Technology Tools to Support Executive Functions

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Executive Functions

- Executive functions are a set of processes that have to do with managing oneself and one's resources in order to achieve a goal. It is an umbrella term for the neurologically-based skills involving mental control and self-regulation

- Executive function helps us connect past experience with present action

- We use executive function to perform activities such as planning, organizing, strategizing, paying attention to and remembering details and managing time and space

Executive Dysfunction

- Children with Learning Disabilities (LD) and Attention-Deficit/ Hyperactivity Disorder (ADHD) typically have difficulty with one or more executive functions

- Most of these children will need extra support to compensate for their executive skills weaknesses which requires the direct teaching of skills

- Technology will not teach students these skills, but can assist them with carrying out related tasks and building independence

Executive Function Categories

- Impulse Control
- Emotional Control
- Planning/Prioritizing
- Flexibility
- Working Memory
- Self-Monitoring
- Task Initiation
- Organization

Impulse and Emotional Control

Impulse Control- the ability to stop and think before acting

Emotional Control- the ability to manage feelings by thinking about goals

Planning/Prioritizing and Flexibility

Planning/Prioritizing- the ability to create steps to reach a goal and to make decisions about what to focus on

Flexibility- the ability to change strategies or revise plans when conditions change

Working Memory and Self-Monitoring

Working Memory- the ability to hold information in the mind and use it to complete a task

Self-Monitoring- the ability to monitor and evaluate your own performance

Task Initiation and Organization

Task Initiation- the ability to recognize when it is time to get started on something and begin without procrastinating

Organization- the ability to create and maintain systems to keep track of information or materials

Keep in Mind

- Executive skills develop gradually and at different rates for different people

- One size does not fit all- personalize strategies that best address your specific child's needs

- Start small- choose one area of concern to work on

- Tech tools will not help teach executive functions, but they can support executive function skills and build independence

SETT Framework

Student- What is the area of concern? What are the student's abilities and needs? What are the student's interests and preferences?

Environment- What settings? What is the arrangement? What support is available? What materials and equipment are available? What are attitudes and expectations?

Tasks- What tasks are difficult or impossible for the student?

Tools- What tools can help the student achieve the tasks?

To learn more about the SETT Framework visit http://www.joyzabala.com/

Assistive Technology Device

A. The term `assistive technology device' means any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability.

B. The term does not include a medical device that is surgically implanted, or the replacement of such device.

IDEA 2004

Assistive Technology Continuum

- Assistive Technology falls on a continuum from low to high tech

- Examples
  - Low Tech- paper schedule
  - Mid Tech- digital timer
  - High Tech- smart watch

Tool Time

- Remember the SETT- look at the tools last

- Start small- mutually select one area/problem to work on at a time

- Technology is just a tool- it's how solutions are implemented that matters most

Smartphones

- Alarm
- Calendar
- Camera
- Reminders
- Speech Recognition (Speech-to-Text)
- Text-to-Speech
- Voice Notes

Google Apps

- Google Drive
  - Organize digital materials
  - Search for digital materials
  - Share digital materials
- Google Calendar
  - Set appointments
  - Set recurring events
  - Set reminders
  - List tasks

Time Timer

- Visual time management tool
- Designed to show the passage of time in a concrete way
- Available as a clock, watch, Android app, and iOS app

Time Timer Website
Time Timer in iTunes
Time Timer in Google Play

Watchminder

- Designed to aid children and adults with ADHD and others with special needs in staying focused, managing their time, and modifying their thoughts and behaviors

- Programmable

- Discrete vibrating reminders

- Interval Training Mode

- Countdown Timer

WatchMinder Website

Pocket

- Save articles, videos, recipes, and web pages found online and from apps to read/view later

