Google's Cool Tools!

The one's you don't hear much about

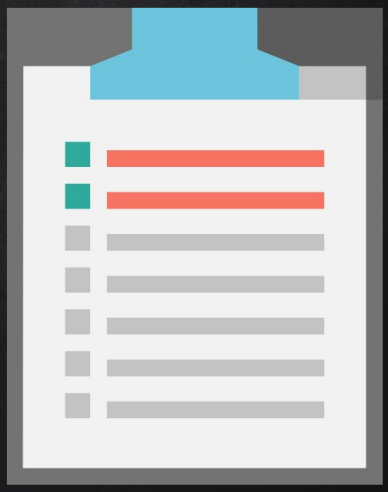
A special thank you to **Eric Curts** who published much of this data earlier in 2017. It has truly energized and transformed my classrooms.

Session Agenda

Lesser Known Google Tools:

- ✘ Search Tools
- ✘ Map Tools
- ✘ Creative Tools
- ✘ Communication Tools
- ✘ Miscellaneous Tools

Which one are you most interested in learning more about?



Presentation developed from session given by Eric Curts March 2017

Students, draw anywhere on this slide!

Pear Deck Interactive Slide
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- This is a Pear Deck Drawing Slide
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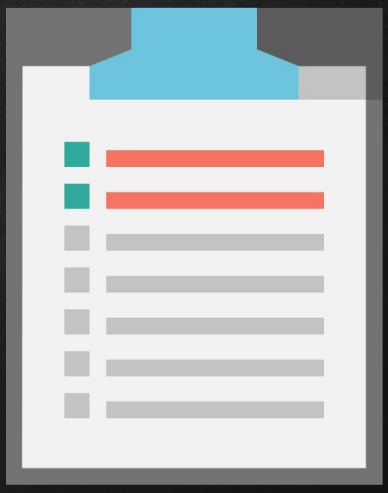
Prerequisites

For this session you will need:

- ✘ A Google account (school or personal)
- ✘ This is an introductory session



Students choose an option

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 This is a Pear Deck Multiple Choice Slide. Your current options are: A: Yes, I'm good!, B: No, I don't have a Google account,
 To edit the type of question or choices, go back to the "Ask Students a Question" in the Pear Deck sidebar.

This first tool is one that my wife, a retired 2nd grade teacher and now Google Educator and teaching consultant gave to me. It is called “be internet awesome” and I thought I’d start with this tool because it directly supports the theme of this years conference.

Be Internet Awesome

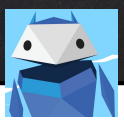
Make safe & smart choices while using the internet

1. Video– Google's INTERLAND Intro. 40 sec.
2. Play INTERLAND– Be Internet Awesome!

*Content from–Google's "Be Internet Awesome" site.

4 lands within the internet awesome world and students have to navigate them successfully

Be Internet Awesome

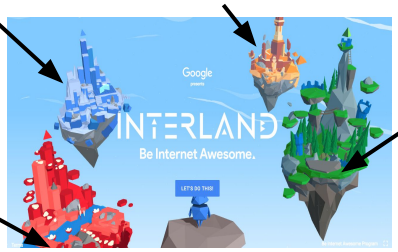
Internaut 

Vocabulary:

Hackers –Anyone that gathers others' information from a computer.
Phishing – When someone tries to trick you into sharing your personal information.
Cyberbullies – Someone aggressively shows you unwanted attention over and over.
Upstander– Someone that gives positive attention to everyone, especially the person being bullied.
Oversharers – Someone that shares too much personal information about themselves
Vibes – Feelings that follow after someone says or does something.
Digital Footprint– Anything about your on the Internet like photos, messages you sent. Basically any interaction you have had online can be traced.

Tower Of Treasure– Keep Your Secrets Safe

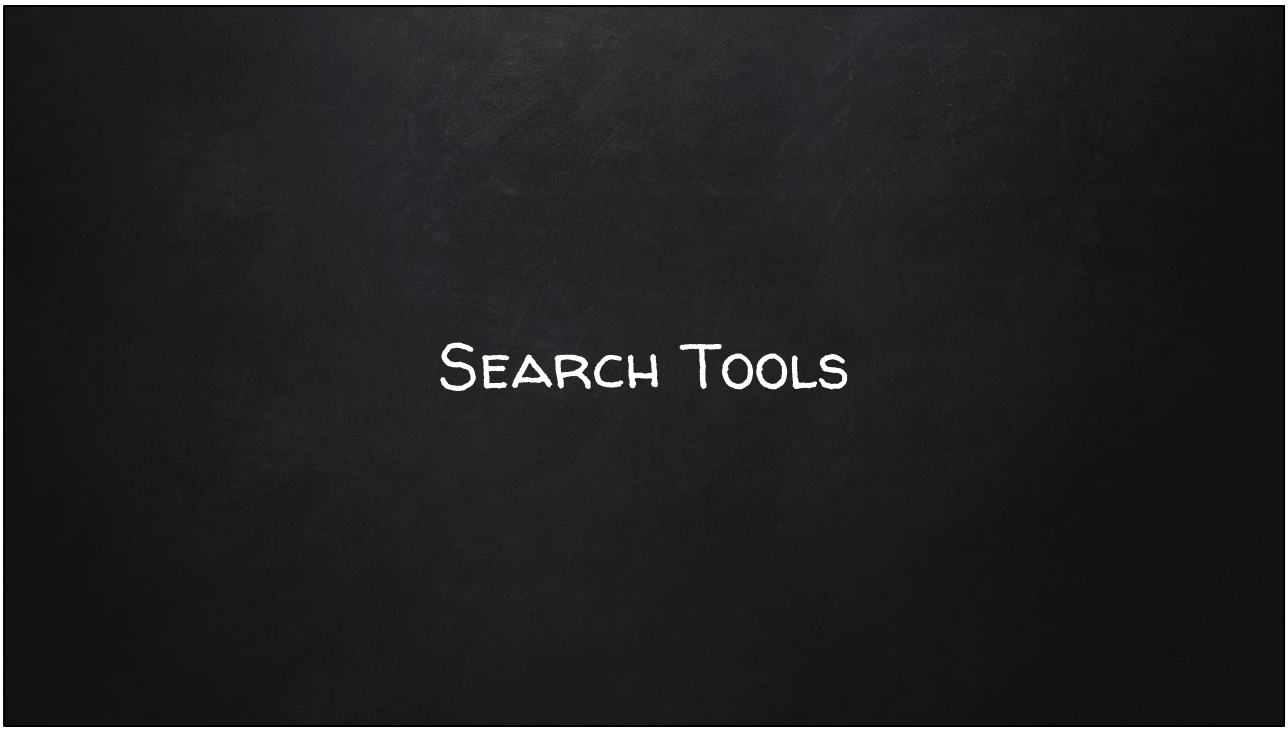
Mindful Mountain– Share with Care



Reality River– Don't Be Fooled by Fake

Kind Kingdom– It's Cool to be Kind

The student is the "Internaut" and they have to navigate the 4 lands to successfully complete the game.


