



Teacher Manual

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7th Grade Technology

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A COMPREHENSIVE CURRICULUM

SIXTH EDITION

by Ask a Tech Teacher

SEVENTH GRADE TECHNOLOGY

A COMPREHENSIVE CURRICULUM

Part Eight of the SL Technology Curriculum

2024

Visit the companion website at Ask a Tech Teacher for more resources to teach technology

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Introduction

The educational paradigm has changed—again. Technology has become granular to learning, blended into educational standards from Kindergarten on, like these that expect students to:

- *demonstrate sufficient command of **keyboarding** to type at least three pages in a single sitting*
- **evaluate different media** [print or digital]
- **gather information** from print/digital sources
- *integrate and evaluate **information presented in diverse media** and formats*
- **interpret information** presented visually, orally, or quantitatively [such as interactive Web pages]
- *make **strategic use of digital media***
- *use **print/digital glossaries/dictionaries** ...*
- *use information from **images and words in print/digital** text*
- *communicate with a **variety of media***
- **use text features and search tools** (e.g., key words, sidebars, **hyperlinks**) to locate information

But how is this taught?

With the nine-volume **Structured Learning Technology Curriculum**. Aligned with Common Core Standards* and National Educational Technology Standards, and using a time-proven method honed in classrooms, students learn the technology that promotes literacy, critical thinking, problem-solving, and decision-making through project-based work. The purpose is not to teach step-by-step tech skills (like adding borders, formatting a document, and creating a blog). There are many fine books for that. What this curriculum does is guide you in providing the **right skills at the right time**.

Just as most children can't learn to read at two, or write at four, they shouldn't be required to place hands on home row in kindergarten or use the Internet before they understand the digital risks and responsibilities. The Structured Learning curriculum makes sure students get what they need at the right age and with proper scaffolding. The end result is a phenomenal amount of learning in a short period of time.

For skills you don't know, visit our Help blog, Ask A Tech Teacher. There's always someone there who can help.

• • •
“New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio.”

—CCSS

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• • •
“Use of technology differentiates for student learning styles by providing an alternative method of achieving conceptual understanding, procedural skill and fluency, and applying this knowledge to authentic circumstances.”

—CCSS

What's in the SL Technology Curriculum?

The SL Curriculum is project-based and collaborative with wide-ranging opportunities for students to show their knowledge in the manner that fits their communication and learning style. Each grade level includes topics to be woven into 'most' 21st-century lesson plans:

- *keyboarding—more than typing*
- *digital citizenship—critical with the influx of internet-based and online learning*
- *problem-solving—to encourage independence, critical thinking*
- *vocabulary—decode unknown words in any subject quickly*

For more on this, see **“4 Things Every Teacher Must Teach and How”** at the end of Lesson 1.

Besides these four topics, here's a quick overview of what is included in the curriculum:

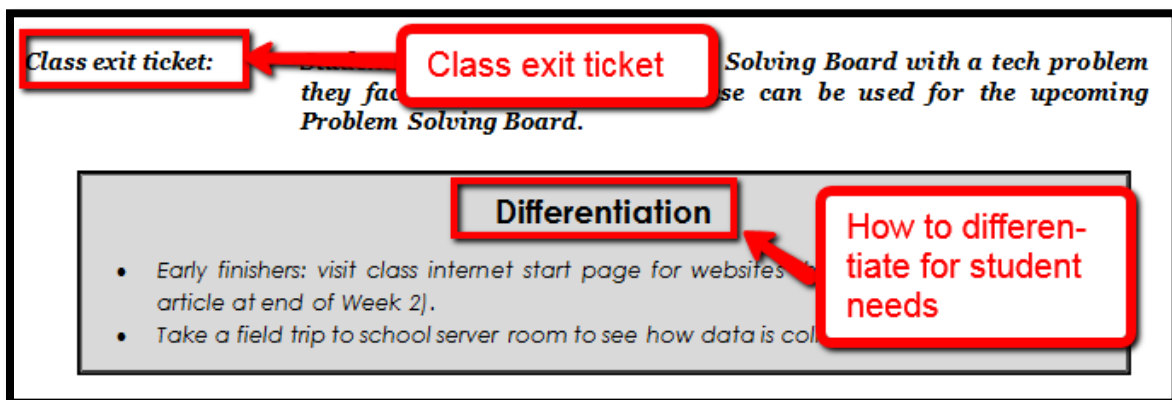
- *list of assessments and images*
- *articles that address tech pedagogy*
- *Certificate of Completion for students*
- *curriculum map of skills taught*
- *monthly homework (3rd-8th only)*
- *posters*
- *Scope and Sequence of skills taught*
- *step-by-step weekly lessons*

Each weekly lesson includes:

- *assessment strategies*
- *class warm-up and exit ticket*
- *Common Core and ISTE Standards*
- *differentiation strategies*
- *educational applications*
- *essential question and big idea*
- *examples, rubrics, images, printables*
- *materials/preparation required*
- *problem solving for lesson*
- *steps to accomplish goals*
- *time required to complete*
- *vocabulary used*

Throughout the text are online resources to extend lessons, enrich learning, and differentiate your teaching. Google the name to find it or visit the Ask a Tech Teacher resources pages for options. Figure 1a-b shows what's at the beginning and end of each lesson:

Figure 1a-b—What's included in each lesson



<p>Vocabulary</p> <ul style="list-style-type: none"> book trailer ebook embed <p>Academic Applications</p> <p>writing, videography, reading</p>	<p>Problem solving</p> <ul style="list-style-type: none"> I don't know how to use the book trailer tech tool, think you you've learned other things to do with the I can't embed screencast <p>Skills Required</p> <p>Problem solving, digital citizenship, keyboarding, exposure to video creation program</p>	<p>Homework</p> <p>Practice keyboarding</p> <p>Standards</p> <p>CCSS: W.1.1-1.2 NETS: 1b, 2b</p>
<p>Essential Question</p> <p>Ideas better at communicating some ideas?</p> <p>Big Idea</p> <p>A student presentation is enhanced by multimedia components</p> <p>Teacher Preparation/Materials Required</p> <ul style="list-style-type: none"> Have backchannel available. Have student workbooks available (if using). Have lesson materials online to preview. Ensure required links are on student digital devices In All 	<p>Assessment Strategies</p> <ul style="list-style-type: none"> Previewed required material; prepared book trailer Commented on classmate post Used good keyboarding habits Completed warm-up, exit ticket Higher order thinking: analysis, evaluation, synthesis Habits of mind observed 	<p>Assessment ideas</p> <p>How to prepare, including materials required</p>
<p>Time required:</p> <p>Class warm-up:</p>	<p>Steps</p>	<p>How long you need AND warm-up activity</p>

Annotations in the image include: PBL applications, Domain-specific vocabulary, Lesson-specific tech problems, Do this before class, What students should know, CCSS and ISTE, EQ and Big Idea, Assessment ideas, Step-by-step guidance, and How long you need AND warm-up activity.

Who Needs This Book

You are the Tech Specialist, Coordinator for Instructional Technology, IT Coordinator, Technology Facilitator or Director, Curriculum Specialist, or tech teacher—tasked with finding the right project for a classroom. You have a limited budget, less software, and the drive to do it right no matter roadblocks.

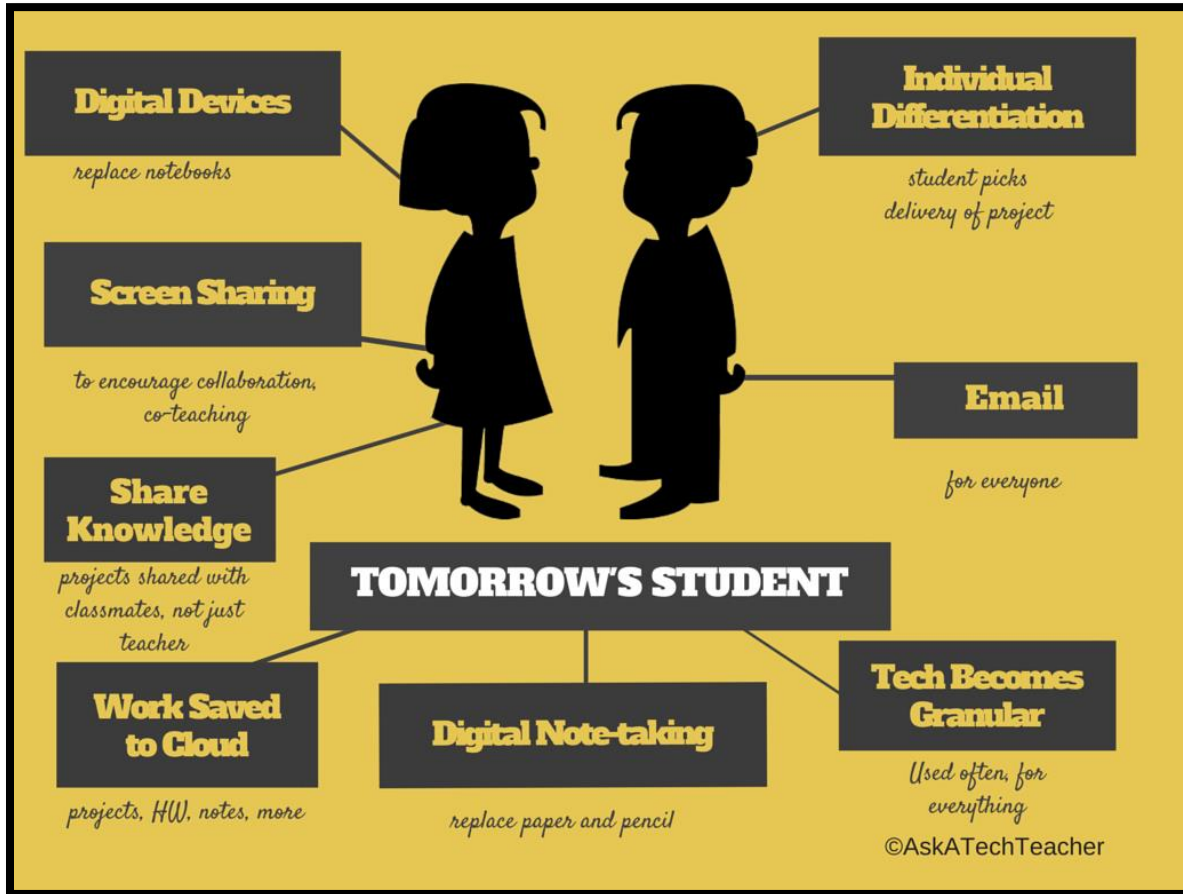
Or you are a grade-level teacher, a tech enthusiast with a goal this year—and this time you mean it—to integrate the wonders of technology into lessons. You've seen it work. Others in your PLN are doing it. And significantly, you want to comply with state/national requirements and/or IB guidelines that weave technology into the fabric of inquiry.