- Offline access to saved content

- Chrome, Android, and iOS
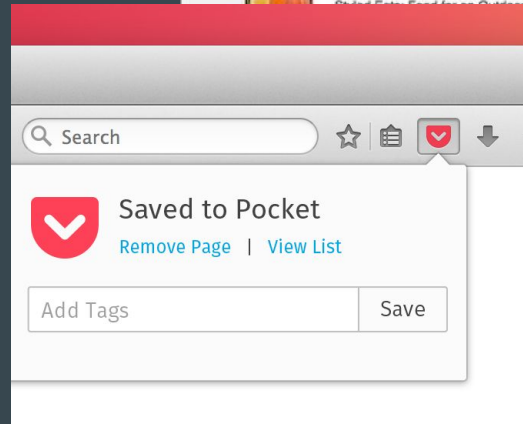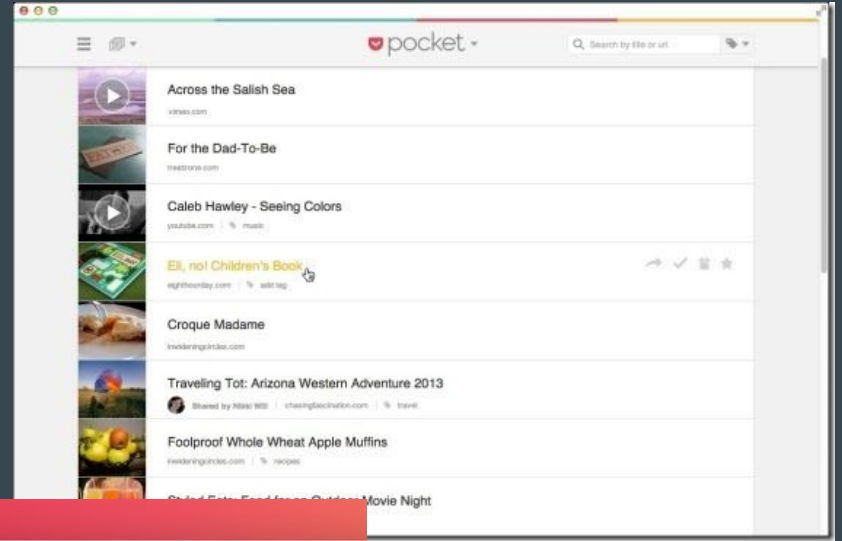
Pocket Website
Pocket in Google Play
Pocket in iTunes
Save to Pocket in Chrome Web Store

Google Dictionary

- Double-click any word to view its definition in a small pop-up bubble

- View the complete definition of any word or phrase using the toolbar dictionary

- Store a history of words you've looked up, so you can practice them later

Read&Write for Google

- Text-to-Speech
- Translator
- Word Prediction
- Talking Dictionary
- Fact Finder
- Speech Recognition
- Free and premium versions available
- Vocabulary Builder
- Highlights
- Text Simplifier (web)
- Voice Notes
- PDF Annotations
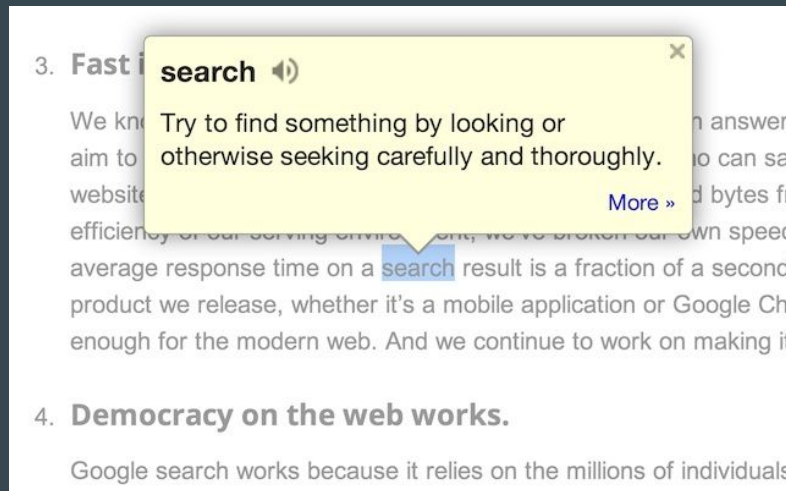
Texthelp Website
Read&Write for Google in Chrome Web Store
Read&Write for Google Resources on Jocelyn's AT Website

Snap&Read Universal

- Text-to-Speech
- Reads Inaccessible Text
- Dynamic Text Leveling
- Study Tools
- Bibliographer
- Translates into 90+ languages
- Data Collection