Search Tools

Ngram Viewer

Search words in all books from the last several centuries – books.google.com/ngrams

Students browse: https://books.google.com/ngrams/graph?content=Albert+Einstein%2CSh...

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Ngram Viewer

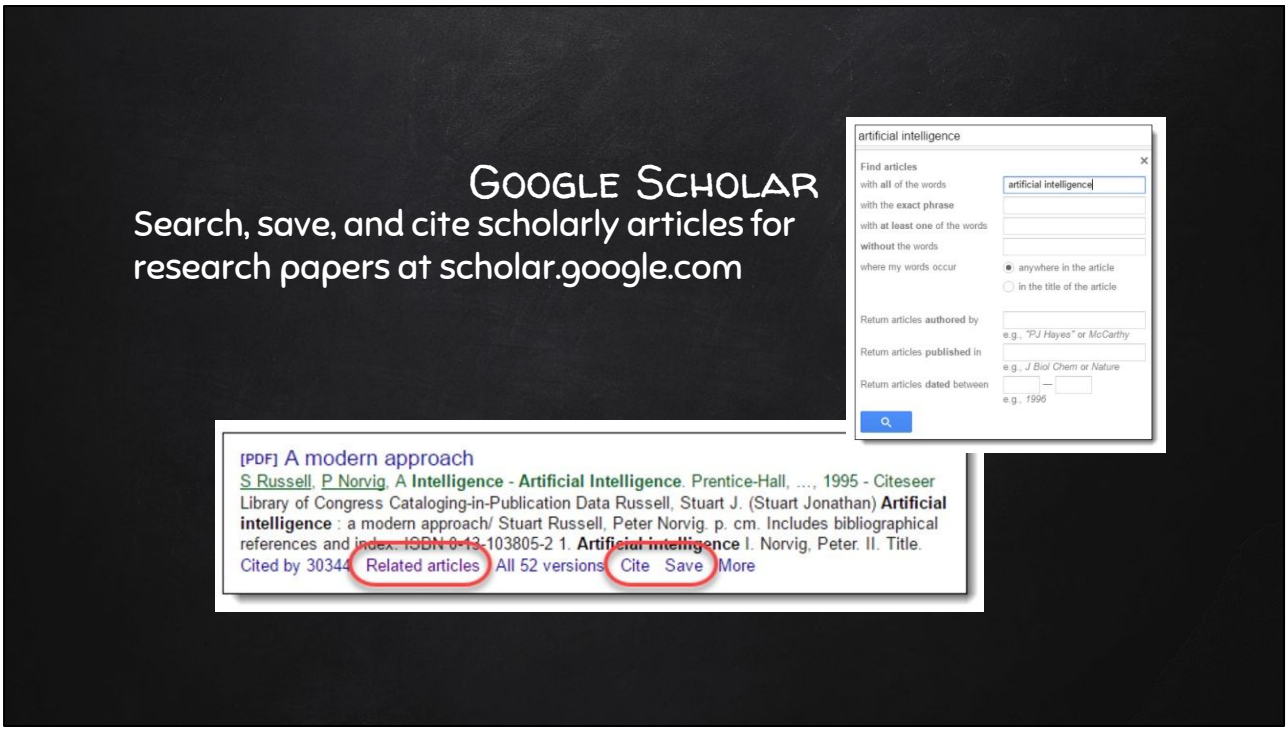
Ngram Viewer is a Google search tool that lets you search for words and phrases in over 5 million books from the 500 years. The results are then displayed as line graphs to show the relative change in usage over time for the different terms.

This can be a powerful search tool for students to explore the popularity of different ideas and topics over time, as well as to see how our perceptions have changed. Students can cross reference changes in word usage with historical events, wars, politics, and more.

To use the tool, do the following:
Go to the Ngram Viewer site at books.google.com/ngrams

Type in the words and phrases you wish to search, separated by commas.
Set the beginning and ending years for the search if you wish to limit it to a certain period in history.
Click the search button.
You will now get a graph showing the change in usage of those words over time.

