THE TEACHER'S GUIDE TO

TECH 2023

PREEDEW

JENNIFER GONZALEZ





The Teacher's Guide to Tech

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EXPLORE

BIG THOUGHTS AND LITTLE QUESTIONS



Next-Level Ed Tech

WHERE ARE WE NOW? WHERE ARE WE HEADED?

Technology has been with us for decades now. We've passed the point of trying to convince each other that using tech in schools can be beneficial. And we've made some good progress so far:

- We've figured out how to use tech to do things with more **ease** and **efficiency**.
- We continue to refine <u>norms and best</u>
 <u>practices</u> to ensure that our use of tech is
 responsible, ethical, and safe.
- We continue to seek ways to make tech more accessible and equitable, and use tech to make the world more accessible and equitable.

And we consistently lean into the idea
 of deepening our use of tech — to have
 our students collaborate, innovate, and
 think critically with it, rather than simply
 replicating old modes of learning.

All of these are vitally important, and each one takes consistent practice, revisiting, and finetuning to get right and keep getting it right.

Now it's time to move beyond that. But to where? What new thing could be said about the intersection of tech and learning that hasn't already been said? What kind of call to action makes sense right now, at a time when technology is more amazing than ever, but the world feels so different than it did just a few years ago, a time when many schools report that student engagement and teacher satisfaction are at an all-time low, and some days it feels like everything we've come to know and trust is collapsing all around us?

A NEW METRIC: IMPACT

Perhaps the next thing we need to be thinking about is **impact**. What is all this work FOR? How can we take the things we create, the products of our collaboration and critical thinking and creativity, the outputs of our innovation, and make an impact on the world around us?

The answer to that question can take a lot of different shapes; impact can be made with technology in so many ways. We'll look at just a few here.

1. STORYTELLING

We can use stories to raise awareness of important issues, to build bridges between communities that are divided, and to make people who often feel forgotten feel seen. Stories can be told through video, podcasts, blogs, digital books, even through interactive platforms like <u>Sutori</u>.

Example: One group of students recorded interviews with older members of their families in a similar style to NPR's *StoryCorps* series. They then gave these recordings as gifts to their families. One former student contacted his teacher years later to say his family played the recorded interview of his grandmother at her Celebration of Life after she passed. Storytelling

projects can have incredible impact, and letting our students experience this will last well beyond the time they spend in our classrooms.

2. TEACHING

Tech can be used to teach others all kinds of things, and this can be accomplished through screencast or other videos, how-to guides, and attaching QR codes to physical objects that lead to digital instructions or other information.

Example: In a school that had a significant international population, students used Screencastify to create tutorial videos in Spanish, Romanian, Urdu, and Mandarin to help parents navigate the district's website to find student report cards.

3. MAKING

With the help of 3D printing, coding, and augmented reality, we can create actual physical products that solve problems.

Example: When middle school students in a maker challenge learned that their teacher and her wheelchair-bound husband were expecting a baby, they designed an attachment that



would allow her husband to safely take the baby on walks (photo above). The design was then made available online for anyone who wanted to print it for their own use.

4. INFORMATION GATHERING

A tool as simple as a Google Form offers so many uses for information gathering, from collecting data in order to learn more about public opinion, better understand a particular issue, or offer channels for people seeking help.

Example: When students in an innovation course were tasked with finding ways to improve their community, some decided to tackle the problem of bullying and harassment that targeted LGBTQIA students. They are currently working on a reporting system where anyone

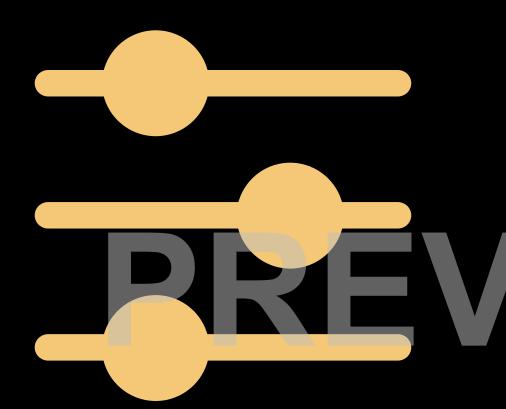
can report incidents through a Google Form and those reports will then be followed up on by the school administration.

5. MARKETING

Another way to make an impact with technology is by raising public awareness of special projects, initiatives, or problems through graphic design, video production, and social media.

Example: When elementary students learned that their local animal shelter was having trouble placing animals in good homes, they used their graphic design skills to create animal trading cards, which the shelter then used on its social media and on the animals' crates to help "advertise" the pets that were ready for adoption.

Most teachers and students don't have the time or resources to actually execute ideas like this on a regular basis. But what we can do, what requires almost no time or resources at all, is to make it a habit to think about impact as a next step, to consider how the things we learn in school don't have to end there, and to figure out how tech can help us go further.



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Using tech with students has its own set of rules.

FINE-TUNE

ARE WE DOING THIS RIGHT?

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Redefinition

Tech allows for the creation of new tasks,

Modification

Augmentation

Tech acts as a direct tool substitute. with functional improvement.

Substitution

Tech acts as a direct tool substitute. with no functional change.

SAMR MODEL

Tech Standards: The "Big Four"

Not all tech use is created equal. In some classrooms, the technology is a distraction from the learning; in other rooms, it merely makes things faster or more efficient. And in others, it gives students experiences they would likely never have if it weren't for the technology.

In an effort to support educators in their quest for meaningful and impactful technology integration, experts have developed educational technology standards for teachers to use as a guide for their digital learning implementation. Let's explore four of the most well-established standards — what we're calling the Big Four.

SAMR

TRANSFORMATION

ENHANCEMENT

The SAMR model is a framework for technology integration developed by educator Dr. Ruben Puentedura. The model lays out four different levels of using technology for instructional purposes: Substitution, Augmentation, Modification, and Redefinition.

The Tips: Fine-Tune

At the **Substitution** level, the tech takes the place of some tool we are already using.

Within the **Augmentation** level, the tech still acts as a substitution for a tool, but now it adds functional improvement.

Modification is the level where you are starting to actually change the learning task for students.

At the **Redefinition** level, students are performing a new task with the tech, something that would not be conceivable without the tool.

While SAMR has four levels, it is important to not think of it as a ladder to climb but rather as an ebb and flow, moving through each of the levels based on your instructional needs.





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THE 4CS OF DIGITAL LEARNING

The 4Cs, part of the P21 Framework for 21st Century Learning, began as a study to understand what skills would be most valuable to students while in school and beyond. What were companies and organizations seeking in their new hires? What was uncovered were 4Cs: Critical Thinking, Communication, Collaboration, and Creativity.



FRAMEWORK FOR 21ST CENTURY LEARNING

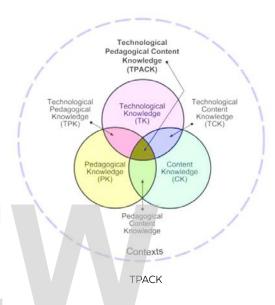
Critical thinking is the capacity to look at a problem or situation, analyze it, better understand it and possibly offer solutions.

The skill of **communication** is more than just teaching students how to be active listeners or participate in group discussions, it also seeks to support students with presenting information, composing emails, and even writing instant messages.

Collaboration moves beyond understanding group work for students. It focuses on the idea that working together produces an outcome that is greater than something one person can create individually. Building collaboration among students focuses on fostering questioning skills and understanding how to honor everyone's thoughts instead of just one idea being "the best."

The beauty of **creativity** is that it allows for the discovery of possibilities, and the opportunity to think beyond what is acceptable or traditional. However, it is not always a natural occurrence for students, or they may think "I can't draw so I am not creative." So similar to the other 4Cs skills, creativity has to be taught.

We cannot just expect students to be innately good at these skills. We must teach them. One way to support this growth is to build a classroom culture that embraces failure and reflection.



TPACK

TPACK is a technology integration framework that identifies three types of knowledge: technological, pedagogical, and content. This framework promotes the understanding that if a teacher intersects all three knowledge types, students will have optimal learning.

TPACK strives to help teachers not use technology for the sake of it being something cool in their classrooms. Rather this structure aims to illustrate the relationship between

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blending technology with a firm understanding of a concept and best teaching practices.

For example, a well-practiced teaching strategy is a Socratic Seminar, when a small inner circle speaks while an outer circle listens in on the conversation. Educators could enhance this practice by using a backchannel discussion board like YoTeach! so the outside circle could have a silent conversation about the discussion and the teacher can monitor both chats checking for engagement and prompt questions to both groups in order to check for understanding.

ISTE STANDARDS

In 1998, the original ISTE Standards were written by the International Society for Technology in Education as a way to guide the education of students through technology.

Since the beginning, the standards have gone through many iterations and have developed into multiple strands including standards for students, teachers, education leaders, coaches, and most recently, Computational Thinking



Competencies. Each of these frameworks provides a roadmap for effectively leveraging technology in education.

Each strand of standards is broken down into components focusing on a variety of skills for their intended audience such as global leadership, collaboration, empowered learners, and analytics skills. According to ISTE, these standards are meant to ensure that learning experiences are "high-impact, sustainable, scalable and equitable" for all learners.

APPLYING THE STANDARDS IN YOUR OWN WORK

The scope of these standards can be guite overwhelming — attempting to align all of your tech-related planning with all of them would be difficult at best, and this may be something you simply don't have time for. That doesn't mean you're failing! Instead, try treating the standards as refinement tools, ideals that you can reach for when you're looking for ways to take your instruction to the next level.

So if you have a unit of instruction that hasn't worked as well as you would have liked, consider whether something in one of these frameworks offers a way to make changes that will increase student engagement or improve learning outcomes. Or if you're at the very early stages of planning a new unit, choose one of the big four to use as a guide as you think about how you might use technology in the lessons.

Finally, know that all of this is still evolving what we prioritize in 10 years might be very different from what we do now. And that's a good thing.

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THE TOOLS

P D Images & Icons Parent Engagement Animated GIFs Digital Literacy Teacher Professional Development **Photo Editing** Infographics Art & Graphic Design Digital Portfolios Interactive Lessons Physical Education Drama & Theater Arts V Artificial Intelligence Interactive Posters Podcasting Assessment Video: Animation Ξ Presentation & Production Audience Response K Early Learners Productivity & Planning & Backchannels Video Conferencing Keyboarding F Video: Live Streaming 0 \mathbf{B} & Short Form Feedback **QR** Codes Blogging & Video: Screencasting Language Study Website Building Financial Literacy Virtual & Augmented Learning Management **Book Publishing** Flashcard Creators Reality Systems Research Flipped & Blended Learning C Vocabulary Builders Literacy Fundraising & S Career Exploration Payment Processing M Science Classroom Management Makerspaces Writing G Social & Emotional Learning Cloud Storage Math Games Social Justice Collaboration & Media & News Literacy & Anti-Racism Global Learning Project Management Mind Mapping Social Media Comic Strip Creators Music Speaking & Discussion Content Libraries History & Social Studies Special Ed/UDL Curation Spreadsheets

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Audience Response & Backchannels

For many educators, at least part of the job includes lecturing to an audience, whether in a classroom, an auditorium, or via videoconferencing. And one big drawback of lectures is the fact that the communication is one-way by default.

The tools in this section change that dynamic by giving audience members the ability to participate more actively and engage with the lecturer without interrupting the presentation.

Most of these tools are controlled primarily by the presenter: The speaker creates a poll or asks a question, the audience responds through their own devices, and the results are displayed on the presenter's screen for everyone in the room to see. These tools provide an excellent vehicle for real-time feedback, brainstorming, and formative assessment.

One of the tools in this section, **YoTeach!**, serves more as a backchannel — like a "chat room" participants can enter to have an ongoing conversation during another event or presentation. These can be useful when the presenter wants the audience to be able to interact with one another, but doesn't necessarily plan to take questions or poll the audience. Backchannels can also be used to allow students to silently ask each other

questions while watching a video or during a period of quiet independent work in your classroom.

Many of us had our first backchannel experience on a site called TodaysMeet, but they shut down in 2018. Since then, YoTeach! has proven to offer the most similar experience.

AUDIENCE RESPONSE IN GOOGLE SLIDES

If you're a Google Slides user, you can easily add audience participation by using the Q&A feature that's built into Slides. Simply show your audience members the unique link assigned to your session, then view and respond to written questions as they come in. Questions can also be upvoted by other audience members, allowing you to respond to the most popular questions.

AnswerGarden

answergarden.ch

With this free tool, you ask your audience a question that can be answered with a single word or short phrase, they respond through a web link, QR code, or AnswerGarden's iOS app, and their answers begin to populate on a display screen in a word cloud. The words that are submitted most often will appear as the largest in the cloud. This is a handy tool to use if you want to brainstorm with a group.



Poll Everywhere

polleverywhere.com

The first company to offer an alternative to clickers, Poll Everywhere started as a service that allowed students to respond to a poll via text message. Now students can also respond through a web browser or through Poll Everywhere's mobile app. Polls include multiple choice, ranking polls, clickable image polls, and questions that include LaTeX syntax and alphabets from world languages.

Similar: Mentimeter, Top Hat



Slido

slido.com

With Slido, the audience can submit questions through a regular web browser using a unique event code. The questions that appear on the presenter's screen can be upvoted by other participants, moving the most popular questions to the top. Once a question has been answered, the presenter can remove it from the queue. Slido also offers audience polling with multiple choice and word cloud options.



Wooclap

wooclap.com

Designed for higher education and business use, but perfectly suited for middle school and up, this platform equips presenters with a huge range of options for audience engagement: multiple-choice, rating, ranking, and poll questions, items that ask them to pick a spot on an image, word clouds, even open-ended questions. Participants respond through smartphones, tablets, or computers, and results appear instantly on the presenter's screen.



YoTeach!

yoteachapp.com

With this tool — which saved the day after TodaysMeet closed — you can quickly set up an online chat "room," making it password-protected or public. Have students enter with their own devices by going to the room's URL, or create a QR code that will send them straight there. Once inside, students can comment, upload photos, or use the pen feature to draw or write by hand.

MORE BACKCHANNEL OPTIONS IN THIS GUIDE

Many teachers leverage <u>Google Classroom</u> as an alternative backchannel. Being a part of the Google ecosystem makes it simple for teachers to use. Additionally, <u>Padlet</u> can be used as a backchannel as well.

REMOTE POLLING

Both <u>Zoom</u> and <u>Google Meet</u> have builtin polling features that can be used before and during webinars or remote meetings.



Classroom Management

Effective classroom management starts with a foundation of consistency and relationships. Assuming you have built that foundation, the tools featured in this section will help you improve the way you run your classroom. Although none of these tools can substitute for relationship-building and consistency, they can help systematize and automate some of the tools you have already used for generations.

Three of these — Class Charts, Classcraft, and ClassDojo — focus on monitoring and making adjustments for student behavior. It's important to know that there is a right way and a wrong way to use tools like these. Publicly displaying students' behavior marks can have an incredibly negative impact on students. To understand

the argument for and against public behavior monitors, read <u>Tear Down Your Behavior Chart!</u> from ASCD.