Snap&Read Universal on the Don Johnston Website
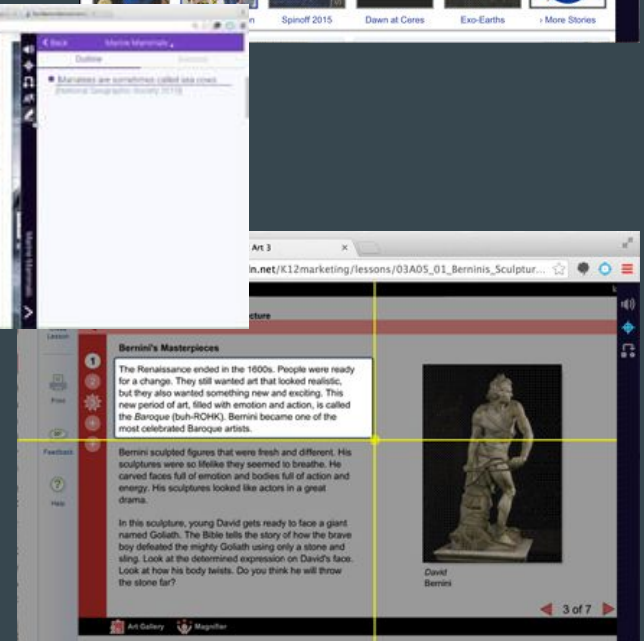
Co:Writer Universal

- Word Prediction
- Flexspell
- Text-to-Speech
- Speech Recognition (speech-to-text)
- Vocabulary Support
- Data Collection
- Integrates across Google, iPad and Desktop
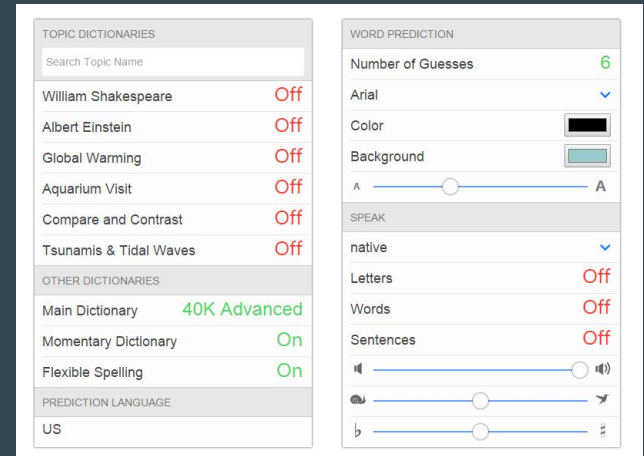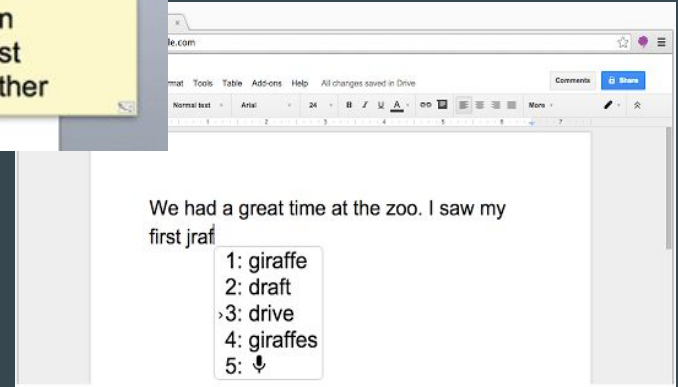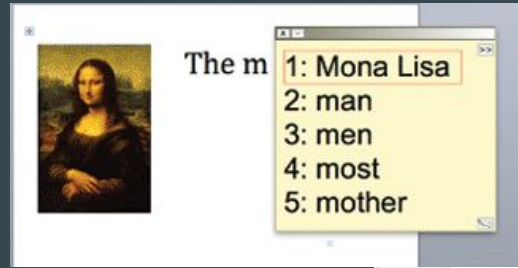
Co:Writer Universal on the Don Johnston Website
Co:Writer Universal Resources on Jocelyn's AT Website