Richard Byrne Youtube Video here
https://youtu.be/ZiDlNkqufbU



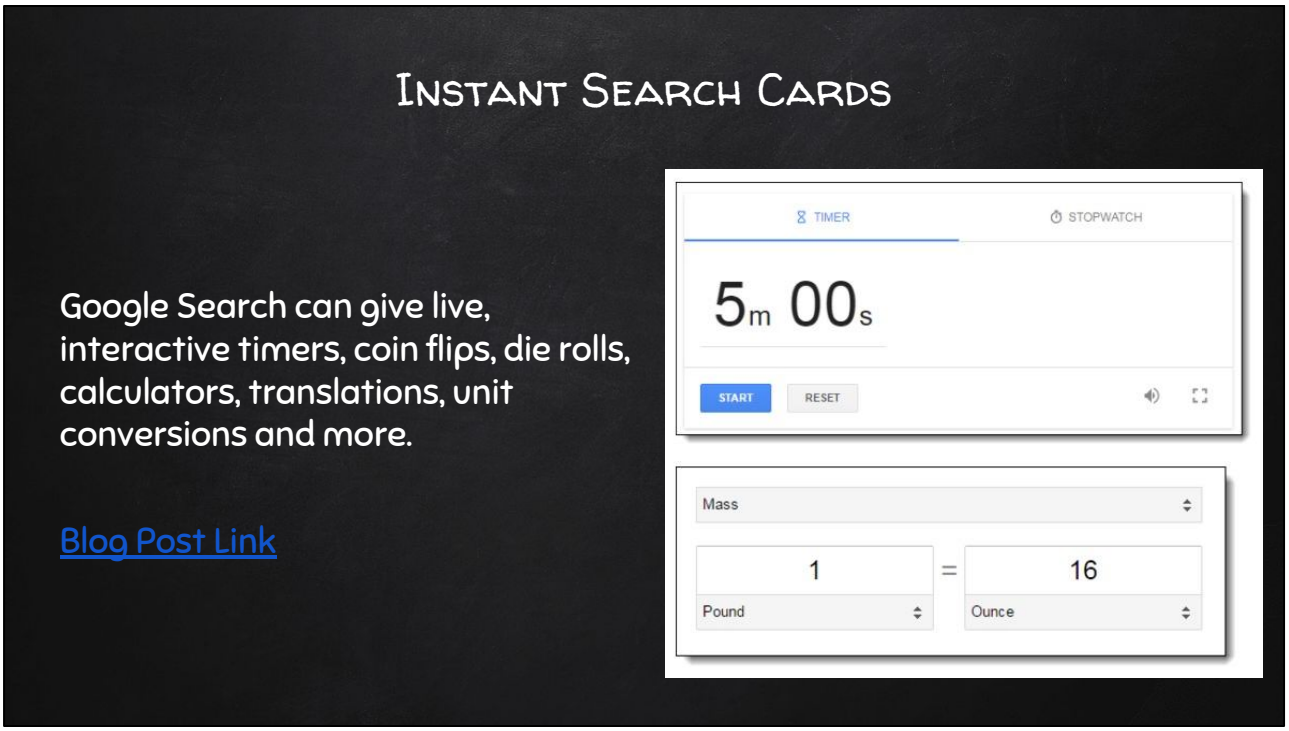
Google Scholar

Sometimes it is necessary to find **scholarly peer-reviewed articles**. This can be for a high school student writing a research paper, or for an educator completing graduate work. The content of scholarly articles can be challenging enough on its own, so thankfully Google makes the process a little easier with a tool called Google Scholar.

Google Scholar is a search tool that lets you look specifically for scholarly articles. Here;s how:

- Go to scholar.google.com
- Type in the **terms** you are searching for.
- You will now get a list of matching **scholarly articles** OR "original research" not articles that are written based on original research. Google Scholar will only find research papers not newspaper articles. (do not check the box to include patents, they are unreadable)
- If you need to narrow down the results, click on the little down arrow in the search box to open the **advanced search options**.
- If you find one that sounds like what you are looking for you can click into it and read the abstract to see if its what you need.

- If you find an article you like, you can also click the "**Related articles**" link to find more that are similar.
- If you want to keep a list of the articles you have found, click the "**Save**" link.
- If you find a paper that you think is relevant, you can even go to the end of the paper and look at the list of references used in the article to find others that might also serve your purposes.
- If an article has been "cited by" it means that a number of other articles came after that paper and cited it as a professional resource. This enhances the validity of the paper. You can click on the "cited by" link and find other sources that may be relevant as well.
- Finally, if you want the proper citation format for an article, click the "**Cite**" link and then pick the format you want (APA, MLA, Chicago, etc.)



Instant Search Cards

We all know Google is a powerful search engine. However, in addition to simply providing search results for our queries, over time Google has been adding **interactive "Search Cards"**that give us much more than just links to websites.

For example, if you need a **timer for a class activity**, simply run a Google search for "Timer" or "10 second timer" or "stopwatch". This will give you a live, interactive countdown timer to use in class.

Or if you need to **graph an equation**, you can simply search for that equation, such as "y=2x-3" or "graph for x^2" and you will get an live, interactive graph of that equation.

Reverse Image Search

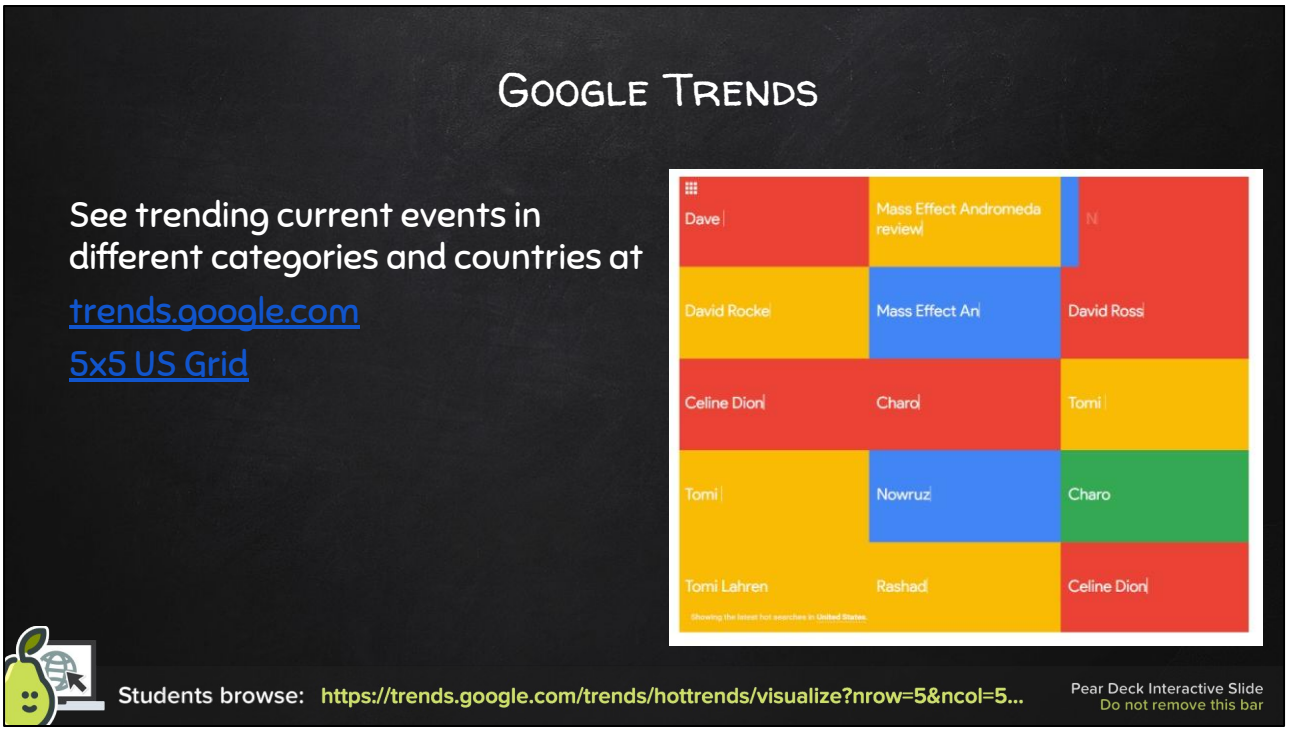
Google's Image Search at images.google.com is a powerful tool to find pictures, including many helpful tools such as searching by color, size, usage rights, and much more. However, one of the lesser known special features is the ability to do a reverse image search.