One tool, **BehaviorFlip**, also helps teachers monitor student behavior, but the platform is not intended to be made public. It is built with restorative justice in mind (see box at right).

The others in this section have more targeted purposes:

- GoNoodle provides video "brain breaks" to give kids a chance to move their bodies and relax between academic activities.
- **Bouncy Balls** helps teachers monitor the noise level in the classroom.
- ClassroomQ cuts down on the chaos caused by students waiting for your attention.
- ClassroomScreen lets you manage a multitude of classroom tasks on one screen.
- NameCoach helps you pronounce your students' names correctly.

LEARN ABOUT RESTORATIVE JUSTICE

Many schools are shifting their approach to behavior management toward restorative justice, which has deep roots in Indigenous communities. Schools who study this philosophy carefully and apply it correctly have found great success with it. To learn more about restorative justice, read this overview.

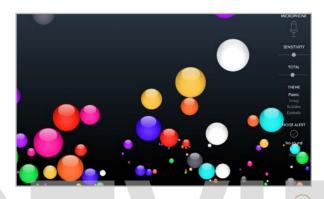
BehaviorFlip | Bouncy Balls | Class Charts | Classcraft | ClassDojo | ClassroomQ | Classroomscreen | GoNoodle | NameCoach



Behavior Flip

behaviorflip.com

This platform was built with restorative justice practices in mind. Teachers track students' "coachable" behaviors in two categories — respect and responsibility — in order to detect patterns and provide a starting point for talking with students. The tool also lets you reward students for behaviors that demonstrate resilience. It even has a mechanism for indicating whether harm has been repaired after an incident.



Bouncy Balls

bouncyballs.org

This web-based tool helps to keep noise at a reasonable level. Just open the website and set it up where students can see it. When the classroom is quiet, the balls stay settled at the bottom of the screen, but when the noise starts to rise, the balls get more active, giving everyone in the room a visual cue about how noisy they're getting.

Similar: Too Noisy



Class Charts

classcharts.com

This platform helps you sort students into different kinds of seating charts based on behavior, reading levels, gender, or whatever parameters you'd like to set for a given activity. You can also record positive and negative behaviors, awarding points for good choices, and generate reports on individual students and whole classes, so you can see what types of behaviors are a problem for you as a teacher.



BehaviorFlip | Bouncy Balls | Class Charts | Classcraft | ClassDojo | ClassroomQ | Classroomscreen | GoNoodle | NameCoach

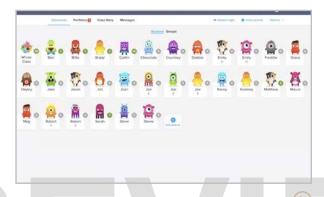


Classcraft

<u>classcraft.com</u>

This unique platform gamifies classroom management. Students inhabit a virtual world as self-designed avatars, and their activities reflect what happens in class. They earn points for things like helping other students or getting questions right, then use these points to "level up" in the game, unlock powers, and earn privileges. They also lose points for negative behaviors. Students work in teams, helping each other and sharing rewards and consequences.

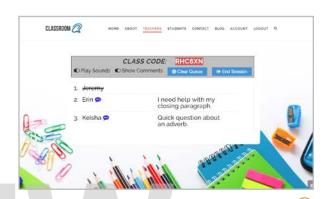
Similar: GradeCraft



ClassDojo

classdojo.com

The earliest version of ClassDojo focused on giving and taking away points for behavior on a screen of student avatars, as seen above. Parents could access student accounts, which kept them in the loop on their child's behavior. This tool is still in place, but Dojo now offers more features: student portfolios, a more advanced parent messaging system, and a "Story" feed that keeps parents updated on classroom activities.

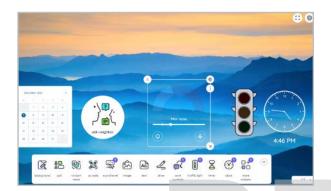


ClassroomQ

classroomg.com

When many students need attention during group or independent work, things can get hectic. ClassroomQ's online queue system solves this problem: If a student has a question, he requests help through his own device. On your page, student names appear in the order they were entered. Once you meet with a student, you click their name and it disappears, moving everyone else up in line.

BehaviorFlip | Bouncy Balls | Class Charts | Classcraft | ClassDojo | ClassroomQ | Classroomscreen | GoNoodle | NameCoach



Classroomscreen

classroomscreen.com

This tool gives you one screen to project various classroom management tools. The app comes with a collection of widgets for this purpose, including a timer, a traffic light (which can mean whatever you and your students decide it means), a drawing tool, a random name selector, a noise monitor, a QR code widget, and a menu of "work symbols" to indicate what level of talking is okay for the kind of work you're currently doing.



GoNoodle gonoodle.com

GoNoodle helps keep kids moving with a library of interactive, video-based brain breaks, each one five minutes or less, designed for elementary students. There's dancing, Wii-style sports play, yoga, and even Zumba. Many of the breaks have students play games that build skills and develop fluency in core subjects.



NameCoach

cloud.name-coach.com

According to Dale Carnegie, "A person's name is to him or her the sweetest and most important sound in any language." NameCoach provides the opportunity for all to record accurate audio names so that everyone can correctly pronounce student or staff names. This helps foster the inclusivity, positive relationships, and respect critical to building community.

The Terms References Introduction Index **Cloud Storage** Menu The Tips The Tools



When one of your documents is stored in the "cloud," it's being kept on a bigger, stronger computer somewhere far away. Actually, it's more like a collection of computers called a data center. Using more than one storage facility protects your files from being corrupted, lost, or unavailable due to a problem in one place.

WHY USE CLOUD STORAGE?

Access: You can get to your files from anywhere, as long as you have an internet connection. This means never having to worry about that flash drive you left at home or getting ready to work on lesson plans at home and realizing you stored them on your computer at school.

Backup: If something goes wrong with your home or work computer, your cloud-stored files are left untouched.

Space: All home computers, flash drives, and external hard drives have limits on the amount of stuff they can hold. Cloud storage gives you a lot more room to house your stuff.

Collaboration: Most cloud storage systems allow users to give other people access to certain files. That means groups of people can view or even work on the same document simultaneously.

POPULAR CLOUD PLATFORMS

Dropbox ()

dropbox.com

This was one of the earliest cloud storage services, and it's still going strong.

Google Drive

google.com/drive

Google Drive offers the storage power of Dropbox, but also provides tools right inside Drive that you can use to create new documents.

Microsoft OneDrive



onedrive.com

Along with an Office 365 subscription, OneDrive offers storage linked to Microsoft Office's powerful creation tools, all based in the cloud.

There are plenty of others to choose from, like iCloud, Box, and IDrive, but they may be more geared toward businesses. Read this overview to compare platforms.

NEED TO TURN YOUR FILE INTO A DIFFERENT KIND OF FILE?

Sometimes you have a file, but it's the wrong type for your current need. These **file converters** let you change a file of one type, like a PDF, into another type, like a Word Doc.

Media.io: media.io

PDF Candy: pdfcandy.com

Zamzar: zamzar.com

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Collaboration & Project Management

Effective collaboration — working with others to make decisions, explore concepts, solve problems, and create new products — has been recognized as one of the 4Cs: learning and innovation skills that are the desired outcome of a 21st century education.

And as more schools embrace project-based learning as an instructional model, project management skills are in higher demand. Being able to coordinate and execute large, ongoing, complex projects is a valuable skill for any

PLATFORMS FOR PROJECT-BASED LEARNING

Be Anything

beanything.co

Projects are managed on this platform with task cards, like on Trello; rubric and feedback options are built-in for teachers.

Spinndle spinndle.com

On project roadmaps, students work together to brainstorm, set goals, give each other feedback, and iterate on projects.

individual to have, and it is the kind of work students will do in college and in their careers.

The tools in this section facilitate project management and collaboration on small and large scales, and they do it all digitally, so students can work in person or from home. **Padlet** and **Miro** are simpler spaces where teams can work together to collect and

DIGITAL WHITEBOARDS

In these online spaces, users can write out ideas like they would with a marker and add images, text, and shapes. Many teachers use these spaces in conjunction with a lecture or a video conference.

Explain Everything

explaineverything.com

Google Jamboard

jamboard.google.com

Lucidspark

lucidspark.com

discuss ideas. **Slack** provides a space for team communication. And **Basecamp**, **Kanbanchi**, and **Trello** offer tools for managing large, multifaceted projects.

Other tools in this guide offer collaboration features, like <u>word processing</u> platforms, <u>mind</u> <u>mapping</u> tools, <u>learning management systems</u>, and <u>speaking and discussion</u> tools.

Basecamp | Kanbanchi | Miro | Padlet | Slack | Trello



Basecamp

basecamp.com

This clean, simple platform gives users one central place to organize all components of a project: messages, to-dos, schedules, documents and files, a group chat, and a place for checking in on the status of individual tasks. Accounts are offered free for verified education users.



Kanbanchi

kanbanchi.com

This project management tool is a great choice for Google Workspace users, because it works right inside that platform. Like Trello, this tool organizes projects on kanban boards, which use cards and columns to track various tasks. The site also offers templates for lesson planning, classroom newsletters, and other classroom work. Discounts for educators are available.

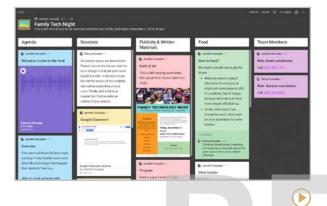


Miro

miro.com

Formerly known as RealtimeBoard and AWWApp, Miro takes the idea of brainstorming on a whiteboard and moves it online. Using a template, groups of users go into the same space and work simultaneously on the same board, writing notes, attaching files, pasting in images, and embedding videos. While they do this, they can do a written chat or conduct video chats right inside the collaboration board.

Similar: Stormboard



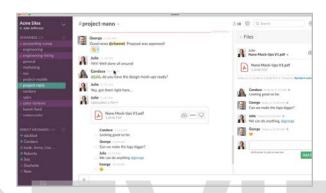
Padlet

padlet.com

Through one lens, Padlet is a <u>curation</u> tool: an online corkboard where you can pin notes, pictures, files, and links to other places.

Through another, it's a collaboration tool, where you can engage in an online discussion with others while also sharing resources in one place. While not as robust as a full-fledged project management tool, Padlet has a lot of flexibility for smaller-scale collaboration.

Similar: Post-it App, Weje



Slack

slack.com

This team messaging platform is much more efficient and user-friendly than email. Messaging takes place through channels — like separate chat rooms for different conversations. Users can also attach files and hold side discussions about these files within the larger conversation.

Similar: Discord, Microsoft Teams, Twist, Yammer



Trello

trello.com

Like Kanbanchi, on Trello users create a board for each project. Every board contains lists (for components of a project), and within each list are cards representing individual tasks. Cards can contain text, attached files, checklists, links to outside resources and threaded conversations about that card.

Similar: <u>Asana</u>, <u>MeisterTask</u>, <u>monday.com</u>, <u>Taiga</u>



Digital Portfolios

Assessing student work should ideally go way beyond numbers. Test scores only give us a snapshot of student performance from a single day, and grades can be incredibly subjective. For that reason, more teachers are exploring ways to move away from traditional grading practices.

The Facebook group <u>Teachers Throwing Out</u> <u>Grades</u> has over 12,000 members. One of the tools these teachers use instead of grading is portfolio assessment.

In the digital age, "portfolio" can mean much more than images or written documents.

Technology lets us include just about any kind of media to represent what we can do: A student who excels at coding could create a gallery of Scratch projects. An athlete could build a portfolio of videos of athletic performance or game clips. A student filmmaker could share a collection of short films made with animation tools.

Soon, building digital portfolios may be more than just a trend: More colleges and universities are <u>including portfolios</u> as part of their application process.

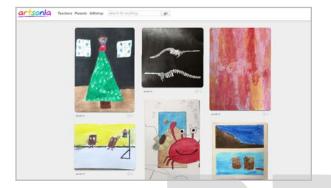
The five platforms in this section provide tools for building portfolios, whether it be for assessment or to share them with parents, colleges, or the rest of the world.

MORE PORTFOLIO TOOLS

This section includes tools that are designed to serve as digital portfolios, but other tools in this guide can get you similar results.

Websites created with any of the blogging and website building tools could make fantastic portfolios, and some of the curation tools like elink, Wakelet, and Weje could do the same. Padlet, which is now in our collaboration and project management section, would be a great platform for putting together a fast online portfolio.

Anyone who is focused mainly on photography should also consider Flickr, a popular site where photographers can store, organize, and share photos.



Artsonia

artsonia.com

This free site is an "online museum" where students can upload images of their artwork into portfolios. Parents can view and comment on the artwork and buy items with their child's artwork on it: T-shirts, coffee mugs, magnets, even cutting boards, and 20 percent of each purchase goes back to the art teacher's classroom.



bulb

my.bulbapp.com

On this beautifully designed platform, users can create separate portfolio pages for different purposes and organize them into collections. The individual pages can include text, images, videos, embedded content from other apps, and attached files. Privacy can be set for individual pages, making it easy to decide who sees what, and pages can be revised and updated at any time.

Similar: Fanschool



Digital Portfolios

Portfoliobox.net

This is the kind of platform people head to when they're ready to take their online portfolio to the next level. Built for "creatives" — visual artists, photographers, animators, musicians, fashion designers — Portfoliobox gives users tools to build an elegant, customized website that showcases images and videos of their work. Discount pricing is available for students at partner schools.

Similar: Canva

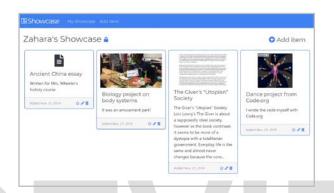




Seesaw

web.seesaw.me

On Seesaw, students and teachers post audio clips, videos, photos, drawings, notes, or links, then annotate items with text or audio. Parents can view and comment on their child's portfolio at any time. The platform also allows teachers to create and assign <u>activities</u> to students and send announcements and messages to students and parents.



Showcase

showcaseedu.com

On this simple platform, students can gather photos, documents, and links to online resources into a single, clean portfolio. This can include art projects, videos, writing pieces, coding projects, Desmos graphs, even whole websites. Each item gets a customizable title and description, and portfolios can be made public or set to private with a school code, so that only teachers and other students can view it. **Note**: The site's social media shows no activity since 2020, so we're not sure it's still an active platform.



Digital Portfolios

SpacesEDU

spacesedu.com

This is a newer tool designed to "tell the stories behind the grades." With a Facebook-style flow for educational communication among teachers, students, and families, SpacesEDU showcases learning both through the app itself and through a variety of other apps. It is similar to Seesaw, but directed more toward older learners



EdLight | Floop | Kaizena | Mote | WeVu

Feedback

voice comments on student work in an online space, and because they are digital, we can save, review, and replicate them for future use.