You are a homeschooler. Even though you're not comfortable with technology, you know your children must be. You are committed to providing the tools s/he needs to succeed. Just as important: Your child WANTS to learn with these tools!

How do you reach your goal? With this curriculum. Teaching children to strategically and safely use technology is vital to being a functional member of society—and should be part of every curriculum. If not you (the teacher), who will do this? To build **Tomorrow's Student** (Figure 2) requires integration of technology and learning. We show you how.

Figure 2—Tomorrow's student



How to Use This Book

You can use this curriculum on its own—as a teacher manual—or in conjunction with the companion student workbooks (sold separately through Structured Learning). Contact Zeke at admin@structuredlearning.net for free start-up training.

If there is a skill students don't get, circle back on it, especially when you see it come up a second or third time through the course of the K-8 curricula. By the end of 8th grade, students have a well-rounded tech toolkit that serves their learning needs and prepares them for college and/or career.

7th Grade Technology Curriculum: Teacher Manual

The curriculum map (Figure 3) shows what's covered in which grade. Units taught multiple years reflect increasingly less scaffolding and more student direction. Here's how to use it:

- Determine what skills were covered earlier years. Expect students to transfer that knowledge to this new school year. Review the topics and skills, but don't expect to teach.
- For skills covered prior years, confirm that was done. If not (for whatever reason), when you reach lessons that require the skills, plan extra time.

Figure 3—Curriculum Map—K-8

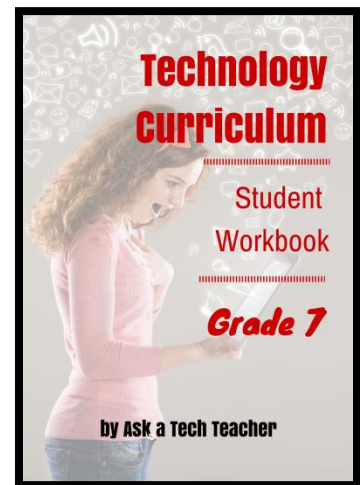
	Mouse Skills	Vocabulary - Hardware	Problem-solving	Platform	Keyboard	WP	Slide-shows	DTP	Spread-sheet	Google Earth	Search/ Research	Graphics/	Co-ding	WWW	Games	Dig Cit
K	☺	☺	☺	☺	☺					☺		☺	☺	☺		☺
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2		☺	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺		☺
3		☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺
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5		☺	☺		☺	☺		☺	☺	☺	☺	☺	☺	☺		☺
6		☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺
7		☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
8		☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺

Here are hints on using this curriculum:

- This curriculum uses the 'flipped classroom' approach. Homework prepares students for the class lesson so class time is spent on enrichment. Homework materials can be shared via the class website, blog, wiki, class internet start page, and/or videos. The last can be done via 10-15 minute informal videos providing an overview, your expectations, and where to find resources. Prepare your video with the free Screencast-o-matic or an inexpensive recording program of your choice and then upload to YouTube/Vimeo/TeacherTube. You can find options on Ask a Tech Teacher's resource pages under 'Screenshots/Screencasts'.
- A number of lessons are mixed throughout the year:

- #3 Keyboarding
- #4 Problem Solving
- #5 Digital Citizenship






Figure 1--Student workbook



- 'Academic Applications' provide suggestions on how to blend lessons into your curriculum.
- Invest in student digital workbooks (sold separately through Structured Learning LLC), a student-centric companion to the teacher guide. Here are reasons why:

7th Grade Technology Curriculum: Teacher Manual

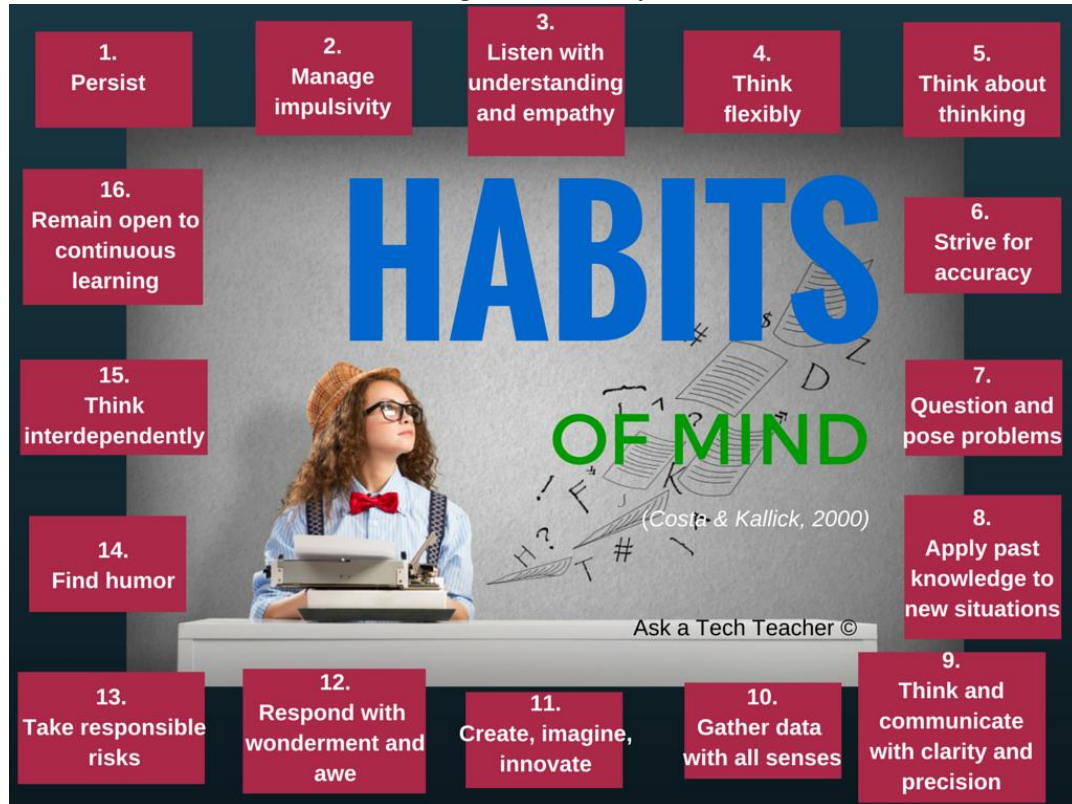
- *Full-color projects at student fingertips with examples and directions (licensing varies based on plan).*
- *Workbooks can be annotated.*
- *Students work at their own pace.*
- Units focus on strategies useful throughout a student's learning day. Collaborate with grade-level teachers on cross-curricular planners that involve technology.
- Most lessons start with a warm-up to get students into tech and you to finish a prior class.
- 'Teacher Preparation' often includes chatting with the grade-level team. Why?
 - *tie tech into their inquiry*
 - *offer websites for early-finishers that address their topics*
- Some lessons offer several activities that meet goals outlined in the Essential Question and Big Idea. Pick what works best for your student group.
- Check off completed items on the line preceding the step so you know what to get back to when you have time. If you have the ebook, use Acrobat, Kami, iAnnotate, Notability or another annotation tool that works for your devices.
- Look for these icons to guide teaching:

-  indicates video
-  indicates work with a partner
-  indicates an article
-  indicates a poster (in Appendix)
-  indicates workbook material

- Use as much technology as possible in your class. Encourage students to do the same whether it's a smartphone timing a quiz, a video of activities posted to the class website, or an audio file with student input. If you treat tech as a tool in daily activities, so will students.
- Always use lesson vocabulary. Students gain authentic understanding by your example.
- Expect students to direct their own learning. You are a 'guide on the side', a facilitator not lecturer. Learning is accomplished by both success and failure.
- Expect students to be risk takers. Don't rush to solve their problems. Ask them to think how it was done in the past. Focus on problems listed in the lesson but embrace all that come your way. This scaffolds critical thinking and troubleshooting when you won't be there to help.
- Don't expect free time while students work. Move among them to provide assistance and observations on their keyboarding, problem-solving, and vocabulary decoding skills.

- Encourage student-directed differentiation. If the Big Idea and Essential Question can be accommodated in other ways, embrace those.
- If you have the digital book, zoom in on posters, rubrics, lessons to enlarge as needed.
- Lessons expect students to develop 'habits of mind' (Figure 5). Read more about Art Costa and Bena Kallick's discussion of these principles in the article at the end of Lesson #1. In a sentence: Habits of Mind ask students to engage in learning, not simply memorize.

Figure 5—Habits of Mind



- Every effort has been made to accommodate varied digital devices. Project samples are often on multiple platforms. If the activity is impossible on your digital device (i.e., iPads don't have mouses; software doesn't run in Chromebooks), focus on the **Big Idea and Essential Question**—the skill taught and its application to inquiry. Adapt instructions as you follow steps.

More Help

Need more help? Visit the companion website, Ask a Tech Teacher®, run by teachers using the curriculum. Here, you'll find:

- *free lesson plans*
- *targeted websites*
- *free tech tips and weekly newsletters*
- *free training videos on tools used in lesson plans*
- *great apps to include on iPads, digital devices*

Finally, here are useful pieces to extend this curriculum, available at Structured Learning LLC:

- *Student workbooks—(sold separately) allow students to be self-paced*
- *Digital Citizenship curriculum— if this is a focus (sold through Structured Learning LLC)*
- *Keyboarding Curriculum— if this is a focus (sold through Structured Learning LLC)*

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About the Authors

Ask a Tech Teacher is a group of technology teachers who run an award-winning resource blog. Here they provide free materials, advice, lesson plans, pedagogical conversation, website reviews, and more to all who drop by. The free newsletters and articles help thousands of teachers, homeschoolers, and those serious about finding the best way to maneuver the minefields of technology in education.