Instead of looking for an image, what if you **already have a picture** and you are trying to**find out information** about it? Here's how you do it:

- Go to Google Images as normal at images.google.com
- **Drag and drop** an image onto the search box.
- Or click the "**Search by image**" button to upload an image.
- Google will now compare the image you provided to every image on the internet to try to find a match and provide you with more details.

This can be useful in many ways:

- Learning more about a historical image.
- Finding the location of where a photo was taken.
- Determining what an unknown object is.
- Fact checking a questionable image.



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Google Trends

Google processes billions of searches every day. As valuable as the results are, there is also a lot we can learn from the searches themselves. Google Trends at trends.google.com is a tool that lets you see what people are searching for. You can even limit the data to certain categories (Business, Entertainment, Health, etc.) or by country.

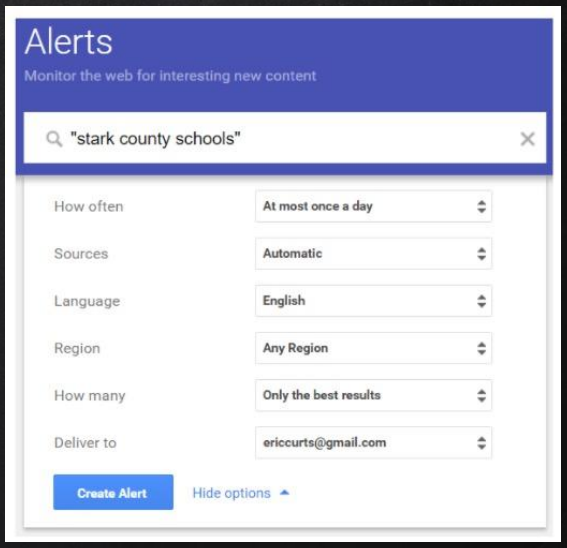
One of the best parts of the Google Trends service is the Visualization page. This page gives you a grid with real-time top search terms. You can adjust the size of the grid as well as which country the searches come from. For example you can access a 5x5 grid of search topics from the United States at this link:

This can be a great tool for students to see what topics are currently trending in the news in their country, or in other countries around the world. Students can click on any of the search topics to open a Google search for that term to learn more about that topic and why it is in the news.

Google Alerts

Have Google send you periodic updates for saved searches to get the latest info on a topic.

www.google.com/alerts



A simple Google search can get you millions of results. But what if you aren't looking for that many? How can you find just the best matches possible?

One way is to learn how to become a power searcher! Google offers **two free video courses**to teach you all of the tips, tricks, and tools for making the most out of the Google search engine. The courses are:

- **Power Searching**
- **Advanced Power Searching**

You and your students can work through these self-paced video classes at: http://www.powersearchingwithgoogle.com/

Practice

Take 5 minutes to explore one of the search tools further and then tell us what you learned. Which one will you decide to spend your 5 minutes with?

Students choose an option

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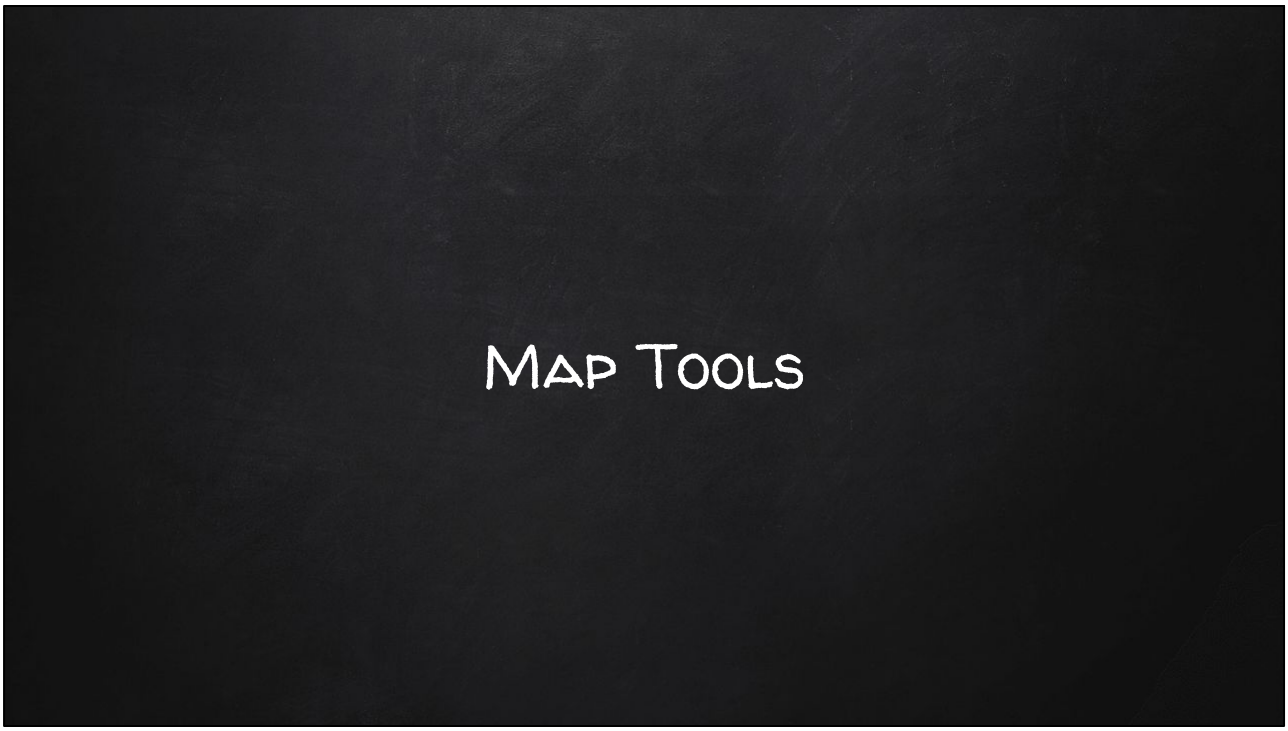
 To edit the type of question or choices, go back to the "Ask Students a Question" in the Pear Deck sidebar.


Map Tools

Smarty Pins

Google Maps have a wide range of uses outside of simply finding directions. One extension of Maps is the game **Smarty Pins**. This is a fun activity for an individual student or the entire class to practice research skills and find locations on a map to match the clues given.