CLASSROOM USES

- Provide ongoing feedback to students on all kinds of written work, from formal writing pieces to lab reports.
- Have students collaborate on assignments, using comments to document their collaboration and provide evidence of how much effort was put into the project by each student.
- Have students submit online journals and engage in an ongoing, back-and-forth discussion by using feedback tools. See <u>this</u> <u>post</u> about how dialogue journals work.
- Have students provide peer feedback and assess their work not only on the quality of the product itself, but on the quality of the feedback they give others.
- Invite parents to contribute comments, questions, and feedback to documents.



Many tools in this guide contain built-in feedback capabilities.

- Some tools in the <u>assessment</u> section, like Formative and Kiddom, include feedback options.
- Most <u>learning management systems</u> have robust feedback systems.
- The <u>collaboration</u> and <u>project management</u> tools are natural platforms for giving feedback.
- Platforms like <u>Google Workspace</u> and <u>Microsoft's</u> suite of tools offer commenting features within many of their applications.

FASTER FEEDBACK

The faster you can give feedback, the more you can do. In this 2020 interview with Matthew Johnson on Flash Feedback, he shares three strategies for giving feedback more quickly.



Feedback

Before digital tools arrived, giving feedback was an incredibly time-consuming process: Whatever feedback we gave had to be done verbally or in writing, and there was no way to speed it up or replicate it for repeated use. That placed big limits on how much feedback we could give.

The tools in this section make feedback easier, more effective, and more efficient. With these tools, teachers (or students) provide written or Menu Introduction The Tips The Tools The Terms References Index Feedback

EdLight | Floop | Kaizena | Mote | WeVu



EdLight

edlight.com

Whether remote or in person, collecting student work and providing specific feedback is easy with EdLight. When teachers post assignments they list required criteria for the task. Students take a photo of their work using any device. Teachers then comment directly on the work, checking off included criteria before sending it back. Teachers can view an entire class's assignment and note gaps or needs at a glance.



Floop

 (\mathbf{r})

floopedu.com

Floop was built by teachers to allow for feedback with much faster turnaround time: Students send pictures of their work in progress to the teacher, along with questions they need help with. The teacher views the work, types in comments that are anchored to specific locations on the photos, then sends it back to students, starting a feedback loop that allows for iteration and improvement. Also included is an anoymous peer-review option.



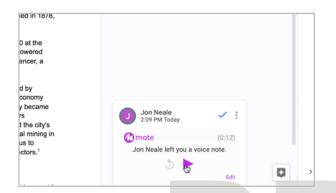
Kaizena

kaizena.com

With this web app and Google Docs add-on, teachers can leave many types of feedback: written comments, voice recordings, links to lessons on a concept related to the issue found in the student's writing, and rubric-based feedback using rubrics created inside the app. To save time, teachers can build a library of frequently used text or audio comments to pull from. When students receive feedback, they can reply to it with voice or text.



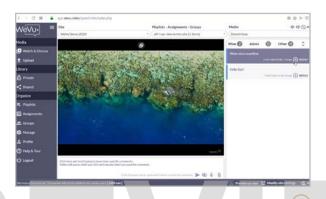
Feedback



Mote

justmote.me

This Google Chrome extension allows users to add voice comments in the comment field of any Google Docs, Slides, or Sheets file, or inside Google Classroom. With the paid plan you get a longer time limit for comments, autogenerated transcriptions of comments, and the ability to save voice comments for re-use in an online library.



WeVu

wevu.video

This platform allows students to upload videos and the teacher can attach comments to specific timestamps on the videos. This type of tool is invaluable for performance- or skill-based courses like music, theater, languages, physical education, public speaking, or nursing.

WHAT HAPPENED TO PEERGRADE?

Peergrade, a platform that facilitates peer feedback, has been featured in this section for quite a long time. Now its features have been absorbed into a larger platform, Eduflow, which is in our Flipped & Blended Learning section.

This video was created to show former Peergrade users how to perform the same functions in Eduflow.

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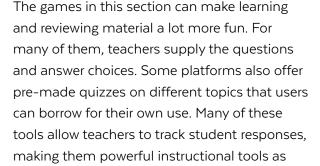
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something different. **Goosechase** is a platform for organizing scavenger hunts, **playmeo** is a database of low-tech interactive group games, and **Seppo** allows users to build their own games from a set of options.

At the end of this section is a whole page devoted entirely to **Osmo**, a suite of resources that was so hard to categorize and offers so much, we had to give it a page all to itself.



Although most games listed in this category are designed to review content, three offer

JUST FOR FUN: MULTIPLAYER GAMES

The popularity of multiplayer games like Among Us, Roblox, and Fortnite surged in 2020. Some schools set aside time for students to play these games socially. While Fortnite is designed to be addictive and has caused problems for some young users, the other two have not been as widely criticized. Another multiplayer game with a great reputation is Minecraft, which has an education edition.



THE GROWING POPULARITY OF ESPORTS

Gaming has been quite popular for a while now but it has made a big debut in the educational arena with <u>esports</u>. Students go from just players to team members in an organized activity recognized by school systems, colleges, and companies. Participation in esports builds selfesteem, increases social and emotional development, and promotes STEM. Popular games include <u>Rocket League</u>, <u>Minecraft</u>, and <u>League of Legends</u>. Many K-12 schools are using platforms such as <u>PlayVS</u> to host their esports programs.

well as great engagement boosters.

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99math

99math.com

Standards-aligned math games organized by skill or grade. Engage kids in individual or realtime practice and challenge classes across the globe.



Blooket

blooket.com

Teachers can take a single activity and convert it into multiple modes of gameplay, as a class or independently. Students can also create Blooks and play on their own.



Arcademics

arcademics.com

Variety of ready-to-go games on multiple subjects. Students can challenge each other to in-class competition without log-ins.

n h u a c r h w



Baamboozle

baamboozle.com

Create your own game or choose one from a bank of over 1 million games. Great for distance learning or low-tech classrooms — students do not need their own devices to play.



edshed.com/en-us

EdShed

Six different games rolled into one platform: Phonics Shed, Literacy Shed, Math Shed, Quiz Shed, Spelling Shed. Create custom assignments with paid subscription.



Freerice

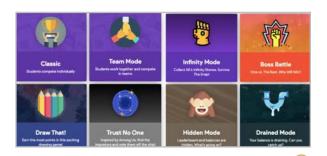
freerice.com

Great for multi-level, multiple choice games on a variety of topics. Each game earns grains of rice that go to feeding underserved countries.



Games

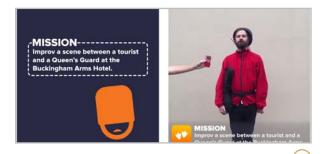
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Gimkit

gimkit.com

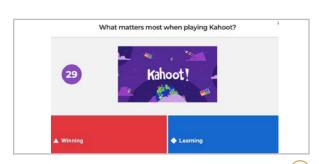
Pronounced *gim* like *gimme*, Gimkit lets you create games students play on their own devices, earning in-app cash for correct answers.



Goosechase

goosechase.com/edu

A platform used to easily create interactive scavenger hunts where players record their finds in photos and videos.



Kahoot!

kahoot.com

Free game-based platform with quiz-show games students play on their own devices.

More than 1 million pre-created games and growing.



Legends of Learning

<u>legendsoflearning.com</u>

Pre-made, curriculum-aligned math and science games for elementary and middle school. Great for reinforcing concepts both at home and school.



playmeo

playmeo.com

A database of more than 400 low-tech interactive group games for a variety of purposes from ice-breakers to team-building.



Quizalize

quizalize.com

Standards-based quiz platform that gives you real-time data as teams of students work their way through games.





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Games

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Quizizz

quizizz.com

Power-ups and redemption questions set this quiz game apart from others. Make your own or use the pre-made options for instant play.



Socrative

socrative.com

Options to build three different types of interactive responses via game, quiz, or exit ticket. Quick setup and easy to start.



Quizlet Live

quizlet.com/features/live

This team-based game is played live between teams of students using decks from Quizlet for review.



Seppo

seppo.io

Adventure-type games requiring players to capture evidence of learning. Similar to Goosechase. Subscription required.



Wordwall

wordwall.net

Input a set of questions and answers, then build a variety of different interactive online games. Printable activities also available.





Media & News Literacy

The term *fake news* has gotten a lot of mileage over the past few years, and for good reason.

We're living in a time when *anyone* can publish *anything* and our students spend the bulk of their days consuming user-created content.

All of us are bombarded with information and things that *look like* information all day.

On top of that, algorithms work hard to show us more of the stuff we agree with and less of what we don't. It's no longer enough to simply know how to read; we need to be critical thinkers who understand how media works. The resources in this section can help.

 Checkology and Common Sense Education offer lessons about the First Amendment, quality journalism, and detecting bias.

- AllSides and ProCon.org provide texts from different points of view, allowing students to study their differences and make up their own minds.
- The Learning Network offers lessons built around articles and other media from The New York Times.
- The Living Room Candidate takes a close look at political ads from the last 60 years.

MORE RESOURCES TO CHECK OUT

PBS Learning Media has a News & Media Literacy Collection that includes resources on fake news, navigating the web, and fact-checking.

Teaching Kids News offers a collection of <u>"Fake News"</u> resources to help students avoid fake news and foster critical thinking.

Media Literacy Now is an <u>organization</u> whose mission is to work at the policy level to ensure that every student gets a strong media literacy education.

ELSEWHERE IN THIS GUIDE...

The tools in this section were created specifically for teaching students to be more critical consumers of news, but three others also offer good media literacy resources:

- The Choices Program, in history & social studies, offers monthly lessons in Teaching with the News that get students to closely examine current events.
- NewseumED, in content libraries, has a collection of activities, lessons, and other <u>resources</u> to teach media literacy. They also offer free <u>virtual classes</u> on a variety of topics.
- The <u>Stanford History Education Group</u>, in history & social studies, offers a <u>Civic Online Reasoning</u> curriculum to teach students how to evaluate online information.

AllSides

allsides.com

Offering news from all sides of the political spectrum, this free site lets users compare how different publications and websites report on the same stories. It also includes free classroom activities like a Red Blue Translator, topic pages with background information on popular current events topics, and lesson plans for teachers.



Checkology

get.checkology.org

This free site offers more than a dozen interactive lessons on news media bias, misinformation, conspiratorial thinking and more taught by professional journalists, plus other support activities to extend the learning in the lessons. Check out the other educator resources offered by the News Literacy Project.



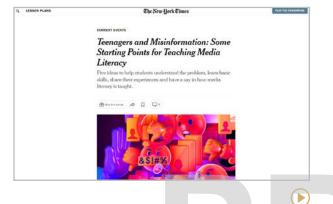
Common Sense Education

commonsense.org/education/digitalcitizenship/curriculum

Inside Common Sense's larger curriculum on digital citizenship are lessons on news and media literacy for every grade level, covering topics like credibility and the connection between advertising and disinformation. Also check out the <u>curated picks</u> in their News and Media Literacy Resource Center.

Media & News Literacy

AllSides | Checkology | Common Sense Education | The Learning Network | The Living Room Candidate | ProCon.org



The Learning Network nytimes.com/section/learning

A branch of The New York Times website, this free resource offers a huge collection of resources to supplement the Times. Their daily current events lessons, news quizzes, writing prompts, contests, and other activities all build on the articles, photography, videos, podcasts, and infographics that the Times produces on a daily basis. The site also offers professional development webinars to help teachers get the most of their materials.



The Living Room Candidate livingroomcandidate.org

This online exhibition houses more than 300 TV commercials from every election year since 1952, including the 2020 election. The site includes a searchable database and features commentary, historical background, election results, and navigation organized by year, type of ad, and issue. Lesson plans on political ads are also available for download.



ProCon.org

This site presents "the pro and con arguments to controversial issues in a straightforward, nonpartisan, freely accessible way." Topics include gun control, defunding the police, school vouchers, and illegal immigration. Each topic is further broken down into subcategories, and multiple voices speak for each side, giving readers a granular, nuanced look at every issue.



Bubbl.us | Coggle | Lucidchart | Mural | Sketchboard



Graphic organizers, or "mind maps," make thinking visual by organizing concepts to show how they are related. Research has shown that when graphic organizers are incorporated into instruction, student learning improves (Hall & Strangman, 2002).

The tools in this section make it possible to create these organizers with text, images, videos, and links to outside sources, making them a rich multimedia experience. They also

allow multiple users to work on the same map simultaneously, even from different locations.

To read a detailed discussion of all the ways graphic organizers can be used in the classroom, read <u>The Great and Powerful Graphic Organizer</u>.

TEACHER USES

- Present content to students with mind maps, showing it as visual support for a lecture, at the beginning of a unit, or to illustrate a difficult concept.
- Assess student understanding with a mind map. Students could be given a list of terms and build a mind map to show the relationships between those terms.
- Use mind maps to brainstorm with students, either on a content-based topic or to solve a classroom problem.
- When introducing a unit to students, show them how the parts of the unit fit together with a graphic organizer. Not only will this give them a sense of where you are in the unit at any given time, it should also help them understand why they are learning the individual parts.

- Put common classroom rules or procedures into graphic organizer form to help students remember them better.
- Conduct <u>retrieval practice</u> sessions by having students "brain dump" everything they can remember about a topic into a graphic organizer.

STUDENT USES

- Use as a pre-writing tool to organize ideas prior to drafting.
- Think through a complex topic with a mind map. After learning about an event in history, for example, build a map that outlines its causes and effects, adding additional resources for support.
- Use a graphic organizer to illustrate a complex topic in an informational or expository writing piece.
- Use mind maps to outline text structures
 while reading. Research has shown that
 when students study text structures before
 and during reading, their comprehension
 improves. Read more in <u>When We All Teach</u>
 <u>Text Structures</u>, <u>Everyone Wins</u>.

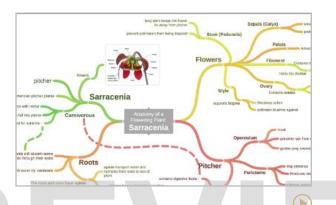


Bubbl.us

bubbl.us

On this simple web-based platform, users create maps made of connected bubbles that can contain text and images. With a paid subscription, you can also add files and icons. Finished maps can be printed, shared through a link, or exported as a PDF or image.

Similar: Popplet

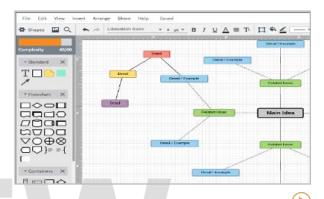


Coggle

coggle.it

For clear, distraction-free maps, this simple tool gets the job done quickly. Maps are created by adding branches, changing the colors and moving the branches as desired. You can also upload images, choose an icon from Coggle's icon library, or link an item to an outside website. You can invite collaborators to a map, and finished maps can be downloaded or shared with a link

Similar: GitMind



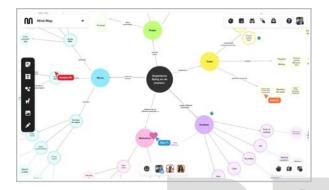
Lucidchart

lucidchart.com

With its simple drag-and-drop system, Lucidchart is one of the easiest-to-use mind mapping tools out there. To get you started, the platform offers a nice collection of predesigned, completely customizable templates. Images and links can be added, and users can collaborate on the same map. Finished maps can be shared through a link, embedded on another site, or presented like a slideshow.