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Arranged by theme:

Basics

#1	<i>Introduction</i>
#2	<i>Digital Tools in Class</i>
#3	<i>Keyboarding</i>
#6	<i>Word Processing Options</i>
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Logical Thinking

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Problem Solving

#4	<i>Problem solving</i>
#17-20	<i>Coding/Programming</i>
#21	<i>Gamification of Education</i>
#25-28	<i>Differentiated Learning</i>

Articles

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GRADE 6-8 TECHNOLOGY SCOPE AND SEQUENCE

Aligned with ISTE (International Society for Technology in Education) and Common Core State Standards

Check each skill off with I (Introduced), W (Working on), or M (Mastered)

Organized by ISTE Standards 1-7

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Lesson #2 Digital Tools in Class

Vocabulary	Problem solving	Homework
<ul style="list-style-type: none"> Annotation App Backchannel Benchmark Blog Cloud Digital portfolio Digital tools Domain-specific Hashtag Linkback PDF Plagiarism Template 	<ul style="list-style-type: none"> <i>I'm too young for Twitter (class account)</i> <i>Avatar didn't show in my blog (ask a neighbor how they did it)</i> <i>My work disappeared (Google Apps automatically saves; or, Ctrl+Z)</i> <i>Teacher isn't around and I need help (ask for peer support, or use student forum)</i> <i>Just give me a handout (Sorry, we learn through experience and collaboration)</i> <i>Can't find annotation tool (ask friend)</i> <i>I'm not fast enough decoding vocabulary (keep at it—it gets easier)</i> <i>I forgot my Evidence (you'll have a chance every month)</i> 	<p style="text-align: center;"><i>Preview tech tools. Know how to log in from home/school (if appropriate)</i></p> <p style="text-align: center;"><i>Prepare for hardware quiz</i></p> <p style="text-align: center;"><i>Practice keyboarding for 45minutes, 15 minutes at a time</i></p>
<p><u>Academic Applications</u> Writing, research, publishing, online safety</p>	<p><u>Required skills</u> blogging, digital notetaking, PDFs, hardware, avatars, email, problem solving, digital citizenship, keyboarding</p>	<p><u>Standards</u> CCSS: WHST.6-8.7-9 NETS: 1b, 4b</p>

Essential Question

How do I use technology to pursue my education?

Big Idea

Students become aware of how tech enhances educational goals

Teacher Preparation/Materials Required

- Have lesson materials online to preview upcoming unit.
- Have Internet start page prepared (if using).
- Have back channel available.
- Have copies (if required) of hardware assessment.
- Have student accounts for digital tools.
- Have Evidence Board and badges prepared.
- Post links to training videos on digital tools (if using)
- Have copies of blogging agreement (if necessary).
- Integrate domain-specific tech vocabulary into lesson.
- Know whether you need extra time to complete lesson.
- Know which tasks weren't completed last week and whether they are necessary to move forward.
- Something happen you weren't prepared for? Show students how you fix the emergency without a meltdown and with a positive attitude.

Assessment Strategies

- Previewed required material; came to class prepared*
- Annotated workbook (if using)*
- Completed warm-up, exit ticket*
- Joined classroom conversations*
- [tried to] solve own problems*
- Decisions followed class rules*
- Left room as s/he found it*
- Higher order thinking: analysis, evaluation, synthesis*
- Habits of mind observed*

Steps

Time required: 90 minutes; 10 minutes set aside for hardware quiz
Class warm-up: Test digital tool accounts while waiting for class to start

Homework listed on this lesson will be assigned the week before starting this unit—so students are prepared for the flipped classroom.

Any questions from preparatory homework? Expect students to review upcoming unit and come to class with questions.

Discuss results of interest poll (Exit Ticket from *Lesson #1*).

Discuss digital tools in general terms. What are they? How are they different from software and/or apps? Which ones have students used? Why have they become mainstays in education? See if students come up with ideas such as:



- to facilitate collaborative work
- to enable students easily publish and share a project with classmates
- to make communication with multiple audiences easier
- to enable use of a wide variety of media and formats
- to encourage cultural understanding and global awareness
- to provide options (for example: for communication—email, forums, blogs)
- to provide access from anywhere with an internet connection

This *Digital Tools* unit has three expected learning outcomes:

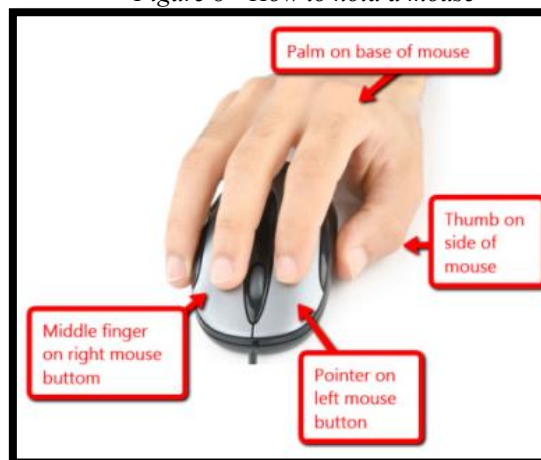
- introduce digital tools used in 7th grade
- acclimate students to the concept that tech tools enable differentiation, collaboration, sharing, and publishing
- show how to employ them in student educational endeavors

Discuss digital citizenship in broad strokes. Remind students of rights and responsibilities inherent to the digital community. You focus on it in another lesson and return to it every time students use internet.

Before reviewing digital tools to be used during this class, have neighbor's check each other's mouse hold (see *Figure 8*):



Figure 8—How to hold a mouse



Review your school’s digital device. Students should know the basic parts and whether they’re input or output. *Figures 9a-d* are assessments at the end of this Lesson. These can be filled out in student workbooks or as formative assessments during classtime. *Figures 10a-b* are sample completed worksheets by students.

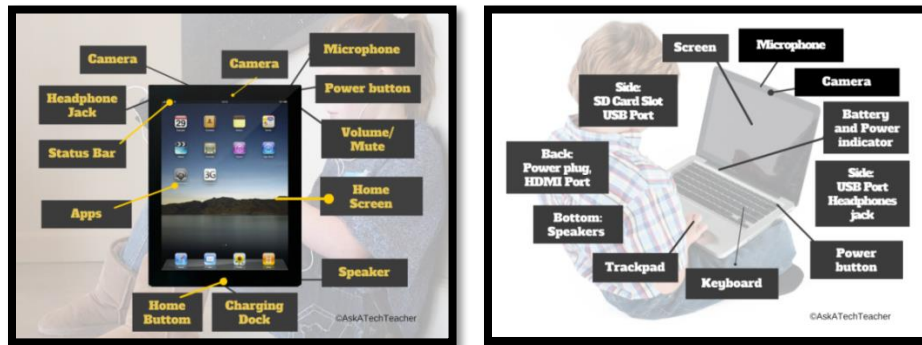


Figure 9a-d—Digital devices and their parts



If necessary, review with students. For example, if you use iPads, ask where the headphones are on this device? Or the mouse? How about the USB Port? Ask students where the iPad microphone is on, say, the PC or Chromebook. How about the charging dock?

Figure 10a—Parts of iPad; 10b—Chromebook



Discuss how understanding hardware helps to solve tech problems.

The following tools are discussed in this Lesson. Pick those that your students use and add others you have:

- *annotation tool*
- *avatars*
- *backchannel devices*
- *blogs*
- *class calendar*
- *class Internet start page*
- *class Twitter account*
- *class website*
- *digital notetaking*
- *digital portfolios*
- *dropbox*
- *email*
- *Evidence Board*
- *Flipped classroom*
- *Google Apps*
- *Journaling*
- *screenshots and screencasts*
- *student websites*
- *student workbooks*
- *vocabulary decoding tools*

Adapt them to your digital devices (Chromebooks, PCs, iMac, iPads, or other).

Student workbooks



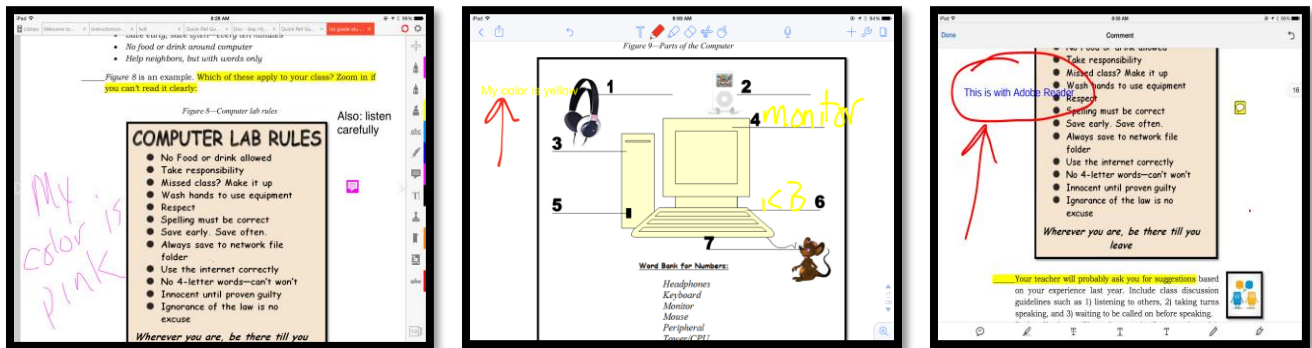
_____ If using the PDF student workbooks that go along with this curriculum, introduce them now. Show how they open in the digital device, how to access links, find rubrics and project samples, and take notes using the annotation tool. Students access links within the PDF, see full-color images, circle back to review concepts or forward to preview upcoming lessons.

Annotation Tool and Screenshots



_____ If using student workbooks, show students how to annotate their copy with the notetaking tool used in your school such as iAnnotate (Figure 11a), Notability (Figure 11b), or Adobe Acrobat (free—Figure 11c).

Figure 11a—iAnnotate; 11b—Notability; 11c—Adobe Acrobat



_____ If students share the PDF (for example, it's loaded on a digital device that multiple students use), show how to select their own color that's different from other students.

_____ Include a discussion of screenshots. Often, students will annotate a page (say, a rubric) and then save a screenshot of it to their digital portfolio. Depending upon your digital device, you'll use a screenshot tool like one of these:

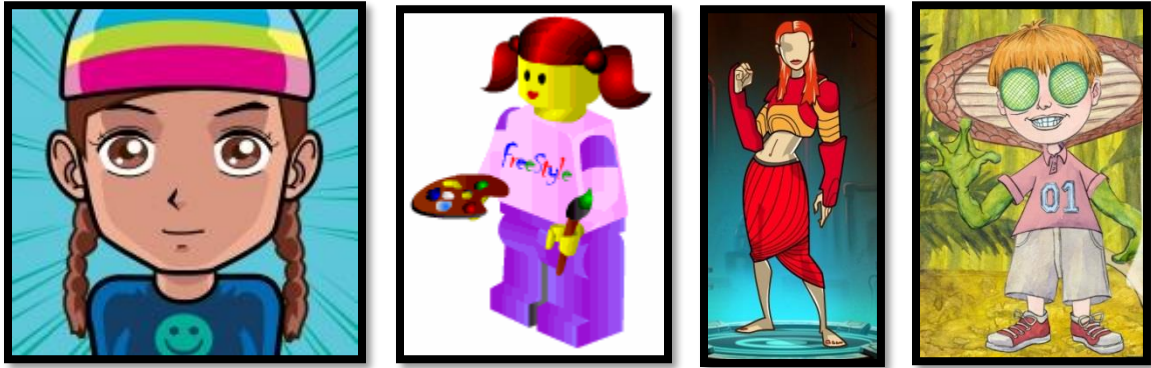
- **Windows:** the Snipping Tool
- **Chromebook:** hold down the control key and press the window switcher key
- **Mac:** Command Shift 3 to do a full screenshot and Command Shift 4 for a partial
- **Surface tablet:** hold down volume and Windows button at the same time
- **iPad:** hold Home button and power button at same time
- **Online:** a screenshot tool

Avatars

_____ Students can create a profile picture with an avatar creator like (Google for address, or use one from Ask a Tech Teacher resource pages—Figures 12a-d are examples):

- *Pickaface*
- *Storyboard That!*
- *Pixton*
- *Voki yourself*

Figure 12a-d—Avatars



_____ These can be used in student wikis, websites, or any digital platform that requires a profile picture. Use them to reinforce a discussion of digital privacy and safety.