Citelighter

- Research tool that provides an organizational framework for writing papers

- Free and premium version

- Features of the free version include:
    - Student content-capturing tools
    - Student outlining tools
    - Google Doc Integration
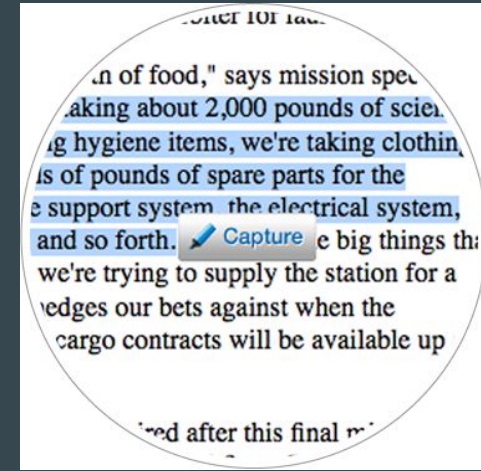
Citelighter Website
Citelighter in Chrome Web Store

Inspiration Software

- Graphic Organizers
- Concept Mapping
- Mind Mapping
- Webbing
- Outlines
- Desktop Software- Kidspiration and Inspiration
- iOS Apps- Kidspiration Maps and Inspiration Maps
- Web- Webspiration Pro
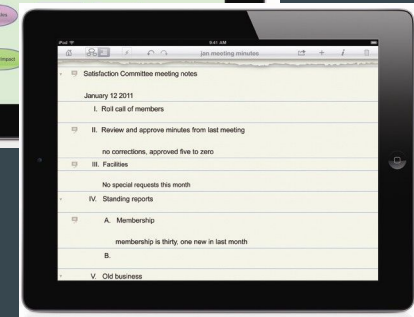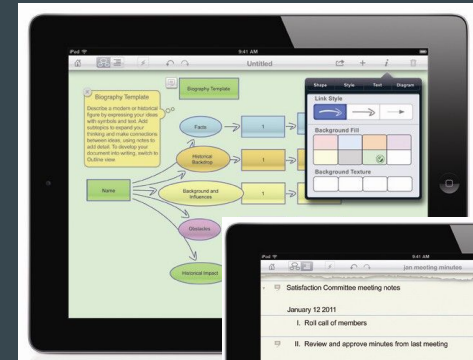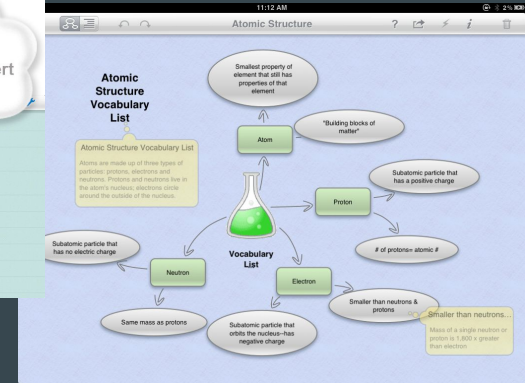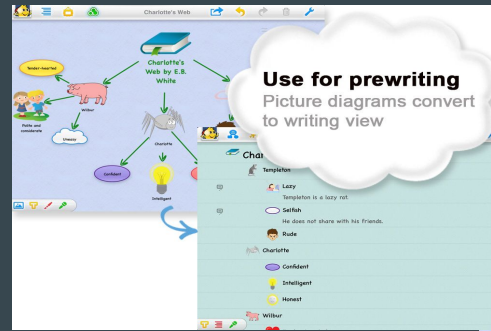
Inspiration Maps in iTunes
Inspiration Software Website
Kidspiration Maps in iTunes
Webspiration Pro

MindMeister

- Online mind-mapping tool

- Google drive integration

  - Open, view and edit mind map files from Google Drive

  - Synchronize entire maps list (incl folders) with Google Drive

  - Synchronize single maps with Google Drive

  - Add attachments from Google Drive

  - Share mind maps with your Google contacts

  - Export maps to Google Drive as image, text and PDF

  - Collaborate in real-time on Drive maps

MindMeister Website

OneTab

- Convert all tabs into a list in one tab
- Restore tabs individually or all at once