Similar: Canva

Bubbl.us | Coggle | Lucidchart | Mural | Sketchboard

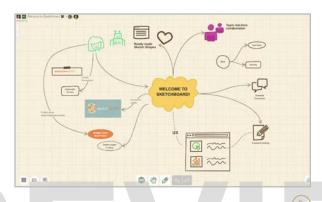


Mural

mural.co

This collaborative whiteboard platform offers a fresh, modern design and some mind mapping features that aren't available on other sites, like sticky notes, a library of icons, GIFs, images, and hundreds of customizable templates.

<u>Education plans</u> offer robust free options.



Sketchboard

sketchboard.io

With maps that look like hand-drawn sketches, Sketchboard has a lot of the same features as the other tools in this section: Users can collaborate on a map, you can add unlimited items to a map, and individual parts can be moved around. But the items can take all kinds of shapes: squares, circles, computer screens, people; you have over 50 icons to choose from. If you don't find what you need, use the freehand tool to draw it yourself. This tool also integrates with Slack, Github, and Google Drive.



DEVELOP GREAT MIND MAPPING LESSONS IN JUMPSTART

Mind Mapping

Mind mapping is the focus of one of the 10 modules we study in JumpStart, our online technology course for teachers. Learn about the course here.

SIMILAR TOOLS

To check out more tools beyond the ones featured here, try one of these:

Creately

MindMup

Gliffy

<u>SpiderScribe</u>

MindMeister

Anytune | Functional Ear Trainer | GarageBand | Groove Pizza | Hooktheory | Incredibox | Musicca | Noteflight | Quaver | Solfeg.io | Soundtrap | TonalEnergy



This section was originally developed with heaps of support from <u>Katie Wardrobe</u>, a musician and teacher who runs the website <u>Midnight Music</u>. Visit her site to explore her work and continue to deepen your musical teaching experiences.

The music industry has long been a leader in leveraging technology and digital tools to achieve that "perfect" sound or pitch; the chacha preset on an 80's electric keyboard could make anyone feel like a rock star.

The tools in this section are a definite upgrade from that keyboard, and they are more accessible than ever, giving more students the capacity to create masterpieces or at least have loads of fun trying.

This collection includes:

- Editing and composing tools like
 GarageBand, Groove Pizza, Hooktheory,
 Incredibox, Noteflight, and Soundtrap
- Music lessons and curriculum on sites like
 Musicca and Quaver
- Musicians' practice and training tools like Anytune, Functional Ear Trainer, Solfeg.io, and TonalEnergy

WHEN MUSIC MEETS CODING

Check out <u>EarSketch</u> in the Coding section of our Makerspace tools. It's a platform designed to teach coding through music composing and remixing.



PLAYLISTS IN THE CLASSROOM

With apps like Spotify or Apple Music, it's easy to design playlists that invigorate your classroom. One clever use comes from Ed Campos, Jr., who has created a playlist to cue his students to take action! Play "Walk Like an Egyptian"...the students line up and get ready to move. Or if they hear "Come Together" by the Beatles, up they go to gather at the meeting spot.

Other classrooms have voted on a "theme song" for the start of their classes. Who wouldn't be ready to take on a writing class when the theme from "The Office" kicks off the period?

Anytune | Functional Ear Trainer | GarageBand | Groove Pizza | Hooktheory | Incredibox | Musicca | Noteflight | Quaver | Solfeg.io | Soundtrap | TonalEnergy



Anytune

anytune.app

Music "slow-downer" for targeted practice

This app assists musicians in learning to play music by ear. Add songs from your own music library, then slow them down, isolate or mute instruments, record your performance and locate mistakes, and break songs into sections you can loop for practicing tricky spots. Many features are free; teachers are eligible for Pro+features at no charge.



Functional Ear Trainer

fet.kaizen9.com

Gamified ear training app

Based on Alain Benbassat's ear training method, this free app helps users learn to identify tones in a given key, and allows you to track your progress over time.



GarageBand

apple.com/garageband

Digital audio workstation for composition, recording, and editing

GarageBand is a versatile music creation studio that is a stalwart tool for Mac and iPad users. It's simple to use but very rich in features and is great for songwriting, remixing, film scoring, composing video game music, and recording projects.

Similar: Audacity



Anytune | Functional Ear Trainer | GarageBand | Groove Pizza | Hooktheory | Incredibox | Musicca | Noteflight | Quaver | Solfeg.io | Soundtrap | TonalEnergy

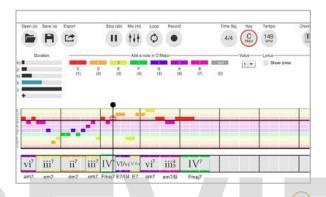


Groove Pizza

musedlab.org/groovepizza

Simple and effective free online drum sequencer

Groove Pizza allows you to create drum patterns using a pizza-shaped circular interface. You can have up to three independent parts playing at once — like a kick drum, snare drum, and hi-hat — and you can control the tempo, the volume, the amount of "swing," and more. Once you're finished with your beat, you can export it to another software program.



Hooktheory

hooktheory.com

Digital songwriting "sketchpad" for writing melodies and chord progressions

Hooktheory is a site with resources to help you write and analyze songs. The Hookpad app has useful features for students: an option to see which melody notes will fit well with a given chord, plus a chord palette to narrow down harmonic options. The Theorytabs section lets you explore the harmonic progressions of thousands of pop songs.



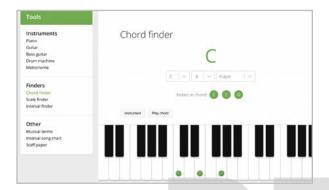
Incredibox

incredibox.com

Easy-to-use beatbox song builder

This interactive website and iPad app is lots of fun! You can use it to introduce beat-boxing, discuss texture in music, explore remixing, and discover effective arranging techniques. Students can record their own remixes and then play their "performance" for the class. To see how Incredibox could work in your classroom, try this free lesson plan: Teaching Beatboxing Basics with Incredibox.

Anytune | Functional Ear Trainer | GarageBand | Groove Pizza | Hooktheory | Incredibox | Musicca | Noteflight | Quaver | Solfeg.io | Soundtrap | TonalEnergy



Musicca

Musicca.com

Free lessons and exercises to learn music theory

Musicca makes it easy to learn music theory with its interactive lessons, online exercises, and instruments. This site is an all-in-one powerhouse that has exercises that combine music theory and notation, ear training, and keyboard identification with instruments such as guitar, bass guitar, piano, and drums.



Noteflight

noteflight.com

Online music notation software that works on any device

Noteflight is easy-to-learn software that lets you create your own sheet music. Students can use it for composition projects — from simple melodies through to orchestral scores — and teachers can use it to create assignments, music worksheets, and arrangements of ensemble pieces.

Similar: Flat



Quaver

quavered.com/music

Comprehensive, fully digital music curriculum

This web-based platform provides a comprehensive K-8 curriculum, relevant resources, interactive activities, and even professional development. Navigate the teacher dashboard for a full lesson with assessments or just launch a fun class play using one of the hundreds of pre-loaded songs. Quaver Music offers lessons and activities for vocals and musical instruments so every student can enjoy.

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Anytune | Functional Ear Trainer | GarageBand | Groove Pizza | Hooktheory | Incredibox | Musicca | Noteflight | Quaver | Solfeg.io | Soundtrap | TonalEnergy



Solfeg.io solfeg.io

App to support learning to play songs by sight

An interactive app that teaches music by sight through a huge library of popular and traditional songs. Within the song, as students are learning to play, they can adjust the volume of any or multiple instruments on the track, change the visualization from notation to piano to ukulele, and more! The entire song library is free to schools.

Similar: SolfaSinger



Soundtrap

soundtrap.com

Cross-platform online digital audio workstation

Soundtrap is an online alternative to GarageBand for non-Mac users. It's fantastic for composition, editing, and recording, and it really shines for collaboration: Multiple students can work on the same project from different locations, with each contributing different parts of a music or narration-based project.



TonalEnergy

tonalenergy.com

A flexible tuner and metronome app

This must-have tool for music teachers can teach students about intonation and sound quality. With the analysis function, students can "see" their sound as a waveform and evaluate their performance in real time. Was the note steady? Was the articulation and release of the note clean? TonalEnergy's instant visual feedback helps students adjust their playing more accurately. This app is only available for mobile devices.



Notetaking

Digital notetaking tools are a lot more than high-tech versions of the paper we might ordinarily use in the analog world. They come with all kinds of features that really take them to another level.

Some are more like binders, helping us organize notes into sections, giving us handy pockets to store documents we receive from other sources, and so much more. Some allow us to layer notes — or annotations — on top of existing documents or even web pages. Others allow us

to use our natural handwriting, voice recordings, or video to make the notes a truly multimedia experience.

WHAT DOES THE RESEARCH SAY?

Is notetaking even important anymore? The research says YES. Not only is notetaking important for learning, but <u>this overview</u> of the research on notetaking summarizes best practices.

TEACHING STUDENTS TO TAKE GOOD NOTES

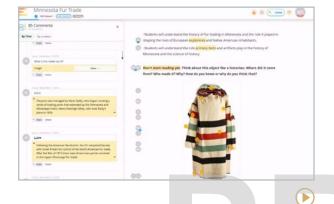
Humans aren't born knowing how to take notes, so if we want them to do it well, we need to teach them how to do it.

We recommend that you show students several methods and let them experiment until they find a style that works for them. This video from College Info Geek reviews five different notetaking strategies, and this station rotation method is an excellent way to introduce students to the different styles.

CLASSROOM USES

- Use **Evernote**, **Google Keep**, or **OneNote** to keep your "teacher stuff" organized. Students can use these to organize their own notes and documents. For big projects, they can sort notes into tabs or sections, then share them with you through a link.
- Students can annotate PDFs for close reading or research with a tool like Kami. They can do the same with online articles using tools like Hypothesis. If you want to watch your whole class comment and annotate a reading together, try Edji.
- Teach <u>sketchnoting</u> or graphic note-taking with tools like **Notability**.
- Students who prefer handwritten notes may want to invest in a reusable Rocketbook notebook and upload notes to the cloud.

Edji | Evernote | Google Keep | Hypothesis | Kami | Notability | OneNote | Rocketbook



Edji edji.it

This group annotation tool is fantastic for close reading. Teachers create a reading from a PDF or pasted from a website. As students read, they add written or audio comments and questions. The teacher can see all comments at once, and can even make them visible to everyone, so students can discuss the text together. It also works with an image or GIF, where students can click directly on the image

and add a related comment.

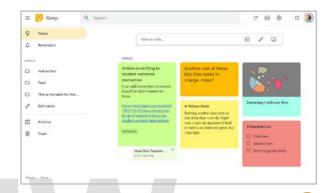


Evernote

evernote.com

Evernote lets you type searchable notes, collect web clippings or screenshots, scan documents or images, attach files, and record audio notes. Notes can be sorted into notebooks and tagged by topic, making Evernote great for organizing tons of notes across many areas of life. This tool is packed with features — check out this playlist for a more complete overview.

Similar: Joplin, Notion, Simplenote



Google Keep

keep.google.com

Simpler than many of the other tools in this section, Google Keep is kind of a corkboard where you add notes. A note can contain regular text, a checklist, an image, a drawing, even a voice memo that can be converted to text. Once a note is written, it is added to your Keep as a tile. You can label notes, add collaborators to them, and add reminders to specific notes. Keep comes built-in to Google accounts, so if you have one of those, you can try it right away!

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Edji | Evernote | Google Keep | Hypothesis | Kami | Notability | OneNote | Rocketbook



Hypothesis

hypothes.is

This browser extension allows you to highlight and take notes on any web page. You can make your posts public or private or share them in a group, tag them to make them easier to sort, and view public notes taken by other people on the same pages. Your Hypothesis profile page will keep track of all your notes and highlights across the web, so you can revisit them at any time. This makes Hypothesis a great tool for online research and discussion.

Similar: Beanote



Kami

kamiapp.com

Kami is an online document annotation and markup tool. Starting with a PDF or any other type of document, users can highlight, strike through, and underline text. They can also insert text boxes, add text, voice, or video comments, and even draw and add shapes, which would be helpful if students are learning how to "code" certain types of text. Great for schools trying to use less paper!

Similar: DocHub



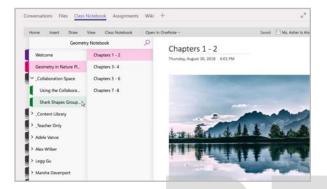
Notability

notability.com

This iPad app combines the best of paper and word processing: With the text feature, notes can be typed with text formatting options, a variety of fonts, and math and science symbols. Using a pen or stylus, users can handwrite notes and create sketches and diagrams in different colors and pen widths. Users can also add images, GIFs, sticky notes, web clips, and even audio notes.

Similar: Penultimate, Squid (Android/Chrome)

Edji | Evernote | Google Keep | Hypothesis | Kami | Notability | OneNote | Rocketbook



OneNote

products.office.com/onenote

Microsoft's note-taking tool is set up like a binder with colored tabs, making it great for organizing lots of notes. Along with formatted text, you can add images, handwritten notes or drawings, clipped content from online sources, files, audio notes, and videos. The Class Notebook add-in allows teachers to create notebooks accessible to whole groups of students.



Rocketbook

getrocketbook.com

The Rocketbook is a physical notebook that you write in using washable ink, transfer the notes to the cloud by capturing them with a phone or device camera, then erase the book and start over. QR codes at the bottom of the notebook's pages can be set up to align with user-created folders in cloud storage such as Google Drive. The notebook comes in different sizes with different layout options (including an academic planner) and other features.

Similar: Wipebook



Parent Engagement

Can technology get parents more involved? The creators of these tools think so. By taking the same kinds of parent-teacher conversations we've been having throughout history and giving us new, digital ways to communicate, the tools in this section simply make things easier, faster, and more aesthetically pleasing.

Bloomz and ClassTag are complete platforms that streamline your parent communication system, making it easy to get in touch with parents with just a few clicks.

Remind sets up teacher-parent communication via text message, without anyone having to

give out their cell number. (It's also good for contacting students!)

SignUp.com helps teachers create online signup sheets, making it easier to organize class parties, fundraisers, or conferences.

Smore helps you create beautiful newsletters that can be sent via email or social media.

TalkingPoints is a message translation app that allows teachers and parents to message one another in whatever language they prefer.

None of these tools can replace good communication, and they won't make a busy parent's schedule suddenly clear up. But they make communicating much easier, and because they work through digital channels, they allow everyone to participate in the conversation whenever it's convenient for them.