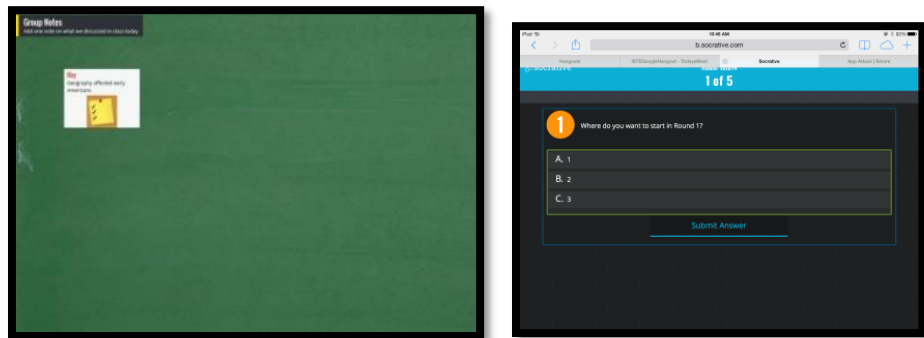
Backchannel Devices

_____ The ‘backchannel’ is classroom communication that isn’t from the presenter. ‘Backchannel devices’ encourage students to share their thoughts and ideas, even questions, while a lesson is going on. Typically, the comments show up on the class screen, shared with all classmates, likely anonymously. Students read and respond. Teacher uses them to be informed when students get/don’t get a topic s/he is covering.

_____ Popular backchannel options are:

- *Google Docs*
- *Padlet – a virtual wall; Figure 13a*
- *X/Twitter – a virtual stream organized by hashtags; private or public*

Figure 13a-b—Backchannel devices



_____ Why use backchannels? Here are a few reasons:

- *you know what engages students and extend those ideas*
- *you hear from shy students who need a classroom voice*
- *gregarious students can ask as much as they want without dominating class*

_____ Introduce to students, demo, and test on this lesson. Student feedback will inform whether you teach all or some of the digital tools.

Blogs

_____ Blogs are short online articles with the purpose of sharing ideas and garnering feedback. In 7th grade, you are particularly interested in the facility to:

- *engage effectively in collaborative discussions with diverse partners*
- *build on others' ideas*
- *express their own ideas clearly*

_____ Review the article at lesson end on ***“13 Ways Blogs Teach Common Core”***.

_____ *Figures 14a-c* are examples of student blogs. Notice how posts incorporate text and screenshots:



Figure 14a-c—Student blogs



_____ Student blogs teach writing skills, how to use evidence to support arguments (in both posts and comments), and perspective-taking. They are student-directed, but you approve both posts and comments until students get used to the rules that apply to online conversations.

_____ Blogs reflect student personalities with colors, fonts, widgets. What students include will help you better understand how they learn and how to reach them academically.

_____ In general, student blogs require:

- *titles that pull reader in*
- *tone/voice that fits this type of writing and intended audience*
- *linkback(s) to evidence that supports statements*
- *at least one media to support each article (picture, video, sound)*
- *understanding of target audience*
- *understanding of purpose--how is it different from tweets? Essays? Poetry?*
- *citations--authors name, permission, linkbacks, copyright where required*
- *occasional teamwork*
- *pithy content*
- *correct spelling and grammar with no slang*

_____ Before beginning, students sign an agreement similar to *Seventh Grade Blogging Rules* (Figure 15a—full size at the end of the lesson). Ask them to discuss the agreement with parents and bring it to school before the next class. If you're using workbooks, students can sign the copy in there, take a screenshot, and email that to you.



Figure 15a—Blogging rules; 15b—blogging rubric

Seventh Grade Blogging Rules
(adapted from [Academy of Discovery wiki](#))

1. I will not give out any information more personal than my first name
2. I will not plagiarize; instead I will expand on others' ideas and give credit where it is due.
3. I will use language appropriate for school.
4. I will always respect my fellow students and their writing.
5. I will only post pieces that I am comfortable with everyone seeing.
6. I will use constructive/productive/purposeful criticism, supporting any idea, comment, or critique I have with evidence.
7. I will take blogging seriously, posting only comments and ideas that are meaningful and that contribute to the overall conversation.
8. I will take my time when I write, using formal language (not text lingo), and I will try to spell everything correctly.
9. I will not bully others in my blog posts or in my comments.
10. I will only post comments on posts that I have fully read, rather than just skimmed.
11. I will not reveal anyone else's identity in my comments or posts.

Any infraction of the Blogging Rules may result in loss of blogging privileges and an alternative assignment will be required.

CRITERIA	Exemplary	Proficient	Partially	Incomplete	POINTS
Relevance of Content to Students and Parents	2 points • Content has useful information. • Content is clear, concise. Points readers use to date resources. • Blog is updated frequently.	4 points • Content points readers to quality resources; informative. • Resources are clearly described so readers can navigate easily.	2 points • Content points to unrelated information. • Resources are not clearly described so readers cannot navigate easily.	0 points • Resources pointed to are inaccurate, misleading or inappropriate. • Annotations are missing, do not describe what is found.	
Use of Media	4 points • Media enhance content and interest. • Creatively enhances content.	2 points • Most media enhance content. • Most flex show creativity.	2 points • Some media don't enhance content. • Some use of creativity is evident to enhance content.	0 points • Media are inappropriate or detract from content.	
Fair Use Guidelines	4 points Fair use guidelines are followed with proper citations.	2 points Fair use guidelines are frequently followed; most material is cited.	2 points Sometimes fair use guidelines are followed with some citations.	0 points Fair use guidelines are not followed. Material is improperly cited.	
Links	3 points All links are active and functioning.	2 points Most links are active.	1 point Some links are not active.	0 points Many links are not active.	
Layout and Text Elements	3 points • Fonts are easy-to-read. • Use of bullets, italics, bold, enhances readability. • Consistent format throughout.	2 points • Some minor font size, bullets, italics, bold, detract from readability. • Minor formatting inconsistencies exist.	1 point • Text is difficult to read due to formatting.	0 points • Text is difficult to read with misuse of fonts, size, bullets, italics, bold. • Many formatting tools are misused.	
Writing Mechanics	3 points No grammar, capitalization, punctuation, spelling errors.	2 points Few grammar, capitalization, punctuation, and spelling errors.	1 point 4+ errors in grammar, capitalization, punctuation, and spelling.	0 points More than 4 grammar/spelling/punctuation errors.	
TOTAL POINTS					6/36

_____ Students can create blogs in Edublogs, Class Blogmeister, Blogger (Google for addresses; Blogger comes with Google Apps). They can be public or private.

_____ Discuss blogging netiquette—similar to email etiquette:

- *be polite*
- *use good grammar and spelling*
- *don't write anything everyone shouldn't read (school blogs are private, but get students used to the oxymoron of privacy and the Internet)*

_____ Remind students to practice good keyboarding as they type the entry.

_____ Once a month, have students post an article that discusses an inquiry topic. Additionally, students should visit and comment on five classmate blogs.

_____ Student comments aren't always appropriate? Set account so you approve comments before they're live. And, chat about how supportive comments contribute to the conversation.

_____ Occasionally throughout the year, use the Student Blogs Rubric (Figure 15b—full-size assessment at the end of the lesson) to assess student progress.

Class Calendar

_____ Class calendars can be through Google Apps or another tool that works for your student group. Show students how to access it and how it's updated to reflect class activities.

_____ If students will be editing, demonstrate how to do this by adding upcoming homework.

_____ Encourage students to contribute responsibly to class calendar.

_____ If using Google Apps, students can embed calendar into blogs, websites, and/or wiki pages.

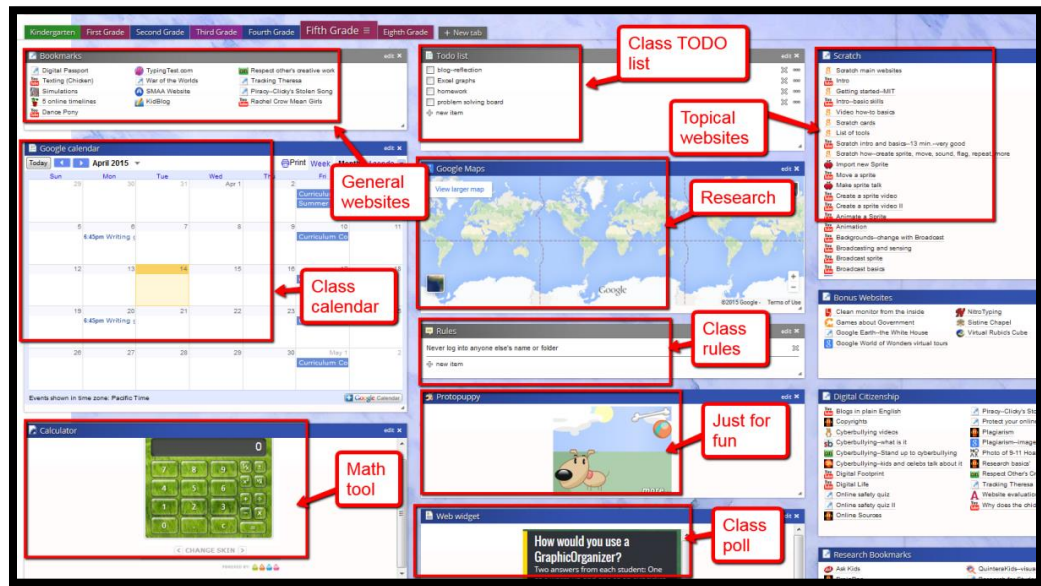
Class Internet Start Page

_____ A class Internet start page is a website that comes up when the student opens the Internet. It organizes critical content in a single location and curates links students will use.

_____ Include what students visit daily (i.e., guidelines, calendar, 'to do' list, typing websites, research locations, sponge sites, calculator) as well as information specific to current project.

_____ Mine (Figure 16) also includes pictures of interest, RSS feeds, weather, a graffiti wall, and class pet. Yours will be different.