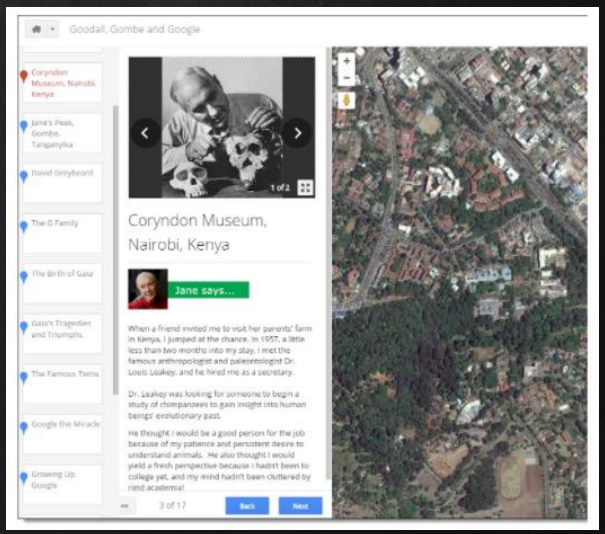
To use Smarty Pins, do the following:

- Go to the website at: smartypins.withgoogle.com
- Choose a **category** if you want to limit the questions to specific topics, or click "**Start a new game**" for a variety of questions.
- The game will now begin and a **clue** will be given.
- Students may already know the answer, or you can have them do some Google research to find the answer.
- When ready, the user **drags and drops the marker**on what they believe is the correct map location.
- The game then tells you how far off from the correct location your are, and subtracts those miles from your score.
- When you run out of miles, the game ends.

Tour Builder

Tell and share stories with maps by putting together tours of locations, pictures, videos, descriptions, and more.

www.tourbuilder.withgoogle.com



Tour Builder

Google's **Tour Builder** let's you **tell a story with maps**! Built on Google Maps, this tool allows you to put together a sequence of locations from anywhere on Earth. For each location, you can add content including:

- The address of the location.
- The Google Maps view of the location (overhead, Street View, etc.)
- A name for the location.
- A slideshow of images and videos.
- A start date and end date.
- A detailed description (including links).

After all of the locations have been put in Tour Builder, you can **share the final product** with others who can "play the tour" to visit each location and view the content connected to each.

This can be a fun and different way to tell a story, explain events from history, explore geography, visit the sites from a book, and more.

Tour Builder can be accessed at: https://tourbuilder.withgoogle.com

Timelapse

For any location on Earth, see the change in our world with satallite images from 1984 to the present.

www.earthengine.google.com/timelapse

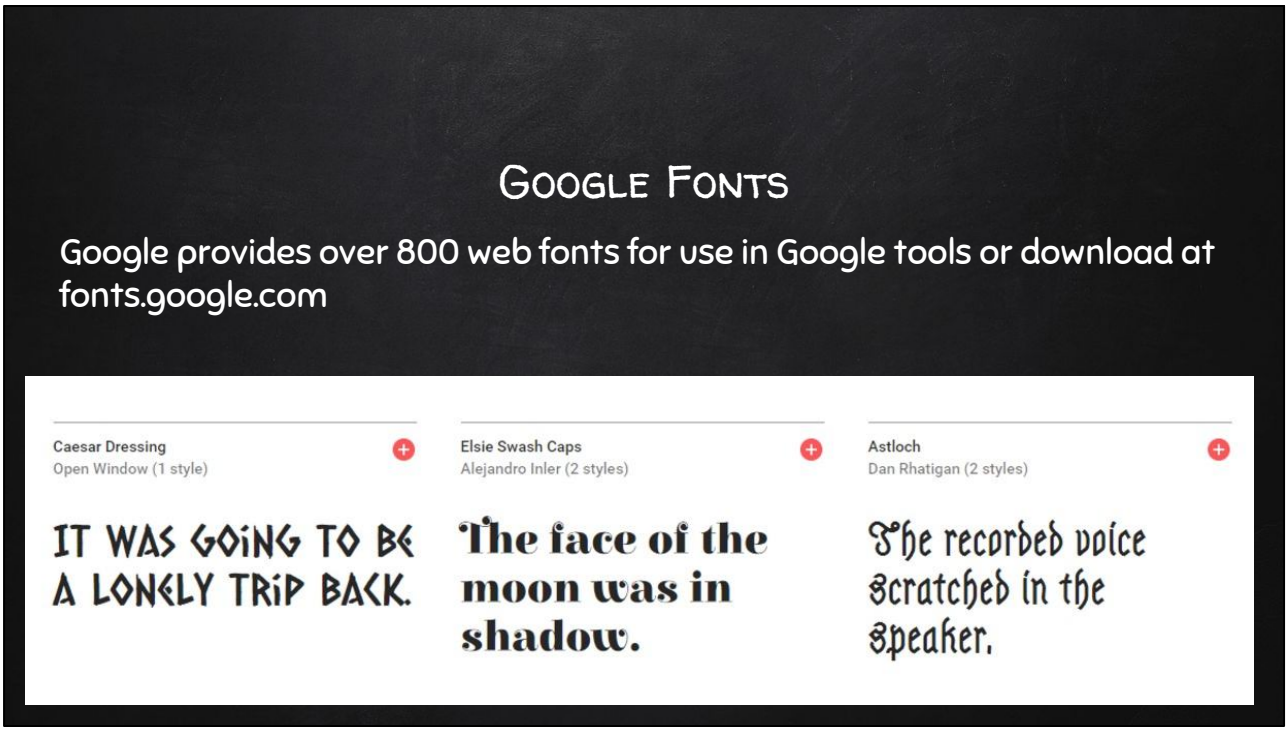
Google Earth Engine Timelapse

Not only can maps help us find where we are going, they can also help show us where we have been. Google has been collecting satellite imagery of the world for decades. With their amazing **Timelapse** site from Google Earth Engine, you can see how our world has changed from 1984 to the present.

- Simply go to the **Timelapse** site at: https://earthengine.google.com/timelapse
- **Search** for a location, or **choose** one of the suggested locations at the bottom of the screen.
- You will now see an animation showing the changing **satellite images** from 1984 through the present.

This is a powerful way to see the impact people have on our world, the development of cities, changes to rivers, glaciers, and other natural formations, and more.

Creative Tools



Google Fonts

The font you choose for your text can add a lot to the feel of your words, whether that is professional, funny, adventurous, or spooky. Thankfully when using Google tools you have **over 800 fonts to choose from** to find the perfect match for your message. Also, since these are web fonts, your text will look that same no matter who views it or in what format.

You can access Google's Fonts in two main ways...