OneTab in Chrome Web Store

Readability

- Clean up cluttered web pages
- Save for later reading
- Chrome, Android, and iOS
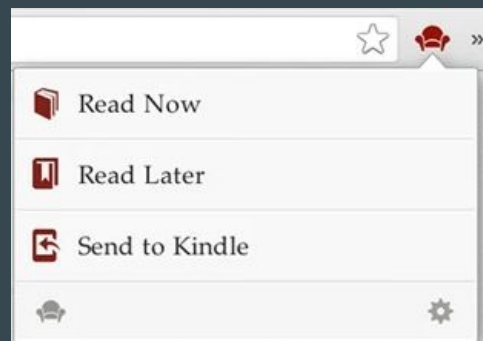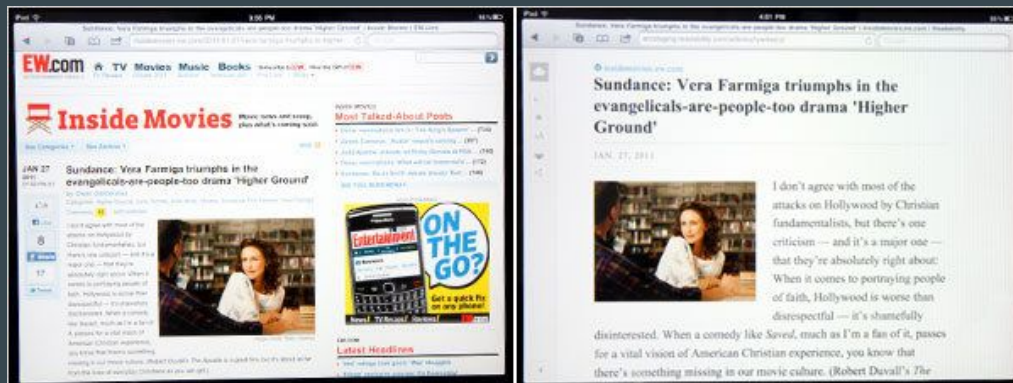
Readability Website
Readability in Chrome Web Store

Sticky Notes

- Dictate notes with Speech recognition

- Synchronization via Google Drive

- Move and resize your notes independently

- Dictate the notes thanks to the speech recognition

- Pin note / Always on top

- Choose color of your note

- Set the font

- Close the note if you don't need it at the moment and simply click Sticky Notes icon to open it again


Sticky Notes App in Chrome Web Store
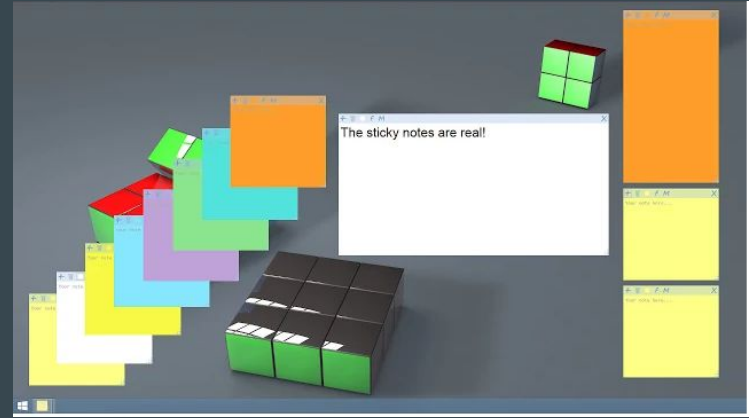
Wunderlist

- Create unlimited to-do lists

- Share todo list and errands to collaborate with family, friends and colleagues

- Access todo lists and errands from phone, tablet and computer

- Instantly syncs reminders, checklists, shopping lists, errands and lists in real-time

- Attach photos, PDFs, presentations and more to any todo list.