Figure 16—Class Internet start page



Use Protopage.com (Figure 16), Ighome, or a collection site like Symbaloo (Figure 17a), Portaportal (Figure 17b), LiveBinders (Figure 17c), class Diigo account, or class Evernote account (Google names for address).

Figure 17a—Class start page in Symbaloo; 17b—Portaportal; 17c—LiveBinders



Remind students that any time they visit the Internet, they do so safely and legally. This will be discussed in depth in another lesson.

See article at the end of this lesson, **Class Internet Start Page**.



Class X/Twitter account

Twitter is a natural in the 7th-grade classroom (but not student accounts—they must be 13+ to use Twitter). It is hip. Students want to check their stream to see what’s up. Because tweets must be concise, they are an excellent way to teach writing.

Like blogs and wikis, Twitter feeds are used to:

- engage collaboratively with diverse partners
- review key ideas
- present findings with descriptions, facts, and details



- Pose questions that elicit elaboration
- acknowledge information from others

_____ Set up a private class twitter account for announcements, group questions, discussions, and collaboration. Use #hashtags to organize themes like #homework, #class, #questions, and whatever works for your student group.

_____ Most blog and website activity can also be tweeted, so it's a great redundancy for getting news where it needs to go.

Class website

_____ Class websites serve as a general resource collection for class information.

_____ Create this using the same tool that students will use for their student blog or website.

Digital Notetaking

_____ Why take notes (from Common Core):

- determine central ideas
- provide an accurate summary
- identify key steps
- cite text evidence to support analysis
- analyze structure used to organize text
- analyze author's purpose

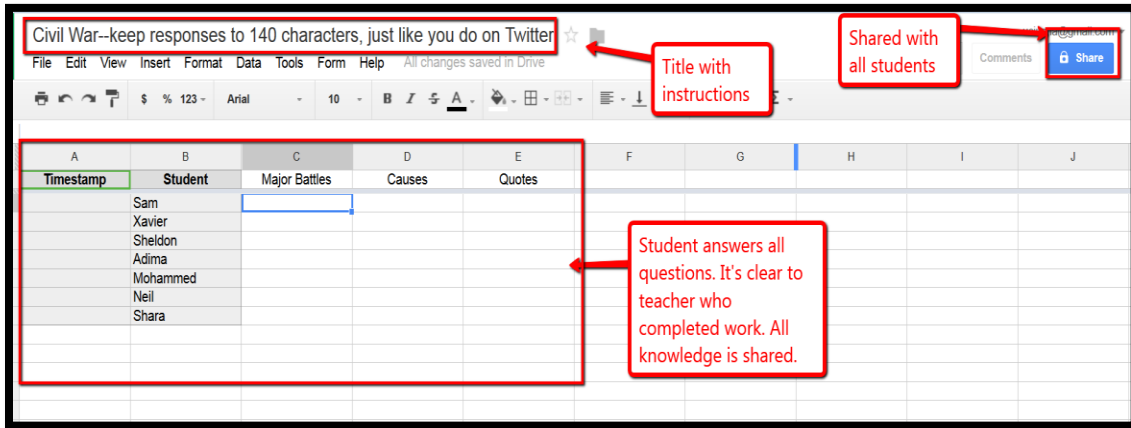
_____ Here are five digital notetaking methods for students:

Figure 18a-b—Notetaking tools—word processing and Notability



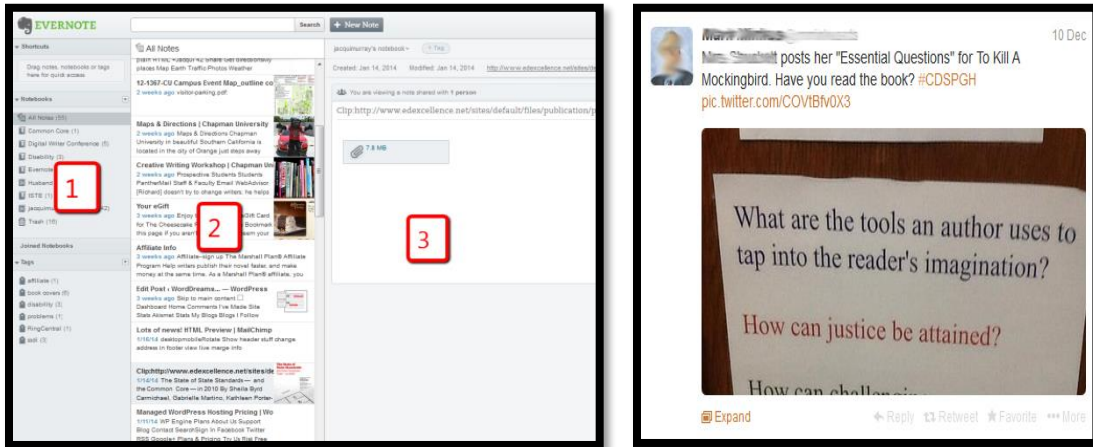
- *Word processing program (for any digital device) – Figure 18a*
- *Notability (for iPads) – Figure 18b*
- *Google Apps – (for any digital device) – Figure 19*

Figure 19—Collaborative notes in Google Spreadsheets



- *Evernote/OneNote (for most digital devices) – Figure 20a*
- *Twitter (for most digital devices) – Figure 20b*

Figure 20a—Evernote; 20b—Twitter



Digital portfolios

_____ Discuss how students use Digital Portfolios (also known as digital lockers or digital binders):

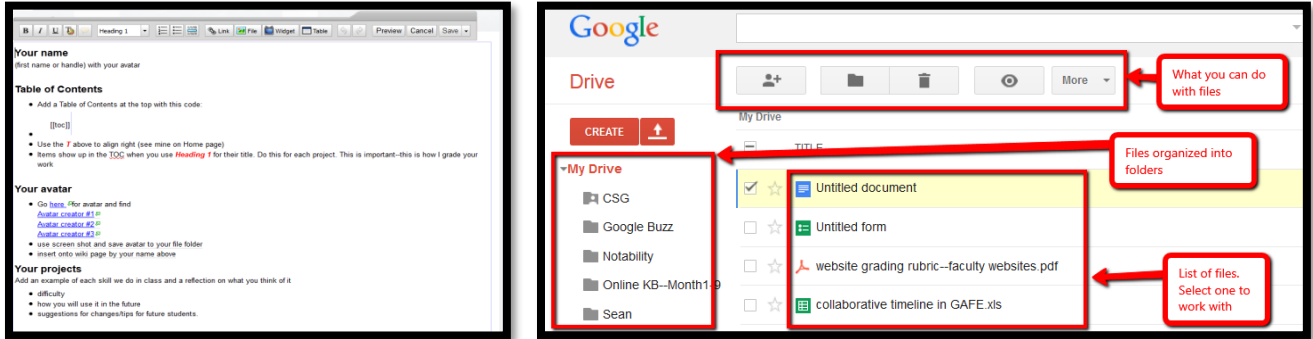
- *store work (in Cloud) required in other classes or at home*
- *interact, collaborate, and publish with peers, experts, or others*
- *edit or review work in multiple locations*
- *submit class assignments*

_____ There are a variety of approaches to digital portfolios that satisfy some or all of the above uses:
 1) folders on school network, 2) fee-based programs from companies such as Richer Picture, 3)

cloud-based storage like Dropbox or Google Apps (*Figure 21b*), and 4) online collaborative sites (Google for address).

Occasionally, use the *Assessment* at the end of this lesson to review student progress.

Figure 21a—Wiki; 21b—Google Drive



Drop-box

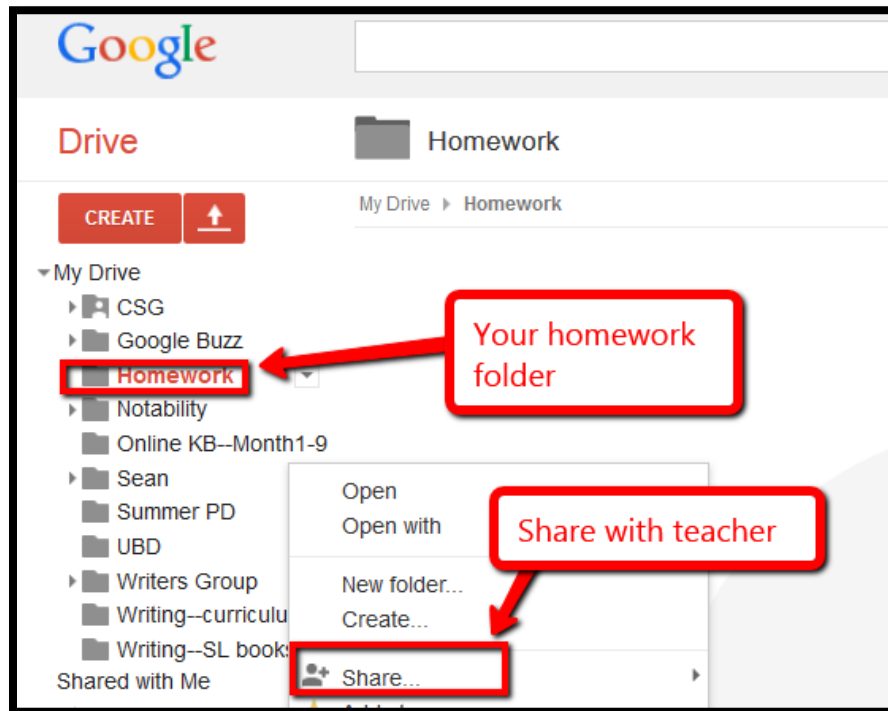
_____ If your school has this option, review it with students. If you don't, show students how they will be expected to submit classwork and homework.

_____ An assignment dropbox can be created through the school Learning Management System (LMS), email, Google Apps (through 'share' function) or even a Discussion Board.

_____ If you have Google Apps, create a Homework dropbox like *Figure 22*:

- Each student creates a folder called 'Homework' that is shared with you.
- To submit work to you, copy it to that folder so you can view and comment.

Figure 22—Homework dropbox

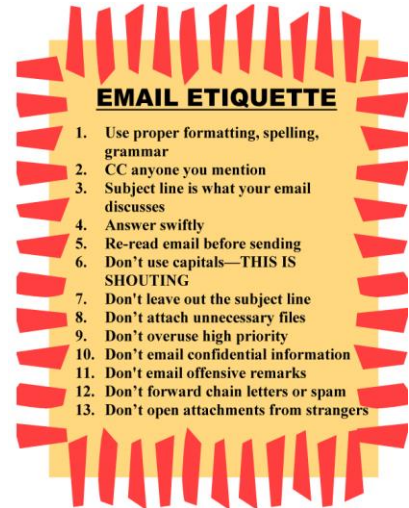


Email

- _____ Use web-based account such as Gmail (comes with GSuite).
- _____ Review email etiquette (*Figure 23*—full-size poster in Appendix):

- *Use proper writing conventions.*
- *CC anyone mentioned.*
- *Make ‘Subject line’ topic of email.*
- *Answer swiftly.*
- *Re-read before sending.*
- *Don’t use all caps—THIS IS SHOUTING.*
- *Don’t attach unnecessary files.*
- *Don’t overuse high priority.*
- *Don’t email confidential information.*
- *Don’t email offensive remarks.*
- *Don’t forward chain letters or spam.*
- *Don’t open attachments from strangers.*

Figure 2--Email Etiquette



- _____ If you use GSuites (with Gmail activated), review email. Show how to control settings so students don’t get spam.