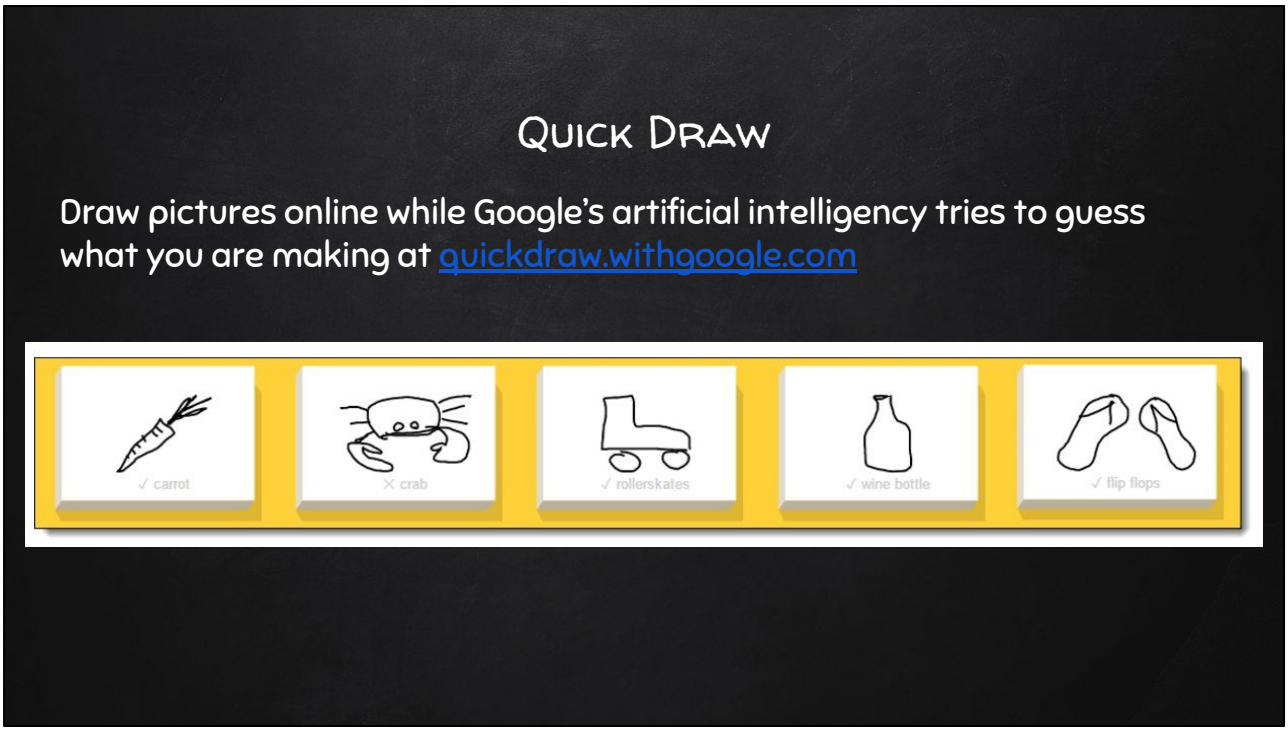
First, you can go to the Google Fonts website

- Go to: https://fonts.google.com/
- Here you can **browse** and **filter** through over 800 font families to find what you need.
- You can even type in your own sample text to see better what the end result will look like.
- The Google Font site also lets you **download** the fonts to your local computer if you with to use them in non-Google projects.

Second, you can access all of the fonts from **inside of Google tools** such as Docs, Slides, Drawings, and more.

- From inside of a Google Doc, click the **font choice menu** in the top

- tool bar.
- Choose "**More fonts**" from the drop down menu.
- This will open up a "**Fonts**" window where you can **browse**, **search**, **sort**, and **filter** over 800 available fonts.
- When you find a font you wish to use, click on it to add it to your "**My fonts**" list.
- You will now be able to use that font in Docs, Slides, Drawings, Sheets, and such.



Quick Draw

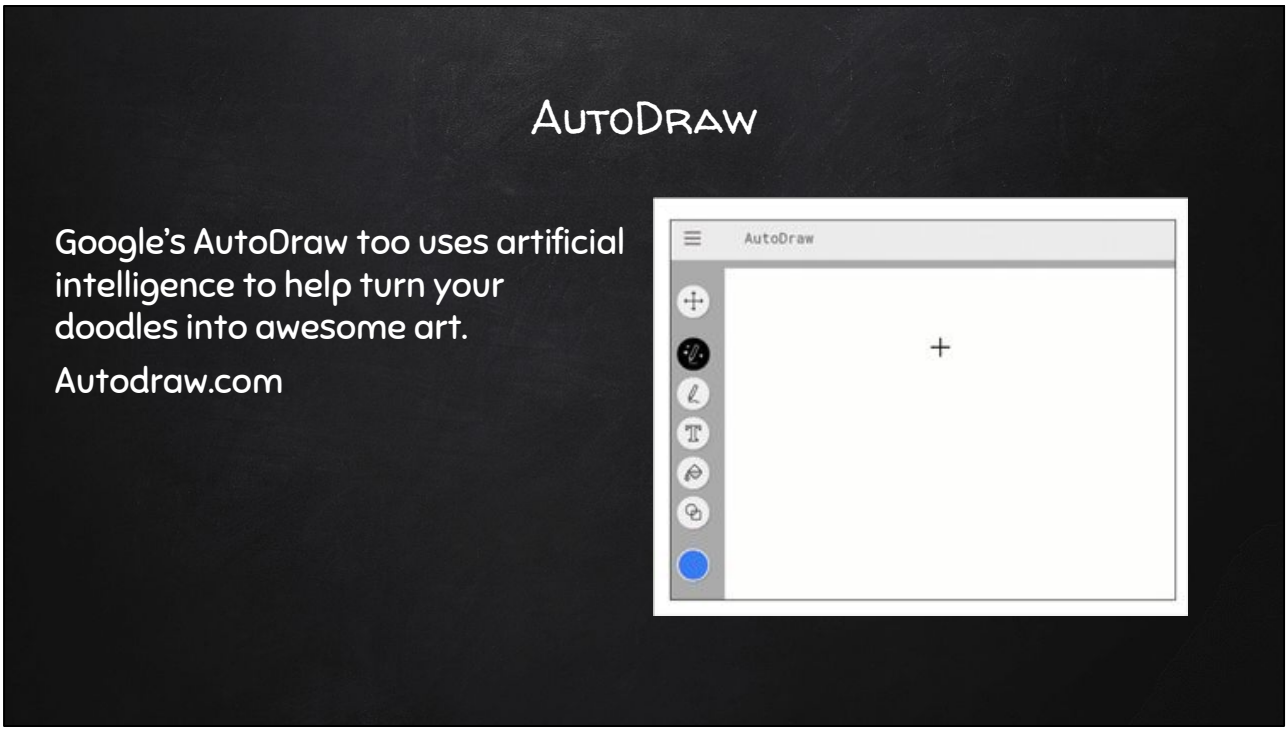
Another fun game from Google is **Quick Draw**, This is an **artificial intelligence game** where you are given 20 seconds to draw a simple item on the computer. While you are drawing, Google's artificial intelligence is trying to **guess what you are drawing**.

