When will Colorado transition to computer-based assessments?

Science and social studies assessments are scheduled to be administered via computer beginning in 2014. The social studies assessments will be administered in grades 4, 7 and 12 and the science assessments will be administered in grades 5, 8 and 12. The mathematics and English language arts assessments developed by the Partnership for Assessment of Readiness for College and Careers (PARCC), the multi-state assessment consortium of which Colorado is a governing member, are scheduled to be administered via computer beginning in 2015. The English language arts assessments will be given in grades 3-11; and the mathematics assessments will be given in grades 3-8 with 3 high school assessments.

Does CDE believe that districts are prepared and able to administer computer-based assessments?

CDE has collected voluntary information from districts on their available hardware through the federal Title IID program in previous years that provided an indication that districts would be able to administer computer-based assessments. In addition, some districts reported that their administration of computer-based district assessments has provided them with relevant experience. CDE is administering a technology readiness survey using an instrument called the Technology Readiness Tool (TRT). Data from the TRT will provide more detailed information. Depending on the issues discovered, CDE will have a variety of means of addressing the challenges of computer-based assessment administration.

Does CDE have any additional preliminary information that can be shared regarding districts' readiness?

Districts have been asked to submit their initial technology readiness data by March 31, 2013. As of March 1, 56 districts have begun to enter their data into the Technology Readiness Tool. Preliminary review of initial data offers some encouraging findings. Using the results of 33 schools that have submitted complete data from one large district, we can make some assumptions about that district's ability to conduct online assessments. Assuming administration to three groups of students per day, based on the available data, 32 of the schools initially appear able to test all of their students in relevant grades in a three session science and three session social studies assessment in approximately 10 days. The other school is a K-8 school that with current devices would need closer to 15 days. To be clear, this is only preliminary data and results may change as confirmation of the accuracy of the data and the assumptions are verified. CDE will analyze all results following the March 31, 2013 submission deadline and will use the results to inform test administration policies and support to districts.

How will CDE support school districts as they transition to computer-based assessment?

Below are potential strategies that CDE will employ to support school districts:

- As necessary, CDE will establish a testing window and administration procedures that allow for flexibility in the required student-to-computer ratio.
- A technology consultant has been hired by CDE. This individual will assist districts in developing administration plans and facilitating creative problem-solving that may include:
    - Encouraging inter-school cooperation and sharing of resources
    - Encouraging inter-district and BOCES cooperation and sharing of resources
    - Encouraging cooperation and sharing of resources with other agencies (ex. community colleges, universities, libraries, Pearson centers, etc.)
- Pearson and PARCC also have dedicated technology consultants who will be tapped to support districts and provide technical expertise, including on-site consultation starting with the field test districts and schools.
- Depending on districts' readiness, additional contingency plans may need to be considered, including the incorporation of paper-based options on a limited basis or incorporating a state-wide pilot year for social studies.

Can school districts with low bandwidth capabilities successfully administer computer-based assessments?

Yes. Proctor caching allows districts to securely download test content to local networks before testing.   This no-cost-to-district vendor-supplied software solution reduces bandwidth requirements and accelerates the delivery of test content.

Does the Technology Readiness Tool provide useful information for school districts?

The Technology Readiness Tool (TRT) is valuable in assisting school districts with thinking through the dimensions of local readiness and with measuring current capacity. It aids districts in inventorying computers and other devices that will be used for assessment, ratio of devices to test takers, network and infrastructure and personnel. The TRT provides a first step for districts to evaluate their readiness for online assessment, inform allocation and procurement of technology resources, and inform CDE, Pearson, and PARCC about technology readiness. CDE, Pearson, and PARCC will use this information to determine administration policies surrounding computer-based assessment and to inform the setting of the testing window. PARCC will soon release information about the number of testing sessions, estimated testing time and length of testing window for the mathematics and English language arts assessments. This information can be used by districts to place their TRT data into appropriate context. CDE will use the information from the TRT to determine relevant administration expectations, such as test window length.

Are there any tools that districts can use in addition to the Technology Readiness Tool to assist with determining readiness for computer-based assessment?

PARCC will soon release a Capacity Planning Tool that can be used by districts to generate information about their levels of readiness for administration of computer-based assessments. This tool currently includes PARCC-specific assumptions, but will be customized for use for the Colorado science and social studies assessments as well. Additionally, for the science and social studies assessments, districts will be provided with tools that will test the minimum system requirements of their devices, analyze their bandwidth, proctor cache and assist in session management.

Are there recommended specifications for technology purchases?

The table below presents PARCC's latest recommended guidelines for new technology purchases.

Hardware	Operating System	Networking	Device Types
• 1 GHz or faster processor • 1 GB RAM or greater memory • 9.5 inch (10 inch class) or larger screen size • 1024 X 768 or better screen resolution	• Windows 7 (Windows 8 for tablets) • Mac 10.7 • Linux (Ubuntu 11.10, Fedora 16) • Chrome OS 19 • Apple iOS 6 • Android 4.0 is being investigated	• Wired or wireless Internet connection	As long as they meet the hardware, operating system, networking specifications and security requirements, devices may include: • Desktops • Laptops • Netbooks • Thin client • Tablets (iPad2 and Windows. Android is being investigated)

What are the additional security requirements and other issues that should be considered?

- Administrative tools and capabilities to "lock down" devices to temporarily disable features, functionalities, and applications that could present a security risk during test administration are required.
- Features that will need to be controlled during test administration include, but are not limited to, unrestricted Internet access, cameras (still and video), screen capture (live and recorded), email, instant messaging, Bluetooth connections, application switching, and printing.
- Devices that do not have enterprise capabilities will need to be prepared for testing individually.
- The lock down mode for some devices (ex. iPads) must be activated at the individual device.

Have other states successfully transitioned to computer-based testing?

Other states, such as Mississippi, Idaho, Oregon, Maryland, Virginia, Minnesota and Delaware, have successfully moved to online assessments for their students. CDE has connected with many of these states to learn from their successes and challenges.