- _____ Clarify terms like ‘high priority’, ‘chain letters’, and ‘CC’.

- _____ Let students (and parents) know that the email program they use at home may not match the instructions you’ve provided. Ask parents to show students how to use the home-based email.

- _____ Why is correct grammar/spelling important in email and not so much with texting? Hint: Consider this Common Core standard: *Produce clear and coherent writing in which development, organization, and style are appropriate to task and audience.*



- _____ Email addresses are often required for online tools.

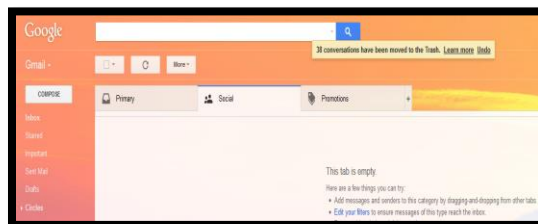
- _____ Discuss ‘spam’. What is it? Why is it sent? What should students do when spam shows up in their email?

- _____ Discuss how email can be used to back-up important documents (by emailing a copy to themselves or creating a draft email with doc attached and stored in ‘Draft’ file).

- _____ When students get an email, follow this checklist:

- *Do you know sender?*
- *Is email legitimate? For example, does the ‘voice’ sound like sender?*
- *Is sender asking for personal information? Legitimate sources never do.*
- *Is there an attachment? If so, don’t open it.*

Figure 24—Gmail sample



Evidence Board

- _____ The Evidence Board (*Figure 25a*) is a bulletin board that celebrates student transfer of knowledge from tech class to home, friends, or other educational endeavors.
- _____ About once a month, students share how they use tech skills outside of your class. They will make a ten-second presentation to class, fill out a badge (like *Figure 25b*), and post it on the Evidence Board by their class. By year end, you want this collection to encircle the classroom.

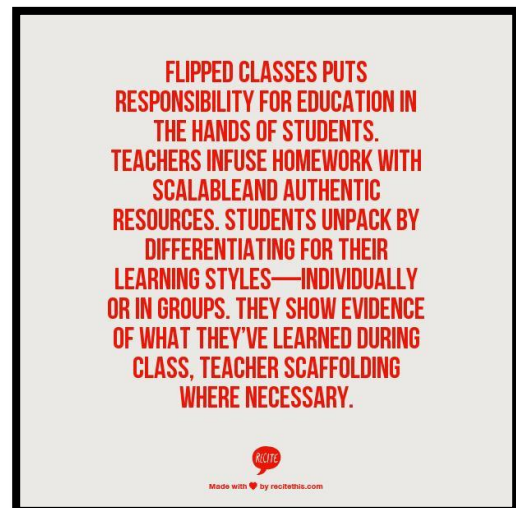
Figure 25a—Evidence Board; 25b—Badge



Flipped Classroom

- _____ What is a flipped classroom (see *Figure 26* and *Figure 27b*)? In the Flipped Classroom, teachers record their lectures for consumption by students outside of class, and then dedicate class time to project-based learning that supports the homework. This approach allows students to ask questions of their teacher or collaborate with peers as *they're doing the work*, rather than struggling with it at home and asking for help the next day.
- _____ Show students where they'll find their homework (probably on the class website or blog, or pushed out through Google Classroom) and model how they will complete it.
- _____ Likely, it will include several pieces:

Figure 3--What is a flipped classroom?



- *summary video prepared by you*
- *reading material from ebooks or online sources*
- *hands-on work such as keyboard practice*
- *preparatory steps required to participate in the classtime project*

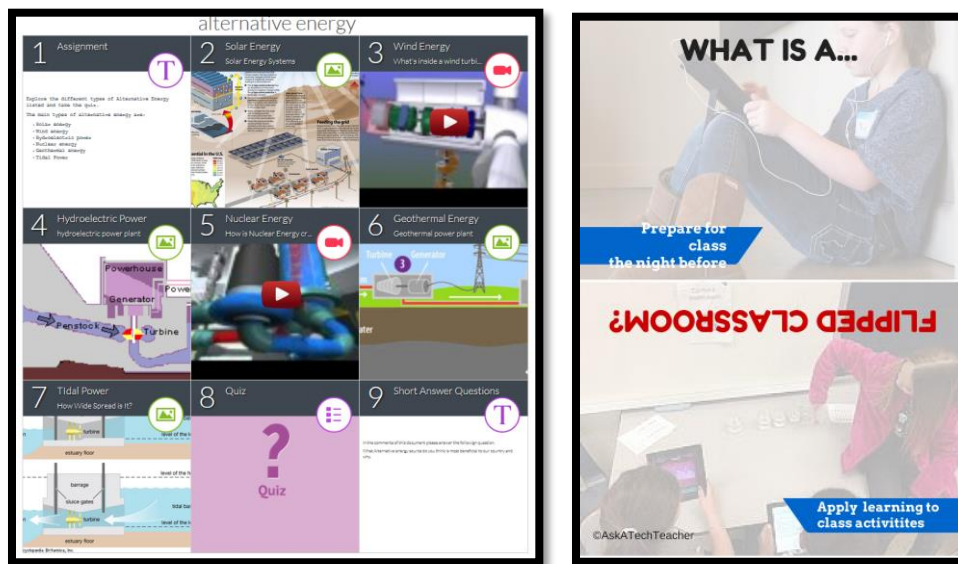
Tools you might use for the summary video include (search Google for websites):

- *YouTube channel*
- *Periscope*
- *Vialogues*
- *Touchcast*

Tools you might use to collect homework materials for students are:

- **Google Classroom**
- **Google Apps**

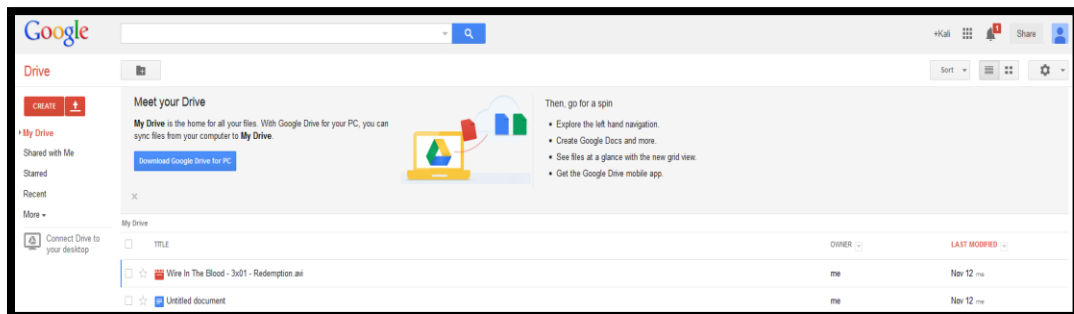
Figure 27a-b—Samples of homework assignment



Google Apps

To access Google Apps requires a Google account. *Figure 28* is an example of what the Google Drive might look like:

Figure 28—Google Apps



There are many resources available for teaching how to use Google Apps.

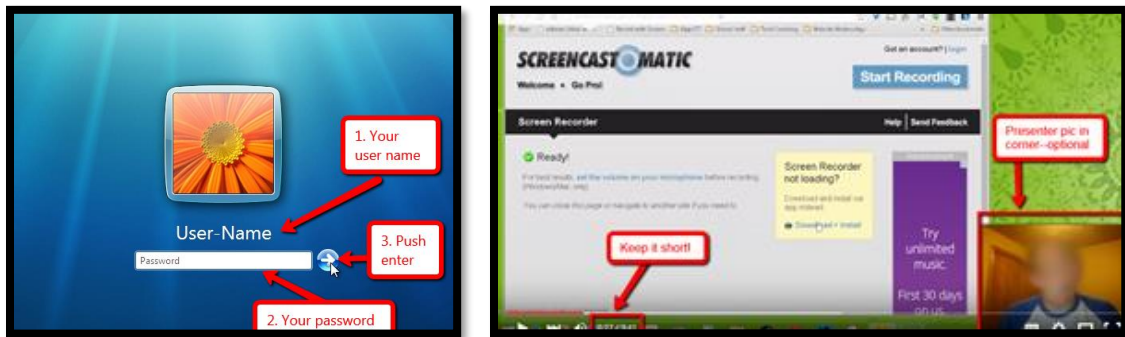
- _____ Give students time to explore Google Drive before moving on.
- _____ The most popular apps—and the ones students will use the most—are:

- *Google Docs—for word processing projects*
- *Google Slides—for slideshow presentations*
- *Google Spreadsheets—for the analysis of data using spreadsheets*
- *Google Draw—for visual representation of information*

Screenshots and Screencasts

- _____ Review detail under ‘Annotation and Screenshots’.
- _____ Students will use screenshot (still images) tools, apps, or add-ons (depending upon your digital device), as well as screencasts (videos) to record information from their screen. More on this in the lesson on *Screenshots and Screencasts*.

Figure 29a—Screenshot to explain log-in; 29b—screencast to explain the use of screencasts



Student website

- _____ Most teachers will select either blogs or websites for students, depending upon their goal:

- *Blogs are more interactive and time-sensitive.*
- *Websites more fully cover a topic and new posts don't push older out of the way.*

- _____ Like blogs, websites are a great way to encourage reflection, organization, logical thinking, and are a perfect place to embed sharable projects, i.e., Tagxedos and Animotos.

- _____ Websites are available with Google Apps. If your school doesn't have Google Apps, free websites can be created at Weebly, Wix, or blog accounts like WordPress (Google for addresses).