Each game lasts for six pictures. At the end of the game you can click on what you drew to learn more about how Google made its guesses, as well as how other people drew that item.

You can access and play the game at: quickdraw.withgoogle.com

Although the game can be played just for fun, it can open up some good discussions in different content areas:

1. **Art** - What are the essential elements of design? What makes a thing a thing?
2. **Language** - How do we communicate with others? How do our preconceived ideas and past experiences influence our communication.
3. **STEM** - What is artificial intelligence? How is Google using this game to "teach" the AI? What applications could this have in our future?



AutoDraw is a very simple and easy to use drawing tool, with most of the normal features such as drawing, filling colors, resizing, adding text, and more. However, there is one big twist. AutoDraw includes Google's **artificial intelligence** to help you draw by taking your squiggles and doodles, and offering to replace them with professional images.

Some possible uses might include:

- Sketch notes
- Infographics
- Illustrating a story
- Creating a scene
- Desktop publishing (flyer, poster)
- Creative drawing

You can access AutoDraw at: http://autodraw.com/ (and for more details see my blog post here).

Toontastic

Toontastic lets students create, save and export 3D animated, narrated stories.

- ✘ Toontastic.withgoogle.com
- ✘ For Android
- ✘ For iOS

Toontastic is a fun **3D storytelling app** for kids, This Google app runs on mobile devices so you can use it on **Android** or **iOS** phones and tablets, as well as **Chromebooks** that support Android apps.

With the Toontastic app you can:

- Create 3D animated stories, reports, and more.
- Choose from lots of pre-made characters.
- Draw and insert your own characters.
- Choose from several themed environments.
- Add your own narration.
- Save and export your final creation.

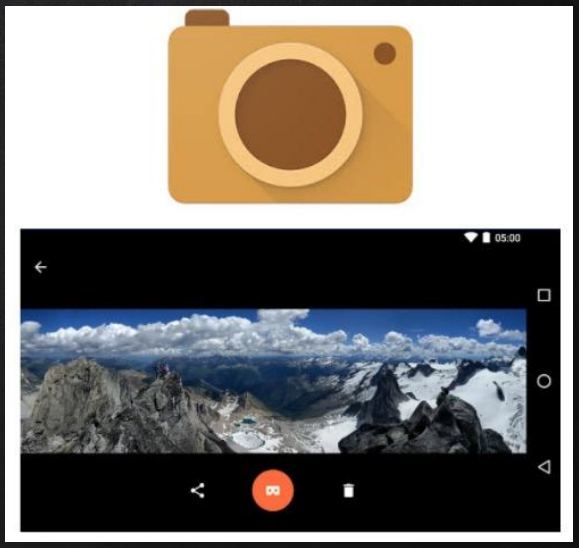
You can learn more about the program at toontastic.withgoogle.com and you can download the app for free for Android (and some Chromebooks) and for iOS.

Cardboard Camera

Record, narrate, and share your own 360-degree VR "expeditions" with this mobile app.

Android version

iOS version



Everyone loves **Google Expeditions**. They are immersive virtual reality recordings that let students feel like they are at Versailles, swimming in a coral reef, or climbing a mountain. At the moment though, Expeditions are just for experiencing, not for creating.

Hopefully Google will eventually release an Expeditions Recorder so anyone can create and share their own Expeditions. In the meantime, Google has given us the next best thing with the mobile app **Cardboard Camera** (for Android and iOS).

With the app you can record a **full 360-degree panoramic recording** of any location you are. Additionally you can**record your voice** narrating the experience to go along with the visuals. When done, the VR recording can be **shared with others as a link**. People can then click the link on their phone, drop their phone into a Google Cardboard viewer, and move around in your 3D VR recording while listening to your narration.

This is a fantastic way for students to create VR reports for famous locations, cultural experiences, field trips, art performances, athletic events, science experiments, and so much more.

You can get the Cardboard Camera mobile app for Android or for iOS

Communication Tools

Google Translate Mobile App

The mobile Google Translate app translates:

- ✘ Words that you speak.
- ✘ Text that you hand write
- ✘ Text (signs) that you scan with your camera
- ✘ Android or iOs

Google offers translation options in many of its tools. You can translate a Google Doc into other languages. You can use the Google Search translate tool for quick translation of words or phrases. You can use the Google Translate website at translate.google.com to work on large portions of text or entire web pages.
However one of the most powerful tools is **Google's Translate mobile app**. It adds many additional features that aide in live, on-the-spot translation. Here's how it works:

- First, download the Google Translate app for Android or iOS.
- Next choose the language you speak and the language you wish to translate to and from.
- You can now use the **microphone icon** to speak in your language and the app will then speak the translation.
- Or you can use the **doodle icon** to hand write in your language and the app will translate and speak in the other language.
- Or you can use the **camera icon** to point your device at any printed text (such as a sign) in one language and it will translate it live into your other chosen language.
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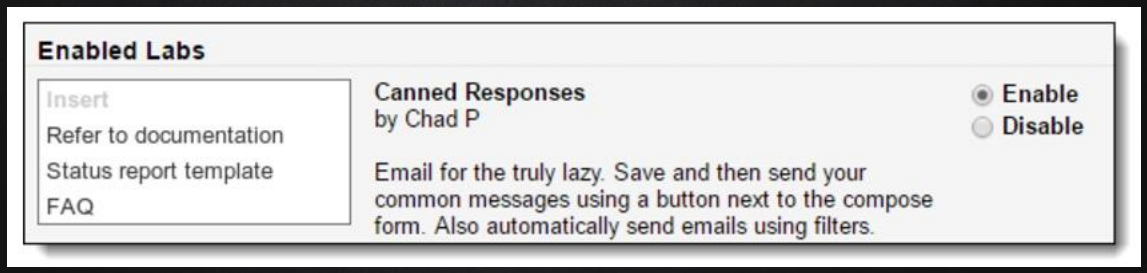
Canned responses

Gmail lab that lets you save and insert commonly used blurbs of text when writing an email



This tool is a **Gmail lab**, which means it is something you have to choose to enable in your Gmail settings. The **Canned Responses** tool allows you to save commonly used blurbs of text, and then insert them easily into Gmail messages when composing or replying to an email.