- Create reminders

Wunderlist Website
Wunderlist in iTunes
Wunderlist in Google Play
Wunderlist in the Chrome Web Store
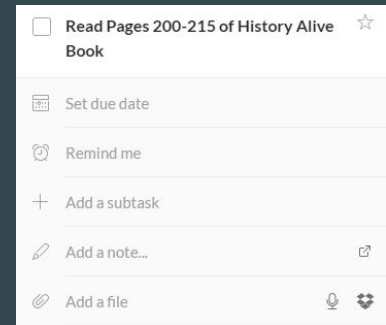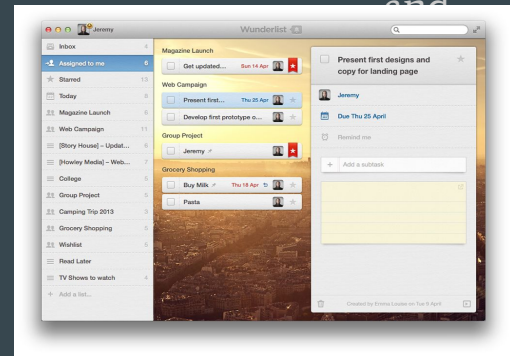
MyHomework Student Planner

- Track classes, homework, tests and assignments
- Receive homework reminders
- Monthly and weekly calendar display
- Supports time, block and period-based schedules
- Sync across other platforms
- Google Single Sign-On
- Free and Premium Version
- Available on ALL platforms- Windows, Mac, Android, iPad, Chrome
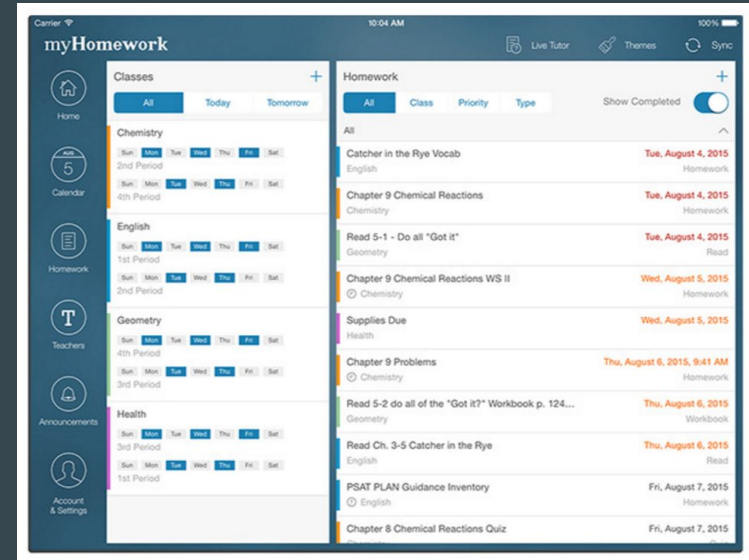
MyHomework Website
MyHomework in Chrome Web Store
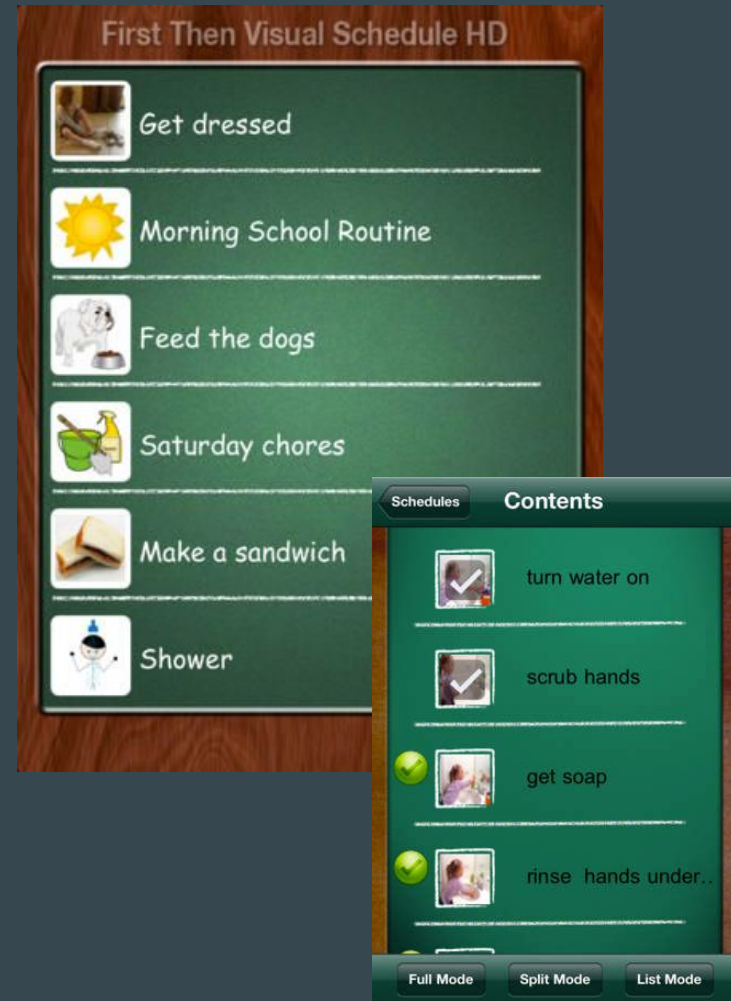MyHomework in iTunes
MyHomework in Google Play