- _____ Websites should reflect student personalities with colors, fonts, and layout. In general:

- *website and article titles pull reader in*
- *articles review what readers can expect, provide evidence with supporting links, and include a summary of content*
- *tone/voice fits this type of writing and intended audience*
- *links connect to evidence and links work*
- *at least one media is provided to support each article (picture, video, sound)*
- *posts understand target audience. How are blogs different from essays?*

- *writing purpose is clear. How is that different from tweets? Essays? Poetry?*
- *citations are included as needed*
- *occasional teamwork is exhibited*

Occasionally (several times a grading period), assess websites based on the criteria in *Figure 30* (full-size assessment at end of lesson):

Figure 30—Student website rubric

Evaluation scale:					
Exemplary:		32-36 points			
Proficient:		28-31 points			
Partially Proficient or Incomplete:		< 28 points (resubmit)			
CRITERIA	Exemplary	Proficient	Partially	Incomplete	POINTS
Relevance of Content to Students and Parents	9 points • Content has useful information. • Content is clear, concise; points readers to up to date resources. • Content is updated frequently.	6 points • Content points readers to quality resources. Is informative. • Resources are clearly described so readers can navigate easily.	3 points • Content points to unrelated information. • Resources are not clearly described so readers cannot navigate easily.	0 points • Resources pointed to are inaccurate, misleading or inappropriate. • Annotations are missing, do not describe what is found.	
Use of Media	6 points • Media enhance content and interest. • Creativity enhances content.	4 points • Most media enhance content. • Most files show creativity.	2 points • Some media don't enhance content. • Some use of creativity is evident to enhance content.	0 points • Media are inappropriate or detract from content.	
Fair Use Guidelines	6 points Fair use guidelines are followed with proper citations.	4 points Fair use guidelines are frequently followed; most material is cited.	2 points Sometimes fair use guidelines are followed with some citations.	0 points Fair use guidelines are not followed. Material is improperly cited.	
Links	3 points All links are active and functioning.	2 points Most links are active.	1 point Some links are not active.	0 points Many links are not active.	
Layout and Text Elements	3 points • Fonts are easy-to-read. • Use of bullets, italics, bold, enhances readability. • Consistent format throughout.	2 points • Sometimes fonts, size, bullets, italics, bold, detract from readability. • Minor formatting inconsistencies exist.	1 point • Text is difficult to read due to formatting.	0 points • Text is difficult to read with misuse of fonts, size, bullets, italics, bold. • Many formatting tools are misused.	
Writing Mechanics	3 points No grammar, capitalization, punctuation, spelling errors.	2 points Few grammar, capitalization, punctuation, and spelling errors.	1 point 4+ errors in grammar, capitalization, punctuation, and spelling.	0 points More than 6 grammar/spelling/punctuation errors.	
TOTAL POINTS					/30

Vocabulary Decoding Tools

Show students how to access the native apps or webtools on their digital devices that can be used to decode vocabulary students don't understand. Depending upon the device, these will be on the homepage, the browser toolbar, a shortcut, or a right click. Show students how to quickly look up words from any of their classes rather than skipping over content that includes the word. Let them practice with several of the words in this lesson's *Vocabulary* list.

Options include:

- *right click on word in MS Word and select 'Look up'*
- *right click in Google Apps (i.e., Google Docs) and select 'research'*
- *use an online resource like Dictionary.com*
- *use a browser app or plug-in*

A note: Every chance you get, use technology to facilitate teaching. Lead by example. Students

will see you use tech quickly and facilely and follow your good example. They want to use tech. Don't discourage them!

Class exit ticket: ***Students send a well-constructed email, tweet, or comment to a classmate and reply to one they receive appropriately.***



Differentiation



- Explore inside computer.
- See article at end of Lesson on **Internet Start Pages**.
- For more Google Apps, try these:
 - *Maps: Explore, create and collaborate with mapping tools.*
 - *Scholar: Research and analyze sources from books, websites, other.*
 - *Tour Builder: Use Google Earth to create an online tour of anywhere in world.*
 - *Translate: Translate any text.*
 - *YouTube EDU: View educational content.*

"In theory, there is no difference between theory and practice. But, in practice, there is."

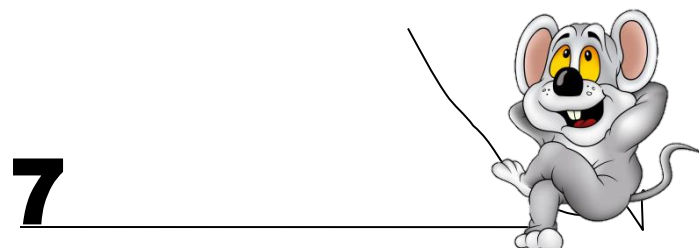
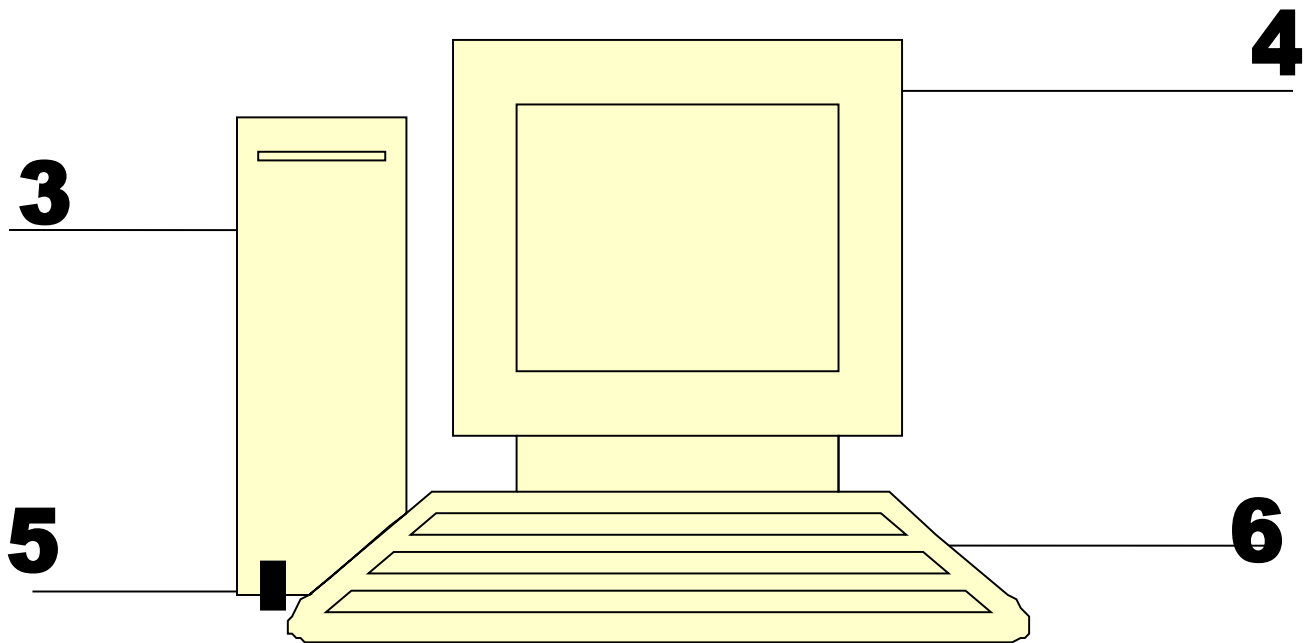
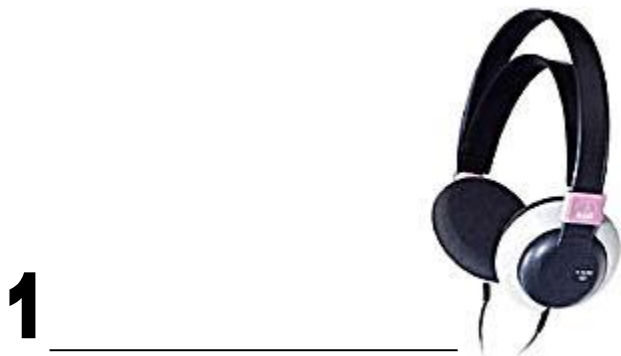
- Jan L.A. van de Snepscheut

Assessment 1—Parts of the computer

HARDWARE—PARTS OF THE COMPUTER

Student name: _____

Name each part of computer hardware system and whether it's *INPUT* or *OUTPUT*. Spelling must be correct to get credit

