd monitors are not supported.       
| External Mice and Keyboards                  | External keyboards and mice are allowed. Wired peripherals in good working order are recommended. Bluetooth mice and keyboards are allowed but should be fully charged to last the duration of the exam. Note—an external keyboard is required for iPad. 
| Battery and Power                            | Test-taking devices must hold a charge for at least 4 hours. Student devices must be fully charged to last the duration of the exam. Staff must provide access to power outlets for students testing with extended time (longer than 3 hours). 

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