First Then Visual Scheduler

- Create custom visual supports
  - Schedules
  - Daily Events
  - Routines
  - Specific Steps to Complete an Activity
- Add images
- Voice recording
- Checklist feature
- View in full screen, split screen or list screen

First Then Visual Schedule in iTunes

ChoiceWorks

- Designed to help children complete daily routines, understand and control their feelings and improve their waiting skills

- Image Library

- Add images

- Audio recording

- Speaks boards out loud
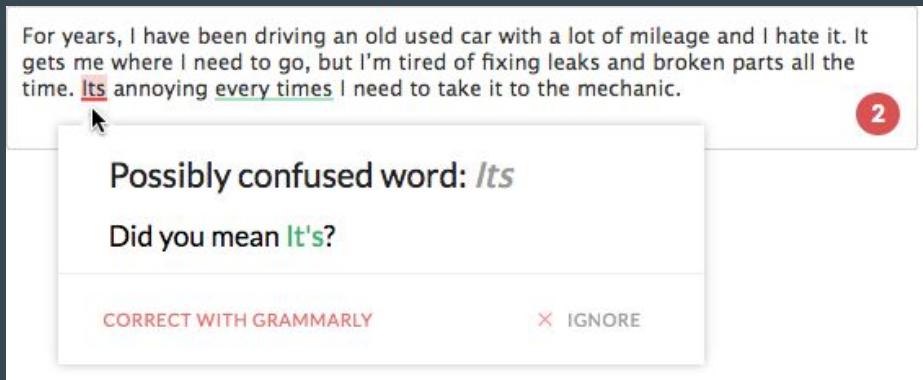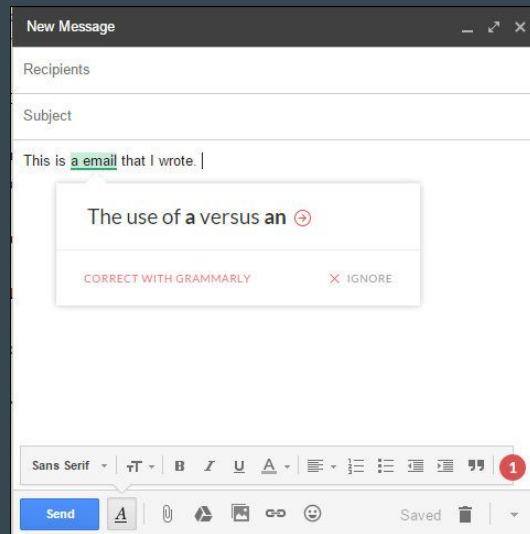
- Save boards as PDFs
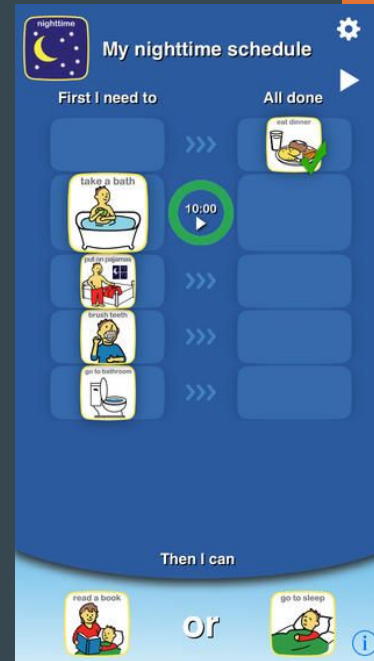
Ginger