Keep in mind that some families will not have the devices or internet access needed to use these tools, so always have a paper alternative available, and look for more solutions in our feature When Your School is Short on Tech.



TOOLS FOR ARRIVAL, DISMISSAL, AND TRANSPORTATION

Getting students to and from school safely can be a big logistical challenge for staff and parents. These apps offer solutions.

Carpool to School carpooltoschool.com

Pikmykid () pikmykid.com

Bloomz | ClassTag | Remind | SignUp.com | Smore | TalkingPoints



Bloomz

bloomz.com

On this all-in-one platform, teachers can send announcements, messages, and updates to all parents or directly to individual parents, create a shared event calendar, post photos and videos of class activities and build student portfolios, coordinate parent volunteers and donated items, schedule parent/teacher conferences, and keep parents informed about their child's conduct in class.



ClassTag

<u>classtag.com</u>

ClassTag is a free platform that allows you to automate and schedule messages ahead of time (and have them automatically translated into dozens of languages), manage parent/teacher conferences and donated items, create a parent directory that allows parents to contact each other for collaborating on special projects, and view analytics that show you which parents are reading your emails, responding to invitations, and volunteering to help.



Remind

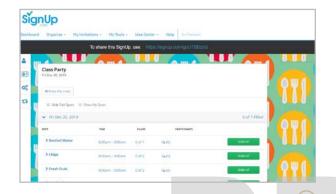
remind.com

Remind allows teachers to send text messages directly to parent and student cell phones without anyone having to give out their number. Recipients join a class by texting a code to a given number, and from there, the teacher can send and receive texts through that class. Parents can use the Remind app or just receive regular text messages.

Similar: <u>BAND</u>, <u>GroupMe</u>, <u>SchoolsBuddy</u>, TeamSnap

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Bloomz | ClassTag | Remind | SignUp.com | Smore | TalkingPoints



SignUp.com

signup.com

SignUp.com streamlines the process of organizing events and volunteers. Just create the event, listing time slots and items that need to be brought, then send everyone a link and you're done. As slots are filled, they close, so no one can sign up for the same slot or volunteer to bring the same thing. SignUp.com will even send an email reminder to volunteers as the date approaches.

Similar: Calendly, SignUpGenius



Smore

smore.com

Smore helps you create attractive digital newsletters that you can send via email, embed in a website, or share via social media. Newsletters come in a wide range of templates and can contain blocks of text, photos, embedded videos, event announcements, audio clips, and clickable buttons to send readers to outside links. With a premium plan, you can also give parents the ability to translate the newsletter into a different language.



TalkingPoints talkingpts.org

This app allows teachers and parents to message each other in their preferred language: The teacher can send out a message in English, and the parent can have it translated into one of over 100 languages. They can also respond in their preferred language and it will be translated back for the teacher. Available as a mobile app or text-only, for parents who do not have smartphones.

OnForm | Sanford fit | Sworkit | Team Shake



Physical Education

Even though the whole point of physical education is to get bodies moving through space — the antithesis of sitting motionless with a device in one's hand — there are tech tools that can enhance the experience.

In 2019, when we <u>put the call out on Twitter</u> for apps and digital tools for PE, we got some great

responses, and many of the tools suggested in that thread are featured here, along with some updates.

Some of the tools are digital versions of the things PE teachers need all the time: timers, bracket makers, and team formation apps.

Some allow teachers and coaches to fine-tune their movement instruction through video.

Others offer libraries of instructional videos to help users learn athletic skills or simply move more.

Aside from the tools shown here, <u>QR codes</u> were mentioned by several teachers as useful for PE instruction. <u>This post</u> from The Physical Educator explains how that works.

Several teachers said they use <u>Plickers</u> in their instruction, and some are exploring the use of <u>virtual and augmented reality</u>.

Finally, the topic of <u>animated GIFs</u> came up quite a bit. To get started with these in PE, check out <u>this post and video</u> from The Physical Educator.

PE + TECH WEBSITES

These excellent websites explore the intersection of physical education and technology.

Chromebooks in Health and Physical Education

cbhpe.org

Ed Tech Fitness edtechfitness.com

The PE Geek thepegeek.com

The PE Specialist thepespecialist.com

Phys Ed Review physedreview.weebly.com

The Physical Educator thephysicaleducator.com

OnForm | Sanford fit | Sworkit | Team Shake

Physical Education



OnForm

onform.com

This video analysis app allows athletes and coaches to closely analyze and correct movement patterns.

Similar: Video Delay Instant Replay



Sworkit

sworkit.com

This app contains a library of exercises that require little to no equipment. K-12 teachers can get <u>free access</u> to a paid subscription.



Sanford fit

fit.sanfordhealth.org

A fully featured and free health and wellness curriculum designed by Sanford Health. Two tools, <u>fitBoost</u> and <u>fitFlow</u>, are movement programmers built right into the platform.



Team Shake

rhine-o.com/www/iphone-apps/team-shake

This app makes choosing teams a breeze. Create a class list, fill in student details, then shake the device and your teams are formed.

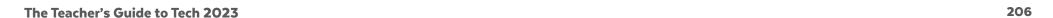
OTHER HANDY TOOLS

Bracket builders like My Bracket make it much easier to manage tournaments and share results quickly. For Android users, Bracket HQ is a good option.

Nutrition apps like MyFitnessPal allow users to track macronutrients, calories, water intake, and even exercise.

Timers like <u>Seconds Interval Timer</u> offer customizable timers for interval training. Great for HIIT, Tabata, and circuit training.

Workout trackers like RepCount give users a place to log weight lifting and exercise sessions. Strava tracks many different kinds of exercise, and MapMyRun is a tracking app specifically for runners.





Presentation

Once upon a time, we only had PowerPoint to create presentation slideshows. But now, other web-based tools give us different ways to add visual support to our presentations. Online platforms such as Canva and Emaze allow us to easily design epic presentations, building our visuals around bigger concepts that serve as metaphors for our ideas.

The tools in this section will help you and your students create presentations that can be given in person, via videoconferencing software, or turned into pre-recorded videos with the help of screencasting tools.

One caution: Many of these tools are webbased, so presentations made with them only work if you're connected to the internet. Fortunately, many of these platforms give you the ability to download and deliver presentations offline, but it doesn't happen automatically; to avoid last-minute problems caused by a poor internet connection, look for an offline option and set it up ahead of time.

To make sure your presentations are as good as they can be, read the tips in the post <u>Let's Make</u>

Better Slideshows.

AN EASY WAY TO SHARE A LINK WITH YOUR AUDIENCE

Sometimes when you're presenting, you need to quickly send your audience to a specific website, but giving a long, complex URL isn't efficient. The website <u>yellkey</u> allows you to convert a longer URL into something quick and easy to type into a browser. No account needed, because the link is only temporary — you can set it to expire in 5 minutes or up to 24 hours. See how it works in <u>this video</u>.

LIKE YOUTUBE FOR SLIDESHOWS

If you'd like to share your presentation with a wider audience or explore the work of other creators, check out <u>SlideShare</u>, where users upload their slideshows for public consumption. (For users age 16 and older.)

SICK OF THE SAME OLD TEMPLATES?

On sites like <u>SlidesCarnival</u> and <u>Slidesgo</u> you can find hundreds of free templates for PowerPoint and Google Slides.

PRESENT WITH OTHER TOOLS IN THIS GUIDE

Quite a few other tools in this guide also offer presentation capabilities. Here are a few to try:

<u>Genially</u> <u>Piktochart</u>

Explain Everything Sutori

Lucidchart

AhaSlides | Canva | Emaze | Google Slides | Haiku Deck | Nearpod | Pear Deck | PowerPoint | Prezi | Sway



AhaSlides

ahaslides.com

AhaSlides makes any presentation interactive with colorful, eye-catching live polls, quizzes, word clouds, brainstorming activities, spinner wheels and other interactives that gather real-time feedback and engage participants. You can start from scratch with one of AhaSlides' templates, or import your own PowerPoint or Google Slides presentation, then add interactive slides in between your content slides

Similar: Mentimeter, Slido



Canva

canva.com

Are you looking for beautiful designs and layouts for your LMS course, website, or lesson slides? Canva has curated thousands of customizable templates that you can easily make your own or use as is. You can add text, hi-res stock images, animations, and other interactive elements such as QR codes. Students can also create their own presentation with designs from scratch or using a template you send them, then submit it as an assignment within Canva for Education.



Emaze

emaze.com

If you like the cool movement transitions you can get in a Prezi, you're going to love Emaze. Using this web-based tool, users create presentations with one of Emaze's creative templates. Slides appear as paintings in an art gallery, as different sections of a newspaper, and so on. This offers something fresh that your audience may not be used to, and it's an opportunity to play with metaphor as a structure for your presentation.

AhaSlides | Canva | Emaze | Google Slides | Haiku Deck | Nearpod | Pear Deck | PowerPoint | Prezi | Sway



Google Slides

google.com/slides/about

Similar to PowerPoint, Google Slides is a simple presentation tool with extensive possibilities for any project, lesson, or activity (even interactive notebooks). Ideal for Google-based schools, Slides allows students to collaborate and share their work easily. You can create polls, word clouds, and other activities using add-ons from Slido, Nearpod, or Pear Deck to add a layer of engagement right within Slides. And to make a presentation easier to run in class, try the app Remote for Slides.



Haiku Deck

If you're a fan of the movement that sprang from the book <u>Presentation Zen</u>, you'll love Haiku Deck, which gently nudges you to create slides that are driven by images rather than text. To help with that, they offer a huge library of beautiful images you can pop right into your slides and an easy notes feature that puts your text in the presentation, not on the slides. For teachers, <u>Haiku Deck Classroom</u> offers privacy settings, Google Classroom integration, and other features



Nearpod

nearpod.com

Nearpod allows you to take slides and project them onto student devices, add interactivity, then watch on your own device as students click on items, fill in blanks, work with simulations, and draw or write their responses. Insights come directly to your teacher dashboard, allowing you to adjust instruction or differentiate as needed. In addition to presentations, Nearpod now offers the ability to create interactive videos.

AhaSlides | Canva | Emaze | Google Slides | Haiku Deck | Nearpod | Pear Deck | PowerPoint | Prezi | Sway



Pear Deck

peardeck.com

Similar to Nearpod, Pear Deck lets you turn slideshows into engaging, interactive lessons to formatively assess student understanding as you go. Pear Deck has partnered with organizations to create ready-to-use decks based on adaptive news articles from Newsela, Google's Be Internet Awesome digital citizenship curriculum, and slide templates created by Canva. Learn about the Google Slides Add-On to utilize your existing slide decks.



PowerPoint

office.com/powerpoint

The granddaddy of slideshow tools does more than create presentations: PowerPoint offers collaboration, image editing, and video features that are easy to use. It even suggests design ideas customized to your content. You can use a desktop version or the online version under Microsoft 365 which comes with features such as <u>live translation services</u>. And the <u>recording</u> feature allows you to turn a slide presentation into a video with recorded parration.

Similar: Keynote

SHARING IS LEARNING: SCREEN MIRRORING

Screen mirroring allows anyone with a device to share their entire screen over a wireless network on a larger display. This opens up so many instructional possibilities for collaboration and interaction. Students can share interesting things they found during a class project, demonstrate a tech skill, or share their writing or other documents for peer feedback.

Some tools that allow screen mirroring are AirPlay, Airtame, Ditto, and Vivi.

During hybrid and remote teaching, teachers used video conferencing platforms to share videos and music, which can also be an option for screen mirroring in a face-to-face classroom if everyone logs into a videoconferencing session. Learn more in these articles:

Sharing Your Screen with Zoom

Sharing Your Screen with Google Meet



Prezi prezi.com

Instead of a deck of slides, presentations in Prezi are built around a single image: a map, a staircase, a tree with roots, a path of footsteps. On that image, the presenter places words, images, videos — but you don't see them at first; the presentation moves you in a path around the image, sliding left to right, rotating, zooming in on objects, then out again to show you where they fit in the big picture. Check out Prezi Video to record these presentations with your own video narration, and click here to learn about their educational pricing.





LEARN HOW TO MAKE BETTER SLIDESHOWS IN JUMPSTART

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Slideshows are the focus of one of the 10 modules we study in JumpStart, our online technology course for teachers. Learn about the course here.

Sway sway.office.com

Adobe Express lies Microsoft's Sway. This unique platform helps you create a dynamic presentation that moves both horizontally and vertically and almost has the feel of a fresh, modern website. Start by typing all your information into a storyline, adding images, videos, and other content, then let Sway suggest a design for your presentation. Once you've fine-tuned your slideshow, hit "play" to present it online.



Productivity & Planning

Although the tools in this section are not directly related to teaching, they help solve one of teachers' biggest problems: lack of time. And sharing the tools with students and parents can help everyone become more productive.

Boomerang helps you take control of your inbox with message scheduling.

Calendly, Google Calendar, Microsoft To Do, and Today help you keep track of the important tasks, appointments, and projects in your life. All are paperless and work on all devices, making this process seamless, quick, and portable. You could use these tools to share calendars and lists with students and parents to keep everyone on top of important events, assignments, and projects. They could also be used to organize your life outside of school.

Clever groups all your apps onto one screen and gives you a single quick sign-on to all of them.

Forest helps you focus without distraction and grow a plant in the meantime.

IFTTT sets up communication between the apps you use so you can automate the tasks you do over and over again. Not only can this streamline your personal apps, it could also help you and your students automate things like a class or school Twitter account.

Noisli provides custom white-noise blends you can play to block out distractions and improve your focus. This could be useful on your own time or during whole-class "quiet" reading or writing time.

Planboard makes lesson and unit planning fast, easy, and synced across all devices.

Text Blaze automates common chunks of text so you don't have to keep writing the same things over and over.

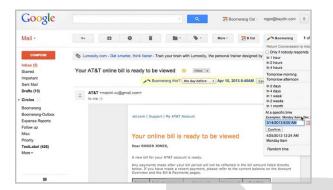
Toggl Track helps you easily measure how much time you spend on various tasks. Not only can this improve your own productivity, it could also help students better understand how they spend their free time.

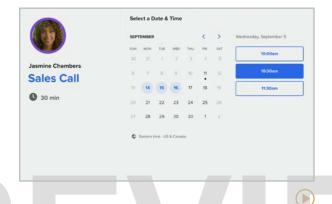


THE POMODORO GOES DIGITAL

The <u>Pomodoro Technique</u> is a popular productivity strategy built on a 25-minutes on, 5-minutes off schedule. <u>Pomofocus</u> is a simple web-based timer that enables you to set up your own Pomodoro session.

Boomerang | Calendly | Clever | Forest | Google Calendar | IFTTT | Microsoft To Do | Noisli | Planboard | Text Blaze | Today | Toggl Track







Boomerang

boomerangapp.com

This tool works as an add-in to Gmail or Outlook to give you better control over your email. It allows you to schedule emails to be sent at a later date, set up recurring emails, reschedule incoming emails to come back to you at a more convenient time, and control when new emails appear. Additional features include Share Free/Busy, which allows others to see your availability at a glance, and Respondable, which uses artificial intelligence to assist in crafting more effective emails.

