Riding the Wave of Technology-Based Assessments in Science
About Us

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Assessments in Science

Assessment for Learning
- enables teachers to use information about students’ knowledge, understanding and skills to inform their teaching
- teachers provide feedback to students about their learning and how to improve

Assessment as Learning
- involves students in the learning process where they monitor their own progress, ask questions and practise skills
- students use self-assessment and teacher feedback to reflect on their learning, consolidate their understanding and work towards learning goals

Assessment of Learning
- assists teachers to use evidence of student learning to assess student achievement against learning goals and standards

Source: NSW Education Standards Authority
How can technology be used with assessments?

- Modern technology offers educators a variety of new tools that can be used in the classroom.
How can technology assist in understanding the student minds?

- You can gather a lot of insight by talking to a child at length, but that is often not practical in the classroom.

“Given the constraints of the classroom, **technology can provide another set of ways to assess what children are understanding and learning**. It allows for continuing evaluation of the classroom lessons.”

- Thirteen.org, Concept to Classroom
Phet Simulations

The PhET Interactive Simulations project at the University of Colorado provides a free website of research-based simulations that are designed to support student learning through active engagement.
Phet Simulations

- Virtual versions of common lab experiences are excellent resources ESPECIALLY if you're short on **class time** or **resources**.
- There are hundreds of complete lesson plans and materials using the site's simulations shared by the community, which you can download and use as-is or remix for your needs.

https://phet.colorado.edu/en/simulation/energy-skate-park-basics
Science Journal by Google

- Transforms device into a lab sensor to collect and analyze data.
- A free alternative to expensive classroom light, sound, and motion sensors
- Free activities available on the “making science with google website”.
- [https://makingscience.withgoogle.com/?lang=en](https://makingscience.withgoogle.com/?lang=en)

Free App available for android and IOS devices
Science Journal by Google - Let’s take a look at inside!

Sensors available:

Science Buddies is a great resource for ideas and how to use the app.

https://www.sciencebuddies.org/blog/googlescience-journal-app-tutorial-part2-sensors
CK-12

- Students can go back and learn about things at their own pace, review lessons you covered, and get an assessment of how well they understood the lessons.
- Teachers can search content by CCSS, NGSS, and various state standards. If you're looking for a very specific topic, enter it in the search box to go straight there.
CK-12 - Sample resources you can pull-out per content
“An education platform that allows teachers to create quick, easy and fun digital worksheets, to share them with fellow teachers and to keep track of student performance. In the classroom, teachers are more creative and students are a lot more engaged.” -Crunchbase

- Wiserlite is free
- There is a paid version for differentiation
- Linked to google classroom
Wizer.me

- Create digital worksheets by using different types of questions, incorporating images and videos, and even recording directions.

- Teachers can ask students to label images, categorize information, respond to open-ended and multiple-choice questions, or respond to video content.

Let's go live:
https://app.wizer.me/dashboard/collection/
Google Form

“Google Forms offers a convenient option for quickly and accurately assessing student understanding. Teachers have a range of multiple-choice or open-form options through which students can be assessed. Assess student understand before or after class – or both! Select ‘Make a quiz’ under settings to input answers and have it automatically graded.”
Edpuzzle

“EdPuzzle is the perfect tool for allowing students to watch and engage with videos while the teacher gathers data throughout the lesson. As teachers dabble into the flipped classroom philosophy, EdPuzzle is the perfect enhancement tool for videos.”

- Commonsense.org
Matter : Matter Matter
“Users can create & upload custom sets of flashcards for review. Flashcard sets in Quizlet can be reviewed in five ways: Users can flip through their sets in the Cards view, play a game in the Match view, type in the “back” of a card through the Write view, quiz themselves with the Test view, and indicate their confidence with each card in the updated, more adaptive Learn view.”
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Citations

- https://www.thirteen.org/edonline/concept2class/assessment/explor_sub4.html
- https://www.commonsense.org/education/website/edpuzzle-teacher-review/4004456
- https://www.sciencebuddies.org/science-journal-app