- Grammar Checker

- Sentence Rephrase

- Dictionary

- Text Reader

- Translation in 50 Languages

- Basic and Premium Versions

- Windows, Chrome Browser, iOS, Android

Ginger Website

Grammarly

- Contextual Spell Checker

- Grammar Checker

- Vocabulary Enhancement

- Free and Premium Version
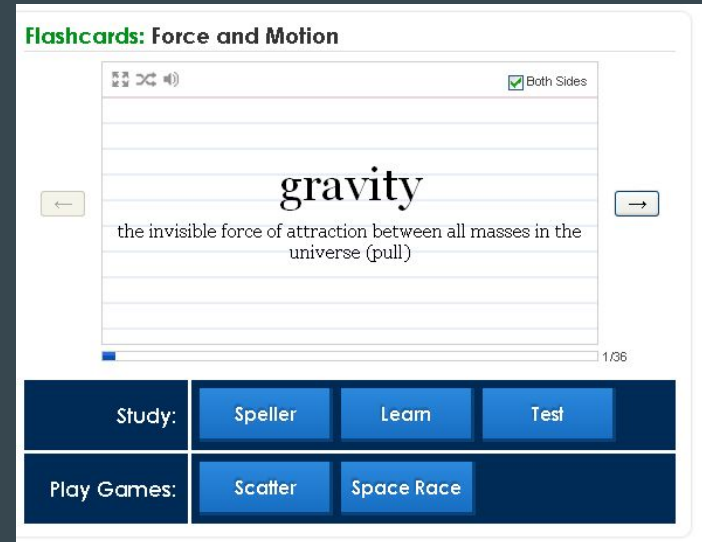
Quizlet

- Over 50 million free study sets

- 6 study modes including Flashcards, Scatter, Speller, Learn, Test, and Space Race

- Audio in 18 languages

- Easily share study content with your classmates

[Quizlet Website](#)

Flashcards: **Force and Motion**

☑ Both Sides

gravity

the invisible force of attraction between all masses in the universe (pull)

1/36

Study: Speller | Learn | Test

Play Games: Scatter | Space Race

Strict Workflow

- Enforces a 25min/5min workflow: 25 minutes of work, followed by 5 minutes of break

- Pre-configured to block popular distracting websites

- Easy to use: just one click starts a work/break timer

- Personalize: block the sites that are most change the timer durations

- Blacklist or whitelist: either choose what sites to during a work timer, or what sites to allow

Strict Workflow in Chrome Web Store

Strict Workflow Options

To remove temptation, some options cannot be edited during a work session. Patience, please.

Block ▾ the sites on this list:

```
facebook.com
youtube.com
twitter.com
tumblr.com
pinterest.com
myspace.com
livejournal.com
digg.com
stumbleupon.com
reddit.com
kongregate.com
newgrounds.com
addictinggames.com
hulu.com
```

Enter one site per line, like "youtube.com" or "google.com/reader/". We'll block/allow all URLs with that base.

For example, "mail.example.com" won't match "www.example.com", but "example.com" will match both. Similarly, "google.com/reader/" will match Google Reader, but will not match Google Search, Gmail, or any other Google service.

Work: 25 minutes **Break:** 5 minutes

☐ Show a notification when a timer finishes

☑ Ring when a timer finishes (audio)

☐ Clicking on a running timer restarts it
By the strictness philosophy, the only way to cancel a running timer is to disable the extension.

Save changes

Additional Tools

- [Clicker](#)
- [Cram.com Flashcards](#)
- [Explain Everything](#)
- [Extensity](#)
- [Google Keep](#)
- [iPrompts Pro](#)
- [iStudiez Pro](#)
- [Kami](#)
- [Lucidchart](#)
- [Mindomo](#)

- [Padlet](#)
- [Pictello](#)
- [Screencastify](#)
- [Snagit](#)
- [SpeakIt](#)
- [Stay Focused](#)
- [ThoughtQ](#)
- [Timer](#)
- [Todoist](#)
- [Tools4Students](#)

Executive Function Resources

A copy of this presentation, resources on executive functions and free and low-cost professional development opportunities related to executive functions can be found on the <u>Executive Function</u> page of Jocelyn's <u>Assistive Technology 101 Website</u>.

Contact Information

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