Calendly

calendly.com

This meeting scheduling app saves you tons of time you'd otherwise spend going back and forth in emails. Users set up timeslots, share them through a link, and people sign up for the time that works best for them. As people take timeslots, they disappear so no one can double up. Calendly automatically switches available times to the time zone of the person viewing the schedule, so you don't need to worry about which person's time zone you're planning for.

Clever

clever.com

Clever helps you get all of the apps and tools you use with your students into one streamlined page. But it's more than just a bookmarking tool: Clever is integrated with hundreds of apps and tools, so you and your students can log in with a single sign-on, saving you time and energy that used to be spent hunting down lost passwords and helping students log into the apps they need.

Boomerang | Calendly | Clever | Forest | Google Calendar | IFTTT | Microsoft To Do | Noisli | Planboard | Text Blaze | Today | Toggl Track



Forest

forestapp.cc

Useful for teachers and students alike, this mobile app (which is inexpensive, but not free) keeps away distractions by having you set a period for focused work, during which time you keep the app open on your device. As you work, a sapling grows into a tree, but if you use your device for something else, the tree withers. Productivity is rewarded with coins and the satisfaction of growing your own forest.

Similar: FocusByte

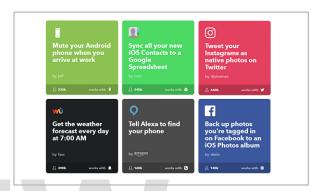


Google Calendar

google.com/calendar

This online calendar gives you a place to record important dates and create to-do lists. You can set reminders, invite others to participate in events, set events to repeat daily, monthly, or weekly, and create separate, color-coded calendars for different areas of your life. All items are synced across devices, making it easy to stay on top of your schedule. This video shows how to use Google Keep with Calendar.

Similar: Preceden



IFTTT (If This, Then That) ifttt.com

IFTTT automates the tasks you do over and over by letting your tools talk to each other. It links them with "applets," little programs that add automatic triggers: When one service does something (for example, "When I post a photo on Facebook..."), you tell the other service to do something else ("...automatically send that photo to Dropbox.").

Similar: Zapier

Boomerang | Calendly | Clever | Forest | Google Calendar | IFTTT | Microsoft To Do | Noisli | Planboard | Text Blaze | Today | Toggl Track



Microsoft To Do

todo.microsoft.com

This list-making app syncs across all your devices and lets you keep multiple lists and sub-lists for different areas of your life. Lists can be shared with others, and individual items can have due dates and reminders, notes, and attached files.

Similar: Pomotodo, Taskade, Todoist

The Teacher's Guide to Tech 2023



Noisli

noisli.com

Noisli is basically a white-noise generator, offering a menu of sounds you combine to create background noise that can help you focus. Mix "coffee shop" with "rain" and "fireplace," and you're sitting by a fireplace in a coffee shop on a rainy day. Mix "forest" with "leaves" and you're out for a walk on a crisp fall day. Use Noisli to boost your own concentration and help students block distractions during independent work. Now available as a Chrome extension.

Similar: Brain.fm



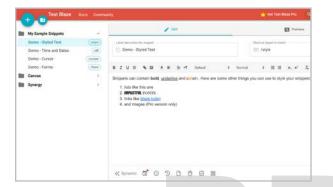
Planboard

chalk.com/planboard

This free tool, which syncs across all devices, makes lesson planning a breeze. Blocks of time show what you're doing during each class period, and you can rearrange them easily. Within each block you can create a rich, dynamic lesson plan that can include formatted text, bulleted lists, aligned standards, links to outside resources, and attached files. Now includes a gradebook where you can easily add students from Google Classroom or Schoology.



Boomerang | Calendly | Clever | Forest | Google Calendar | IFTTT | Microsoft To Do | Noisli | Planboard | Text Blaze | Today | Toggl Track

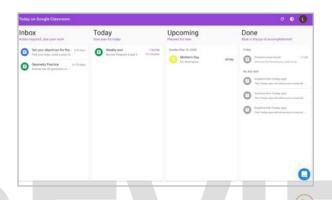


Text Blaze

blaze.today

This Chrome extension will save time if you find yourself typing the same things over and over. Just create a snippet (something you wouldn't normally type, like /feedback), then write out longer text that will appear automatically any time you type that shortcut. Text Blaze works great with student information systems, learning management systems, and Chromebased productivity tools (Google apps, email).

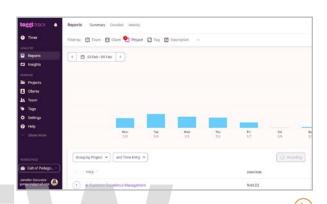
Similar: Keyset, Magical, PhraseExpress



Today

studyo.today

This procrastination-busting tool works with Google Classroom to help students plan and organize their assignments over the course of a week, estimating how much time they think each task will take, and dividing larger tasks into smaller ones.



Toggl Track

toggl.com/track

Tracking how you spend your time helps you learn how to use it better; this tool can help. With a single click, Toggl lets you keep track of how much time you spend grading papers, planning lessons, or any other task; daily and weekly reports help you see trends. Show students how to use the tool and encourage them to track the time they spend on schoolwork, exercise, social media, or anything else they'd like to measure.

The Tools



Research

Can technology do research for us? Not exactly: Good research skills must be taught and practiced. Technology can't replace the analytical thinking, careful discernment, and writing skills required for rigorous research.

What technology can do is make research more efficient, removing some of the drudgery and repetition from certain research-based tasks. especially when it comes to finding, keeping track of, and citing resources.

Long ago, researchers had to use card catalogs and the Reader's Guide to Periodical Literature in hopes of finding the right sources, citations were done by hand, and formatting in MLA, APA, or any other style was painstaking and

time-consuming. The tools in this section automate those tasks, allowing users to put more time and energy into learning.

CLASSROOM USES

- Teach students how to search for quality resources with a student-friendly search engine, then do in-text citations and bibliographies with a tool like MyBib.
- Have advanced students find, read, and cite academic publications with Google Scholar.
- When producing a video, blog, book, or interactive poster that uses content from outside sources, get students into the habit of maintaining a list of those sources with a tool like MyBib and including that list in their final product.
- Collaborate with colleagues on research using shared resource libraries like those in Zotero
- For more fantastic ways to teach research skills to students, download Kathleen Morris' free PDF, 50 Mini-Lessons for Teaching Students Research Skills.

EXPLORE INSIDE GOOGLE

The Explore feature built into Google Docs, Slides, and Sheets allows you to research a topic and create a citation without ever leaving the file you're working on. This video shows you how it works.



BOOST YOUR ACADEMIC RESEARCH SKILLS

If you don't have a lot of formal training in academic research, but you want to get better, head over to How to Find, Read, and Use Academic Research for a blog post, podcast interview, and YouTube series that will sharpen your skills.

Google Scholar | MyBib | Zotero



Google Scholar

scholar.google.com

Using the power of Google's search engines, Scholar provides users with special filters and tools to make it easy to search for, organize, and cite academic research. Searches only return results from academic institutions and scholarly publishers: abstracts, books, articles, theses, and court opinions. Results also list whether the full text of the document is available through a public institution or a user-affiliated university library.

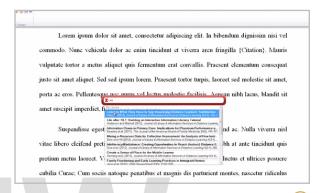


MyBib

mybib.com

Citing sources can be time-consuming. With MyBib, you can simply plug in a little bit of information about your source (such as the URL of a website) and get a fully formatted citation. If MyBib's search engine can't find a piece of information, they'll tell you so you can fill it in. Citations are available in 11 different styles, including APA, MLA, Chicago, and Harvard

Similar: BibMe, EasyBib, ZoteroBib



Zotero

zotero.org

Zotero helps manage complex research projects, even those that involve other people. When you find an online resource, click the Zotero icon in your browser to store the item in your Zotero Library. You can also set up groups where users can share resources in a group library and have discussions with other group members.

Similar: Mendeley, NoodleTools, Papers





Video: Screencasting

Nearly every tool featured in this book is linked to a video, and most of those videos are demos of people using the tool, as if we're right in the room with them, watching their computer screen. Videos like these are made with screencasting software, which lets you record whatever is happening on your computer screen, along with your voice-over narration.

When schools moved to remote teaching in 2020, most teachers had to quickly learn how to use screencasting tools, so many of us have the basics down. The next phase of screencasting will be sampling different features in a range of tools to find one that allows you to create the most effective videos for your students.

CLASSROOM USES

- Record lectures by creating a slideshow, then recording yourself presenting it with screencasting software. These videos can be used for blended learning, to provide instruction in remote or hybrid situations, or just to supplement your regular teaching.
 This article offers tips on how to create a high-quality screencast video.
- Create an "animated" story: Build a slideshow that illustrates a story, then narrate that story through a screencast while flipping through the slides.
- Record demonstrations of common tech tools or class procedures. Store these in a learning management system or through your own video sharing channel.
- Have students create any of the above kinds of videos themselves as part of an informational, argumentative, or narrative writing project.
- Communicate common procedures with parents or students by recording quick screencasts. Build a library of these on your class website.



CREATE AWESOME SCREENCAST VIDEOS IN JUMPSTART

Screencasting is the focus of one of the 10 modules we study in JumpStart, our online technology course for teachers. Learn about the course here.

OTHER SCREENCASTING TOOLS

- Edpuzzle (Chrome Extension)
- Open Broadcaster Software
- Snagit
- Tegrity
- VEED

Camtasia | Explain Everything | iorad | Loom | Screencastify | Screencast-O-Matic



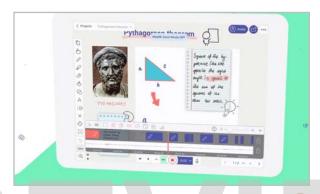
Camtasia

camtasia.com

Camtasia is one of the most sophisticated tools for recording and editing screencasts, and it's what was used to create most of the videos on the Cult of Pedagogy YouTube channel.

Because of the cost, this option is best for users who need to make a lot of high-quality videos. What you get for the price is much greater editing precision, plus the ability to add transitions, images and music, call-outs, and a lot more. Learn about education pricing here.

Similar: ScreenFlow

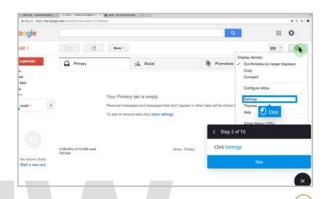


Explain Everything

explaineverything.com

Unlike a basic screencasting tool, Explain
Everything allows you to create visuals on a
digital whiteboard, then narrate and record your
activity within the app itself. What you end up
with is a video you can share with students,
and they can do the same. This tool can also
be used just to give presentations without
recording, and its sharing features make it a
great option for collaborating with others on a
project.

Similar: Educreations, ShowMe

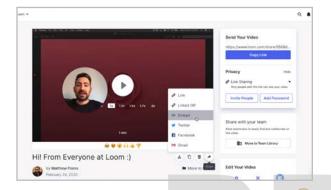


iorad

iorad.com

This is another tool that's different from your typical screencasting platform and has tons of potential for teaching. With iorad, you make interactive tutorials that prompt the user to click on specific parts of the screen as they follow your steps. It sounds complicated but you can actually create one in just a few minutes. Finished tutorials can be shared with a link or embedded right inside a website.

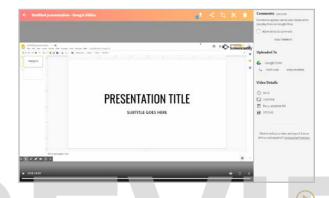
Camtasia | Explain Everything | iorad | Loom | Screencastify | Screencast-O-Matic



Loom

loom.com

This tool is similar to Screencastify — it's quick and easy, available as a Chrome extension or desktop app, and allows you to share your video immediately through a link. Teachers who prefer Loom say it's easier than Screencastify, and features like the ability to see how many people have viewed the video give it a slight edge.



Screencastify

screencastify.com

Described as "dead simple" and "ridiculously easy" by educators, this Chrome extension works right inside your browser to record activity on a single tab or your whole desktop. Finished videos are automatically added to your Google Drive and can be shared with a link. New features include a built-in editor, viewer statistics, and the ability to add interactive questions to the videos. Both paid and free versions have lots to offer.



Screencast-O-Matic screencast-o-matic.com

If you just want to record a basic screencast without messing around with title overlays, editing, or special features, Screencast-O-Matic is a good free option. One of the first screencasting tools on the market, it has similar capabilities to Screencastify, but if you're not a Google user, this is a great alternative. The free option has some limitations, but the deluxe plan is pretty affordable.

Similar: RecordCast



Virtual & Augmented Reality

Immersive technology is any type of tech that extends or builds on physical reality. This includes virtual reality, augmented reality, 360, and mixed reality. Because this is still a new field, we're nowhere near seeing all the ways it will impact education.

This section will start with a review of the terms, a discussion of some classroom applications, links to helpful resources, and a look at some tools that are popular with teachers right now.

THE TERMINOLOGY

Virtual Reality immerses the user in a 360-degree environment, a computergenerated simulation, viewable through a VR

headset, and allows them to move through and interact with that environment.

Augmented Reality layers digital enhancements on top of objects in the real, physical world. Using a device, like a smartphone, loaded with AR software, users point it at a picture or physical object, and the software brings up some kind of digital element like a 3D animation, text, or a video. (Pokémon Go is an example of an AR game.)

Mixed Reality includes both VR and AR.

360 is any kind of content that gives viewers a 360-degree view of an environment. The main difference between 360 and VR content is that to experience VR, users need a headset so they can move through the space, whereas in 360, the view is limited to where the photographer was standing when they captured the image.

EDUCATIONAL USES

Many current immersive tech platforms put users on the receiving end, where we are the consumers of the content. Now, more tools let users *create* the immersive content. In either case, these tools can be used for lots of educational purposes:

- Using games like <u>HoloLAB Champions</u>, conduct science experiments and simulations with no equipment.
- Bulletin boards and displays can have AR elements layered on them, making them a multimedia experience.
- Students can experience historical or geographical places they could never travel to.
- Students can practice public speaking or presenting to an "audience" using an app like <u>VirtualSpeech</u>. Or practice social skills on a platform like <u>Mursion</u>.
- Students can create their own VR environments as part of a design thinking project.
- Virtual experiences could be used as prompts for writing assignments or to provide material for research projects.
- Students or teachers can create school or classroom tours using AR or VR.
- Classes can take advantage of VR and 360 capabilities built into some familiar tools like Flip, Nearpod, and ThingLink.

Immersive technology can be used to build empathy. Groups like Stanford University's Virtual Human Interaction Lab are creating immersive experiences like 1,000 Cut
Journey, which allows participants to encounter racism first-hand. Visitors to the International Rescue Committee's Four Walls experience can learn what life is like for Syrian refugees. And the Lyfta platform aims to teach global citizenship with its collection of interactive documentaries.