I use this tool to save time whenever someone is traveling to my work office to meet with me. I have a Canned Response saved that gives them my address, where to park, which door to enter, and how to locate me in the building. Rather than type this use every time it is needed, I simply insert the pre-written text through Canned Responses.

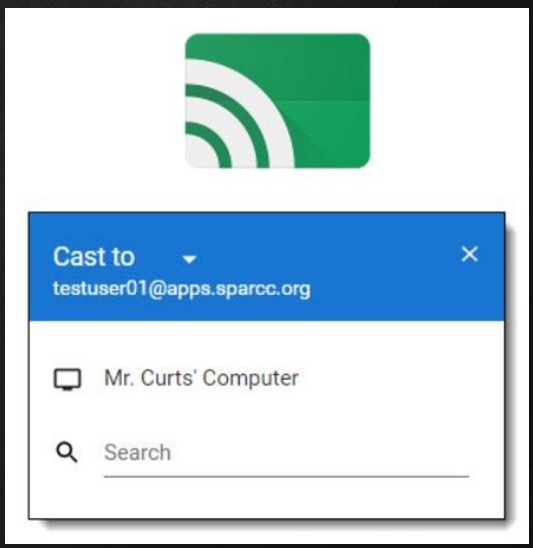
To install this Google tool, do the following:

- Go to your **Gmail** as normal.
- Click the **gear** icon in the top right corner and choose "**Settings**".
- On the "**Settings**" screen, choose the "**Labs**" tab.
- Scroll down to locate the lab titled "**Canned Responses**".
- Click the "**Enable**" option to turn it on.
- Finally click "**Save Changes**".

Google Cast

Chrome app that lets students share their screen with the teacher for the whole class to see.

Chrome Web Store Link



Another great way to increase collaboration and communication in your classroom is with the "**Google Cast for Education**" app. It is becoming increasingly common for students to have their own devices in school, whether from a 1:1 program, off of a shared cart, or BYOD. When this happens, a shift occurs in your classroom.

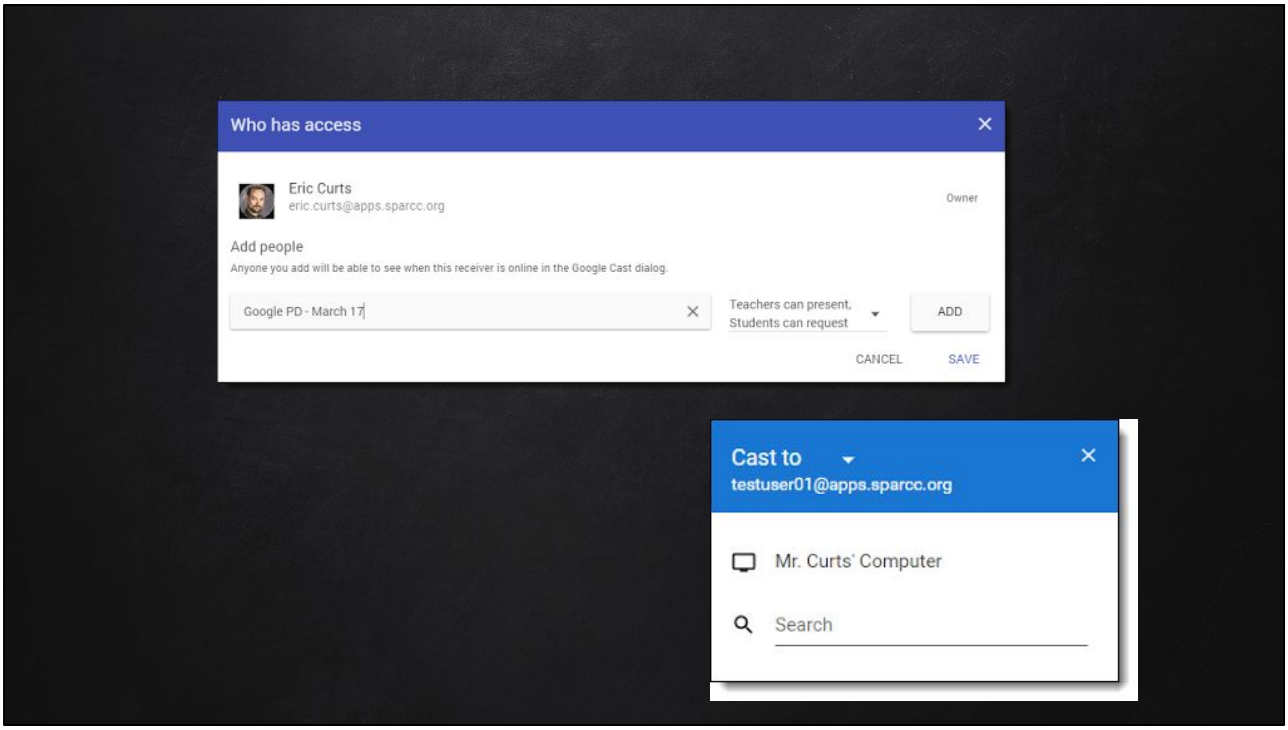
The front of the class is no longer the front of the class.

Students now have in their hands a portal to the collected knowledge of all humanity. That may be a lot more interesting that the dry erase board up front. So as students come across an interesting website, or create an informative slideshow, or find a great subject area video, they should be able to share that with the entire class.

The "Google Cast for Education" app makes it **easy for students to display their computer screen on your computer screen**, which is then displayed through the projector for the whole class to see. Here is how it works:

- First, install the "**Google Cast for Education**" app - Chrome Web Store link
- Next run the app to enter the settings and sharing options.
- For "**Receiver name**" you can enter the name you want your computer to be seen as, such as "Mr. Curts' Computer".

- Next click the "**Share**" button to set up who can share their screen with you.
- In the "**Add people**" box add the Google Classrooms or email addresses for your students.
- Save your changes.



As long as you have the app running, students can request to share their screen with you as follows:

- The student brings up the page the wish to share in Chrome.
- Next they click the "**three dots**" menu button in the top right corner of Chrome.
- Then they choose "**Cast**" from the drop-down menu.
- They will now see a list of computers they are allowed to cast to.
- Simply choose the device and a request will appear on the teacher computer.

Questions?

Email: plimpert.pl@gmail.com

A special thank you to Eric Curts who published much of this data earlier in 2017. It has truly energized and transformed my classrooms.