PROFESSIONAL RESOURCES

- Connect with other teachers who use AR and VR in the ARVRinEDU Twitter community. Find their posts with the #ARVRinEDU hashtag.
- For a deep dive, read the book <u>Learning</u>
 <u>Transported</u>: <u>Augmented</u>, <u>Virtual and Mixed</u>
 <u>Reality for All Classrooms</u> by Jaime Donally.
- Read <u>4 Practical Steps to Becoming an AR</u> <u>Innovator</u> from the 3DBear website.
- Rachelle Dene Poth shares more ideas in 8 Ways to Bring Augmented and Virtual Reality into the Classroom

VR HEADSETS

In order to view VR content, users need a headset. There are three different types:

Mobile: To make these work, you need to insert a smartphone into them. Low-priced choices for schools are <u>Google Cardboard</u> or <u>Merge VR Goggles</u>.

Standalone: This type has everything built in; no need to insert a smartphone. One popular option is the Meta Quest 2 (which until recently was known as the Oculus).

Tethered: These must be attached to a computer or gaming system with a cord or cable. This type is pretty expensive and may not be the best option for schools.

CAN AR HELP STUDENTS WITH AUTISM?

Check out the wearable glasses made by Brain Power in the <u>Special Ed/UDL</u> section. These use AR technology to help people with autism learn social skills and navigate place-based transitions.

MORE AR/VR APPS TO EXPLORE

AR Throwing Simulator

riseupgames.com/arts

Figment AR

Link to Google Play Store

Halo AR

lightup.io/halo

HomeCourt

homecourt.ai

Math Ninja AR

Link to App Store

Twinkl LeARn & Explore

twinkl.com/apps/learn-and-explore

AR/VR FOR PRE-K-3

For very young students, explore the kits offered by <u>disruptED</u>. They include a VR headset and books and activities that use AR/VR to bring content to life.



3DBear

3dbear.io

Developed with the help of teachers from Finland, this mobile app allows users to build augmented reality scenes using virtual 3D models combined with their own surroundings. In the picture above, students are designing a reading corner at their school library. Teacher accounts include lesson plans on a variety of topics.



ClassVR

classvr.com

ClassVR is designed specifically for schools. The standalone headsets interface with the teacher portal. Included in the teacher portal are more than 500 ready-to-use VR experiences. The platform allows for streamlined teacher guidance while immersed in engaging experiences via the headsets. Headset kits are available in sets of four or eight in a fully charging, portable storage unit.



CoSpaces Edu cospaces.io/edu

This popular tool lets students use code to create their own virtual reality environments. When a project is done, students can use the CoSpaces mobile app (with a VR headset) to view it in 3D. To see the kinds of projects your students could do in CoSpaces, visit their lesson plans page, then view sample projects in the CoSpaces Gallery.





Google Lens lens.google

Google Lens allows you to scan your world, literally, by taking pictures of things you see using the app. Once an image is captured, Google magic will identify the image, whether it's a plant or product, and provide information to you, including translating signs and print from one language to another. Additionally, check out some of Google's ever-growing collection of other AR/VR tools.

Note: For iOS, Lens lives in the regular Google search app.



JigSpace jig.space

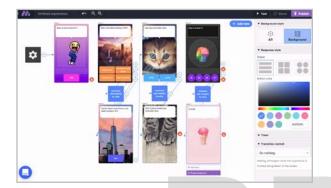
With this downloadable software, students can create *Jigs*, interactive slideshow presentations that explore and explain 3D and AR models. Jigs can be created without any coding and are viewable on any device. Users can also view Jigs created by others. JigSpace would be an excellent tool for students working on 3D design projects and want to share their designs with others.



Merge mergeedu.com

This site houses a collection of resources for experiencing both AR and VR. The Merge Headsets are soft, flexible, colorful smartphone viewers that are relatively affordable. The Merge Cube (pictured above) allows users to hold and manipulate 3D objects in their hands. A Merge EDU license gives teachers access to thousands of digital teaching aids that make the most of these tools.

Similar: VIVE



Metaverse

studio.gometa.io

This tool helps users create "experiences" using AR technology: games, quizzes, interactive stories, tours, and so much more. For specific examples of how teachers are using Metaverse in their classrooms, check out this archive of Metaverse posts on Medium.

Similar: Assemblr



Mozilla Hubs

hubs.mozilla.com

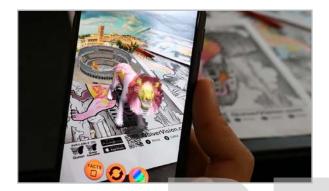
Create and host your own virtual space for meetings, events, and more. Hubs provides a private, virtual, 3D environment for collaboration via any web browser. To take things one step further, Spoke is the custom environment creator that integrates with Hubs, allowing users to design their own environments, or they can build one from scratch with Blender.



Popar

popartoys.com

Through a collection of AR- and VR-infused play mats, posters, charts, and books, students use Popar to interact with their learning in engaging, entertaining ways. Topics include anatomy, space, the periodic table, and geography. Educational packs include a variety of topics.



Quiver quivervision.com

Students who use Quiver start by coloring a printable coloring page. When they are done, they use the app to bring the picture to life in 3D. For more educational value, check out Quiver Education, which offers coloring pages for topics like biology, geometry, and the solar system.



Thyng thyng.com

Thyng allows users to create augmented reality experiences on any surface. These can include 3D objects, photos, videos that will play in the app, and animations.



Tilt Brush tiltbrush.com

This tool, created by Google, lets users paint in 3D space with virtual reality. This completely new medium opens up all kinds of possibilities for creative expression, like this virtually illustrated story written by students. For inspiration, take a look at this incredible gallery of artists' work using Tilt Brush.

Similar: Quill

In 8 Ways to Grow Students' Vocabulary,

literacy expert and author Angela Peery advises teachers to use a variety of strategies to accomplish this. Just a few of these are:

- informal conversations, where the teacher casually inserts new vocabulary words into the discussion
- TIP charts that contain the word, a studentfriendly definition, and a hand-drawn picture
- self-collection, where students collect their own personalized lists of words
- word talks, where students share interesting words they've come across in reading or day-to-day life
- **digital tools** like the ones in this section for independent practice

Whether students want to raise scores on a college admissions test, improve their English skills, or just boost their overall vocabulary, these tools help them put those goals into action with lessons, games, and other activities. Choose just one or combine them for more varied practice.



Flocabulary

flocabulary.com

This fun, popular platform builds lessons around hip-hop style videos to help students learn new words.



Freerice

play.freerice.com/categories

This site has an addictive vocabulary game with five difficulty levels. As you play, rice is donated to the World Food Programme.



Vocabulary Builders

A robust vocabulary helps students in so many ways: It supports content knowledge in all disciplines, it is key for reading comprehension all the way through high school, it broadens the range of reading that students are able to enjoy, and it makes them more skilled, eloquent writers.

With all of those benefits in mind, teachers should make a deliberate effort to build regular vocabulary instruction into their plans.







Menu Introduction The Tips The Tools The Terms References Index Vocabulary Builders

Flocabulary | Freerice | Magoosh Vocabulary Builder | Membean | Vocabador | Vocabulary.com | WordUp Vocabulary



Magoosh Vocabulary Builder

magoosh.com/vocabulary-builder

With a focus on test prep, this free app tracks your progress in learning 1,200 words most likely to appear on the GRE, SAT, and others.



Membean

 (\blacktriangleright)

membean.com

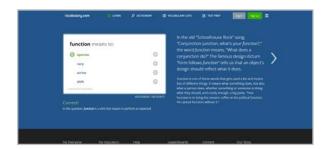
This web-based tool is the priciest option, but it offers a variety of plans and allows teachers to individualize instruction for all students.



Vocabador

vocabadorapp.com

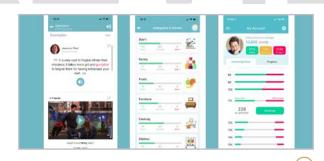
This iPhone app allows students to study SAT vocabulary words, choose an avatar, and "get in the ring" to play against other virtual wrestlers.



Vocabulary.com

vocabulary.com

This site offers games, flashcards, and formal test prep. Personalization is offered through adaptive technology and badges. Users can compete individually or on a school team.



WordUp Vocabulary

App Store | Google Play Store

This free app assesses your current skill level, then provides lessons with real-world and popular culture examples.



Writing

The teaching of writing is far too complex for anything but a living, breathing human to handle. Writing teachers still have the unique ability to look at a piece of writing and interpret and evaluate its nuances, stylistic choices, structure, and overall flow. But technology can take parts of the writing process and automate them. It can make it easier to collaborate, share, and revise. And it can help us learn the rules that govern good writing.

The tools in this section will not only help us as teachers of writing; introducing them to our students will equip them to become self-sufficient writers themselves. The tools are grouped into seven categories:

Composition Helpers give us a place to structure, arrange, and organize our pieces, offering hints along the way.

Grammar Instruction tools help us learn and practice grammar and usage rules outside the context of writing; these should only be used as a supplement to a writing-rich classroom.

Proofreading tools improve our mechanics by spotting existing errors in our work and suggesting corrections.

Publication sites offer opportunities for students to get their writing published, either digitally or in print.

Social Writing sites offer a platform for sharing our own writing and enjoying the work of others.

Style Editors help us improve the quality and readability of our sentences.

Word Processing tools enable us to get the words down, reorganize them, and format the text to make it more pleasurable to read.

A FEAST OF WRITING PROMPTS

Sometimes you just need an idea to get you started. The sites below offer pictures, videos, and 360-degree rooms that will do the trick.

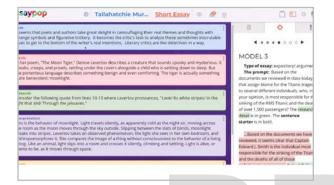
- Imagine Forest
- John Spencer's Visual Writing Prompts
- The New York Times Picture Prompts
- Once Upon a Picture
- The Secret Door*
- Visual Writing Prompts (1)
- Visual Writing Prompts (2)

^{*}This site is INCREDIBLE, but it was not designed specifically for writing or education. We haven't seen any inappropriate material on it, but we advise you to not allow younger students to visit the site unsupervised.

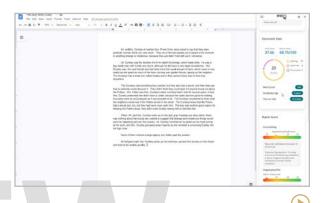
Menu Introduction The Tips The Tools The Terms References Index Writing

COMPOSITION HELPERS

Composition Helpers | Grammar Instruction | Proofreading | Publication | Social Writing | Style Editors | Word Processing







essaypop

essaypop.com

This site offers a library of writing prompts, models to refer to when writing, and sentence starters to help get the academic language right. Writing "frames" break essays into smaller, color-coded chunks that are easier to work with than one giant piece of writing: hook, thesis, research, interpretation, and closing. Once an essay is done, students and other invited guests can review each other's writing in the Hive, a space on the platform for collaboration.

Speare

speare.com

Speare works like your brain does, where building blocks of text can be moved, merged, split, and formatted without disturbing the other blocks. There's no need to copy and paste (and lose) your work — just drag it around until you're happy with it. View multiple documents side by side, insert images and YouTube videos, and when you're done, your document can be pasted into another tool, downloaded as a PDF, or viewed as a web page.

Similar: Scrivener

WriQ

texthelp.com/products/wriq

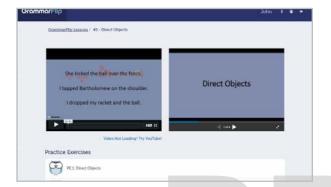
WriQ is a Google Chrome extension and Microsoft Word add-in that puts a "dashboard" to the side of a document the student is currently working on. As the student writes, WriQ gives real-time feedback on metrics like time on task and vocabulary maturity, as well as pointing out errors in spelling, grammar, and punctuation. On the teacher side, you can use WriQ's integrated rubrics or import your own to assess students' writing with the app.

Similar: Ulysses (for Apple devices)

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GRAMMAR INSTRUCTION

Composition Helpers | Grammar Instruction | Proofreading | Publication | Social Writing | Style Editors | Word Processing



GrammarFlip grammarflip.com

This site offers diagnostic tests, instructional videos, practice exercises, and assessments in dozens of grammar and writing concepts for grades 4-12.



NoRedInk

noredink.com

NoRedInk gives hands-on practice with a wide range of grammar and writing skills, either self-directed or assigned by a teacher. Exercises can be customized to reflect student interests and teachers can view student data to track progress.



Quill

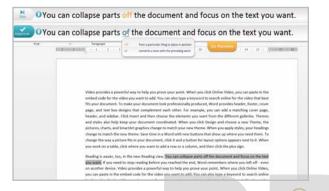
quill.org

On Quill, students practice grammar and usage by proofreading passages, writing sentences, and combining sentences. When an exercise is complete, they receive instant feedback about the skills they need to work on.

NO GRAMMAR IN ISOLATION

Grammar tools like the ones featured here should not be the main course in any English language arts class, and grammar taught in isolation is strongly discouraged by the National Council of Teachers of English. These tools would make good supports for a curriculum that focuses on authentic writing. Read more in How to Deal with Student Grammar Errors.

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Ginger

gingersoftware.com

Ginger works as a free add-on and browser extension, so it operates inside other programs like email, social media, and Microsoft Word. It checks punctuation, grammar, and word usage and suggests corrections.



Grammarly

grammarly.com

Grammarly checks your grammar, spelling, usage, and mechanics wherever you write. You can compose directly on the Grammarly site, checking your work as you go, upload your own file and have that checked, or use a browser extension or word processor add-in to make it work inside other programs.

WHAT ABOUT PLAGIARISM CHECKERS?

It's easy to find sites to help you check student work for plagiarism. Turnitin is one of the most popular, but it's not cheap.

Sites like Grammarly and BibMe have built-in plagiarism checkers that work quickly and can tell you how much of a piece is not original. And if you have Google Classroom you can use their originality reports.

Writing

A more effective long-term approach for dealing with plagiarism is to teach students how to avoid it. Many students who plagiarize don't have an adequate understanding of what plagiarism is. They also don't have a good set of strategies for synthesizing what they learn from outside sources into their own original work. Suggestions for how to approach both of these issues are offered in Teaching_Students to Avoid Plagiarism.

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PUBLICATION

Composition Helpers | Grammar Instruction | Proofreading | Publication | Social Writing | Style Editors | Word Processing

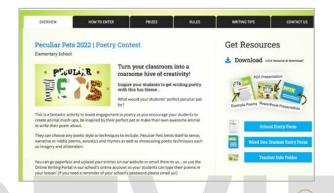


Teen Ink

teenink.com

This website and print magazine, going strong after over three decades, are "devoted entirely to teenage writing, art, photos, and forums." Submissions are accepted year-round from anyone age 13 to 19. They consider short pieces, full novels, nonfiction, poetry, and book reviews. Registered users can comment on published pieces.

Similar: Polyphony Lit



Young Writers

youngwritersusa.com

Need a way to motivate students to write? How about a healthy dose of competition? This site offers contests to students from elementary to high school with the chance to appear in a book published by the Young Writers organization. Throughout the year the site promotes contests to be entered along with resources to support students in their quest to become a published author.

MORE PLACES TO PUBLISH STUDENT WRITING

Organizations that publish student writing seem to come and go, so they're hard to keep track of. These two lists are a good starting point:

The Best Student Writing Contests for 2022-2023

Out of the Classroom and Into the World: 70-Plus Places to Publish Teenage Writing and Art

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SOCIAL WRITING

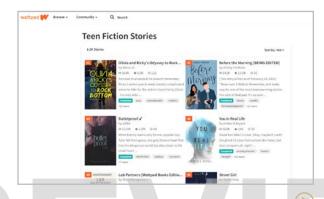
Composition Helpers | Grammar Instruction | Proofreading | Publication | Social Writing | Style Editors | Word Processing



BoomWriter

boomwriter.com

BoomWriter is a platform that lets students collaboratively write stories, vocabulary-based writing exercises, or nonfiction projects. As they write together, students vote on the best version of a contribution before moving to the next stage, which adds a bit of competition and fun to the writing process. Finished projects can be turned into printed books.



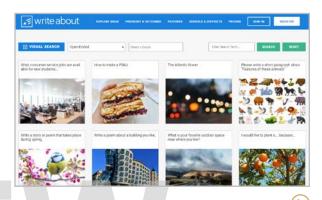
Wattpad

wattpad.com

In this massive online writing community, writers publish stories, novels, poetry, and tons of other genres, in whole or in parts.

Community members can comment on the stories as they progress, offering feedback or just voting for them, which makes them more viewable to other readers and can lead to awards and book or film deals. Users must be over 13 and the site does contain adult content.

Similar: Write the World



Write About

writeabout.com

Write About provides an online space for students to write on high-interest topics and get feedback from their teachers and peers.

Starting with one of Write About's customizable writing prompts, students create original writing pieces, share their writing with classmates, then comment on each other's writing. The site also offers grammar practice exercises and skill-building activities to sharpen writing skills.

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STYLE EDITORS

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Hemingway Editor

hemingwayapp.com

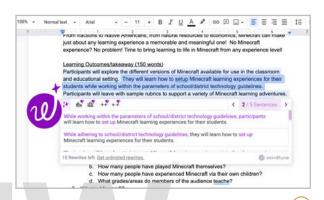
Using artificial intelligence, the Hemingway App is programmed to identify things like passive voice, a high number of adverbs, flowery language, and long, rambling sentences. It's definitely not perfect: The app may miss your intended meaning, and it doesn't value your unique voice like you do. Still, it will point out a few places where you could be cleaner; the decision to revise is yours. This review takes you through the experience of using it.



ProWritingAid

prowritingaid.com

This incredible tool does a *deep* dive into the quality of your writing, looking at everything from passive voice to overused words, from the use of clichés to sentence variety. Just compose in the tool itself, copy and paste, or upload a document and you'll get a summary report with all kinds of statistics about the strengths and weaknesses of the piece, plus suggestions for changes when you hover over highlighted places in the text itself.



Wordtune

wordtune.com

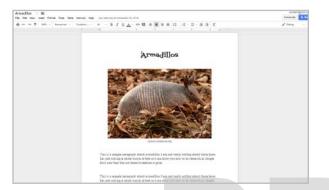
Using AI to fine-tune your own writing is what the Wordtune extension does best. It takes things beyond grammar and adjusts words and sentences for different settings or lengths. Downloading the free Wordtune extension in Chrome gives access to whatever writing you're doing across a variety of websites and platforms.



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WORD PROCESSING

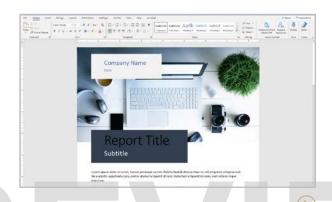
Composition Helpers | Grammar Instruction | Proofreading | Publication | Social Writing | Style Editors | Word Processing



Google Docs

docs.google.com

Built right inside Google Workspace, this cloud-based program has most of the same features as Word, including comments (try this fantastic method for giving fast feedback), the ability to have multiple users collaborate on the same document, citation tools that help you build in-text citations and a bibliography while you write, voice typing, and a new integrated readaloud tool.



Microsoft Word

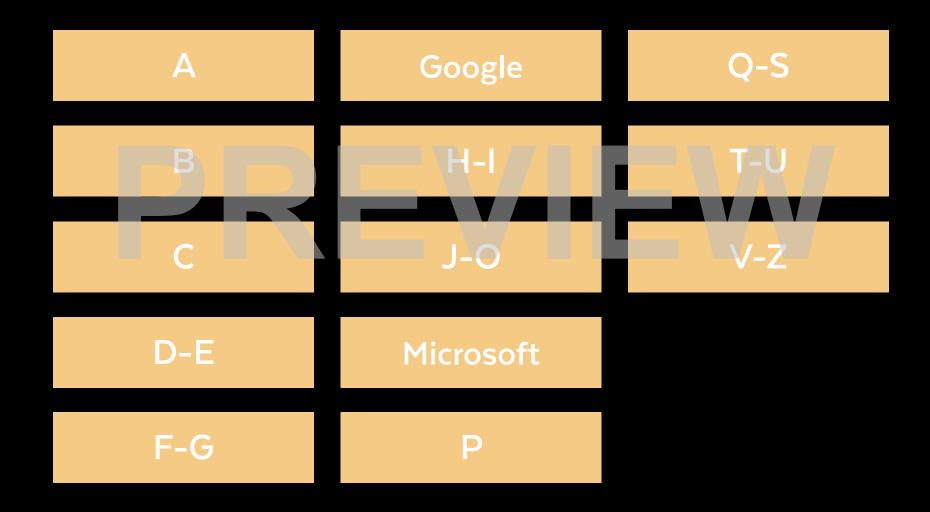
products.office.com/word

One of the earliest tech tools around, Word is still a solid choice for composing and formatting text, and in the last few years, it's gotten a lot better. Now that it's available through the cloud-based Office 365 system, users can collaborate with others on a document in real time, just like they would on a Google Doc. And Microsoft's accessibility tools make Word a powerful resource for all learners.

WORD PROCESSING TIPS

- When helping students learn to highlight words, have them start at the end of a word and pull back; it helps with control.
- Double click on a word to highlight it. Triple click to highlight the whole paragraph.
- Pasting from another doc? Remove any weird formatting by clicking this icon: X
- Ctrl + Shift + V or Cmd + Shift + V will allow you to paste and match the formatting of the Doc.
- Tired of your last name being flagged for misspelling? Add it to your personal dictionary. In Google Docs, open the Tools menu, click on Spelling and Grammar, and then Personal Dictionary. Add your word.
- Need your bulleted list to continue with paragraphs in between and do not want the numbers to start over at 1? In Google Docs: Click on the bullet of your new list. Open the Format Menu. Click on Bullets and Numbering. Choose List Options and click Continue Numbering.

THE TERMS



add-on: similar to a browser extension, a small piece of software used to enhance the performance of another tool

affiliate marketing: a relationship in which one entity (like a blogger) gets a small percentage of sales from another company (like Amazon) when they send their audience to that company through an affiliate link

Al: artificial intelligence; the ability to perform tasks that normally require human intelligence. Tools like <u>AutoDraw</u> look at what a user is drawing and use Al to guess at the intended shape.

algorithm: a set of instructions telling a computer what to do. For example, if you search for the term "pizza" in Google, the site uses search algorithms to find the most popular results for that term. Lately, when people talk about algorithms, they are referring to the kind used by social media platforms. A site like Facebook uses complex algorithms to keep track of what people you've interacted with and what types of content you like so they can customize the experience for you, showing you more of what you like. Social media companies are constantly adjusting these algorithms, which can frustrate users. Example: "I never see your posts on Instagram! I bet they changed their algorithm again."

Android: the operating system used for many non-iOS smartphones, such as Samsung Galaxy

app: (short for application) a software program. Any software, like PowerPoint, is an application, but app usually means a smaller-sized software with a limited job, like tracking calories, that typically lives on a mobile device.

app smashing: using multiple apps or tools together to complete a task

AR: augmented reality; a technology that uses apps to layer digital elements over real-life objects and photos; learn more in the <u>Virtual & Augmented Reality</u> section

ASMR: autonomous sensory meridian response, a physical sensation people experience when they hear pleasant tactile sounds. In recent years, ASMR videos — showing nothing but people brushing their hair, typing, whispering, or turning pages in a book — have exploded in popularity on YouTube. Upon first seeing these videos, you will probably think they're pretty odd, but the calming effect they have on people is starting to get the attention of researchers. Learn more here.

asynchronous learning: a learning experience where participants engage at different times, such as watching a video and completing an activity at their own pace. This is the opposite of a *synchronous* experience, in which all participants engage simultaneously, like attending a live lecture via videoconferencing.

avatar: an image or icon, often illustrated, representing a person in a video game, in social media, or in a software program

dashboard: a term used by many platforms to describe the user's "control center," the place where you get an overview of your account and your activity within that program

deepfake: a form of media that has been manipulated with artificial intelligence to generate authentic-seeming audio, video, or imagery. See an example here.

digital citizenship: the standards for etiquette, ethical conduct, and safe behavior while using technology

digital literacy: being versed in the terms and concepts associated with using technology

digital native: nickname for a person who grew up with technology — personal computers, internet access, etc.

DM: *direct message*. A message that is sent through social media platforms, but in private. A person's followers can't see a direct message; only the person it's sent to can read it. When someone says they will "DM" someone, they are planning to send a direct message.

document camera: a tabletop camera that displays onto a screen whatever activity is happening underneath it.

domain name: the part of your URL that identifies your IP address. (In the URL http://www.cultofpedagogy.com, the domain name is cultofpedagogy.com.)

doxing: publicly broadcasting private or identifying information about a person with an anonymous online presence in order to expose their identity

e-commerce: buying and selling items through the internet

EdCamp: a type of <u>unconference</u>. A "TeachMeet" is basically the same thing.

embed: to insert one item, like a video, into another item, like a website, in such a way that it retains all of its functions and can be operated from within that second item. So an embedded video will play on the website. The symbol for embedding looks like this: < >

emoji: small pictures that can be inserted into texts and other digital communication. (By the way, some publishers agree that it's okay to use emojis as the plural for emoji, while others feel strongly that the word emoji is both a singular and a plural, like the word sheep. Readthis post from the Grammarly blog for more information.)

emoticon: also called a *smiley*; a sequence of characters made to represent a facial expression or some other visual image, like this: :-) See this <u>List of Smileys and Emoticons</u> for examples.

extension: see browser extension

external hard drive: a small device, somewhere between the size of a wallet and a paperback, where you can store electronic files (documents, photos, videos, etc.). These come in handy when you need extra storage space on your computer or you want to back up your files outside of your computer.



external hard drive **file extension**: the suffix at the end of a file name that tells you what type of file it is. The file extension for a PowerPoint file is .ppt or .pptx. The extension for a JPEG image is .jpg.

firewall: network security device that monitors incoming and outgoing activity. It allows or blocks traffic depending on whatever rules are set for your network. So for example, you may not be able to access social media sites at work because they are blocked by your district's firewall.

Flash: an animation software that has been discontinued. Sometimes you may have trouble running parts of a website because your Flash player is not installed or up-to-date.

flash drive: a small storage device — not much bigger than a stick of gum — that plugs into your computer's USB port and allows you to store and transport electronic files; also called thumb drive, jump drive, data stick



flash drives

gamer: a person who regularly plays video games, especially if they do so competitively

gamification: a way of motivating students to learn by adding elements of games (especially video games) into the learning environment, such as "leveling up" and earning badges for reaching certain milestones

GB: *gigabyte*; a unit of measurement for electronic data equal to 1,000 megabytes

genius hour: one hour per week (or per day, depending on a teacher's schedule) given to students to pursue their own interests; also see 20 percent time. To learn more, read Your Top
<a href="Your To

GIF: graphics interchange format; a widely used image format, especially for simple graphics. An animated GIF is a set of images coded to display in a specific order, giving the appearance of movement. To make one of these yourself, visit our <u>Animated GIFs</u> section.

F-G

graphics card: a piece of computer hardware responsible for producing the images on the computer. These are built into most laptops and standard computers, but users who work with a lot of video or gaming often want to upgrade to a more powerful graphics card or get one that performs better, which is more expensive. Also known as a graphics processing unit or GPU.

JavaScript: a computer programming language that is built into most <u>web browsers</u> to make them interactive

JPEG: an image file type that is preferred for photographs. As a <u>file extension</u>, it is abbreviated to JPG. To learn more about image file types, read <u>this article</u>.

Kindle: Amazon's e-reader, which can hold hundreds of full-length books on one device

KB: *kilobyte*; a unit of measurement for electronic data equal to 1,000 bytes; see conversion chart below

1,000 KB = 1 MB

 $1,000 \, MB = 1 \, GB$

 $1,000 \, \text{GB} = 1 \, \text{TB}$

link: an abbreviation for hyperlink

Linux: an operating system (like Windows or Mac), which is the software that manages all the resources on a device. To learn more, read this post: What Is Linux?

MB: megabyte; a unit of measurement for electronic data equal to 1,000 kilobytes; see conversion chart at left

meme: a piece of media that spreads through the internet. The most common type is an image with a caption. <u>This article</u> offers some examples.

microblogging: a form of blogging consisting of short, frequent blocks of content, rather than long ones. Twitter, along with other <u>social</u> media platforms like TikTok, are examples of microblogging platforms.

mobile device: a portable device like a cell phone, smartphone, or tablet

mobile-responsive design: an approach to website design that allows them to change for easier reading when viewed on a mobile device

MOOC: massive open online course; a free online course, which can be taken at any time, open to anyone with internet access. <u>Coursera</u> is one popular platform for finding a MOOC.

MP3/MP4: an MP3 is a type of audio file; an iPod is a popular type of MP3 player. An MP4 is a type of video file.

net neutrality: the idea that internet service providers should treat all traffic coming through their services the same, rather than offering faster delivery for websites willing to pay a higher price. Learn more in this article.

NFT: non-fungible token; a unique and non-interchangeable unit of data. See our discussion in <u>Wonderings</u>.

NSFW: not safe for work; content that may contain nudity or other inappropriate content

one-to-one (1:1): an arrangement in which there is one device or computer per person

open educational resources: instructional resources that are free for anyone to use, modify, and share with others. To learn more, read A Closer Look at Open Educational Resources.

open source: freely available to anyone who wants to see or modify for their own uses; <u>WordPress</u> is an open source software

operating system (OS): basically, the boss of a computer; the software that supports all of a computer's basic functions. Windows and Mac OS are two popular operating systems.