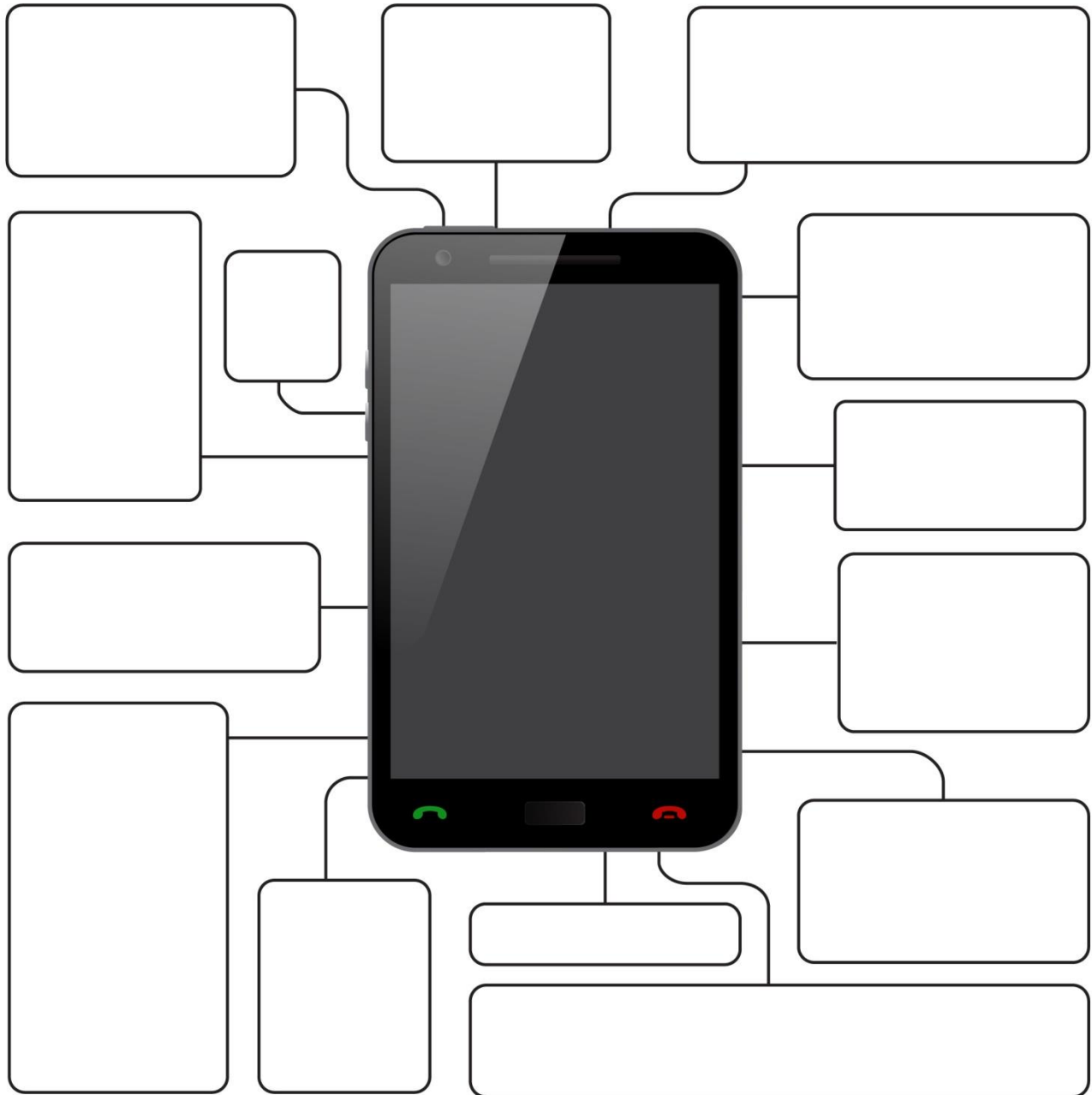


Assessment 2—Parts of the smartphone

HARDWARE—PARTS OF THE SMARTPHONE

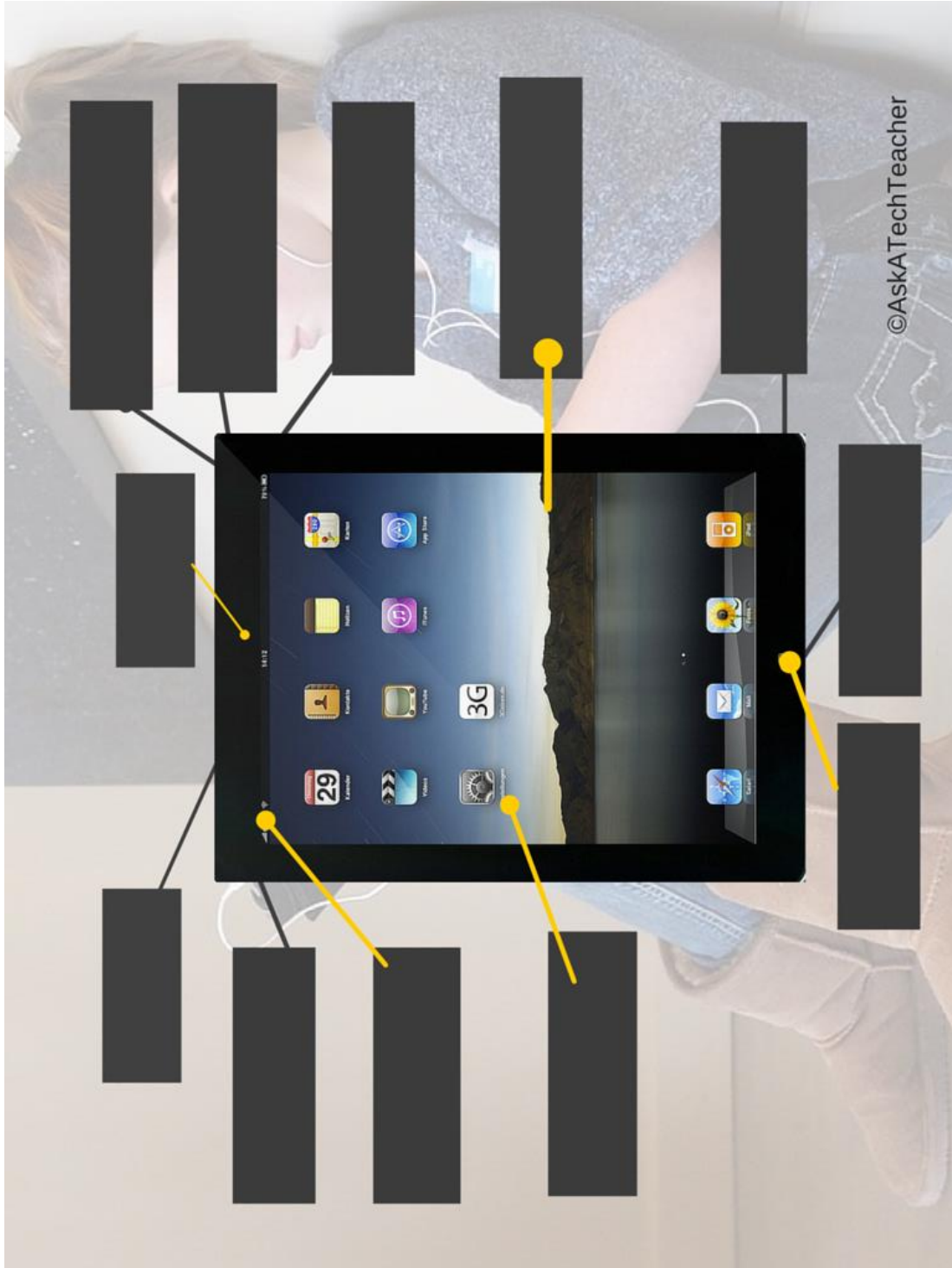


Adapt this to your needs



Assessment 3—Parts of an iPad

Parts of an iPad



Assessment 4—Chromebook parts

Parts of a Chromebook



©AskATechTeacher

Assessment 5—Student blogging agreement

Seventh Grade Blogging Rules

1. I will not give out any information more personal than my first name
2. I will not plagiarize; instead I will expand on others' ideas and give credit where it is due.
3. I will use language appropriate for school.
4. I will always respect my fellow students and their writing.
5. I will only post pieces that I am comfortable with everyone seeing.
6. I will use constructive/productive/purposeful criticism, supporting any idea, comment, or critique I have with evidence.
7. I will take blogging seriously, posting only comments and ideas that are meaningful and that contribute to the overall conversation.
8. I will take my time when I write, using formal language (not text lingo), and I will try to spell everything correctly.
9. I will not bully others in my blog posts or in my comments.
10. I will only post comments on posts that I have fully read, rather than just skimmed.
11. I will not reveal anyone else's identity in my comments or posts.

Any infraction of the Blogging Rules may result in loss of blogging privileges and an alternative assignment will be required.

Student Signature _____ Date _____

Assessment 6—Blog grading rubric

Student Blog Rubric

Adapted from University of Wisconsin-Stout

Evaluation scale:

Exemplary: 32-36 points
 Proficient: 28-31 points
 Partially Proficient or Incomplete: < 28 points (resubmit)

CRITERIA	Exemplary	Proficient	Partial	Incomplete	POINTS
Relevance of Content to Students and Parents	<p>9 points</p> <ul style="list-style-type: none"> Content has useful information Content is clear, concise; points readers to up to date resources. Blog is updated frequently 	<p>6 points</p> <ul style="list-style-type: none"> Content points readers to quality resources, is informative Resources are clearly described so readers can navigate easily 	<p>3 points</p> <ul style="list-style-type: none"> Content points to unrelated info. Resources are not clearly described so readers cannot navigate easily. 	<p>0 points</p> <ul style="list-style-type: none"> Resources pointed to are inaccurate, misleading or inappropriate Annotations are missing, do not describe what is found 	
Use of Media	<p>6 points</p> <ul style="list-style-type: none"> Media enhance content and interest. Creativity enhances content 	<p>4 points</p> <ul style="list-style-type: none"> Most media enhance content. Most files show creativity 	<p>2 points</p> <ul style="list-style-type: none"> Some don't enhance content. Some creativity enhances content. 	<p>0 points</p> <ul style="list-style-type: none"> Media are inappropriate or detract from content. 	
Fair Use Guidelines	<p>6 points</p> <p>Fair use guidelines are followed with proper citations.</p>	<p>4 points</p> <p>Fair use guidelines are frequently followed; most material is cited.</p>	<p>2 points</p> <p>Sometimes fair use guidelines are followed with some citations.</p>	<p>0 points</p> <p>Fair use guidelines are not followed. Material is improperly cited.</p>	
Links	<p>3 points</p> <p>All links are active and functioning.</p>	<p>2 points</p> <p>Most links are active</p>	<p>1 point</p> <p>Some links are not active.</p>	<p>0 points</p> <p>Many links are not active.</p>	
Layout and Text Elements	<p>3 points</p> <ul style="list-style-type: none"> Fonts are easy-to-read Use of bullets, italics, bold, enhances reading. Consistent format 	<p>2 points</p> <ul style="list-style-type: none"> Sometimes fonts, size, bullets, italics, bold, detract from readability. Minor formatting inconsistencies 	<p>1 point</p> <ul style="list-style-type: none"> Text is difficult to read due to formatting 	<p>0 points</p> <ul style="list-style-type: none"> Text is difficult to read with misuse of fonts, size, bullets, italics, bold Many formatting tools are misused 	
Writing Mechanics	<p>3 points</p> <p>No grammar, capitalization, punctuation, spelling errors</p>	<p>2 points</p> <p>Few grammar, capitalization, punctuation, and spelling errors</p>	<p>1 point</p> <p>4+ errors in grammar, caps, punctuation, and spelling</p>	<p>0 points</p> <p>More than 6 grammar/ spelling/ punctuation errors.</p>	
TOTAL POINTS					/30

Assessment 7—Website grading rubric

Student Website Rubric

Adapted from University of Wisconsin-Stout

Evaluation scale:

Exemplary: 32-36 points
 Proficient: 28-31 points
 Partially Proficient or Incomplete: < 28 points (resubmit)

CRITERIA	Exemplary	Proficient	Partially	Incomplete	POINTS
Relevance of Content to Students and Parents	<p>9 points</p> <ul style="list-style-type: none"> Content has useful information Content is clear, concise; points readers to up to date resources. Content is updated frequently 	<p>6 points</p> <ul style="list-style-type: none"> Content points readers to quality resources, is informative Resources are clearly described so readers can navigate easily 	<p>3 points</p> <ul style="list-style-type: none"> Content points to unrelated information. Resources are not clearly described so readers cannot navigate easily. 	<p>0 points</p> <ul style="list-style-type: none"> Resources pointed to are inaccurate, misleading or inappropriate Annotations are missing, do not describe what is found 	
Use of Media	<p>6 points</p> <ul style="list-style-type: none"> Media enhance content and interest. Creativity enhances content 	<p>4 points</p> <ul style="list-style-type: none"> Most media enhance content. Most files show creativity 	<p>2 points</p> <ul style="list-style-type: none"> Some media don't enhance content. Some creativity is evident. 	<p>0 points</p> <ul style="list-style-type: none"> Media are inappropriate or detract from content. 	
Fair Use Guidelines	<p>6 points</p> <p>Fair use guidelines are followed with proper citations.</p>	<p>4 points</p> <p>Fair use guidelines are frequently followed; most material is cited.</p>	<p>2 points</p> <p>Sometimes fair use is followed with some citations.</p>	<p>0 points</p> <p>Fair use guidelines not followed. Mat'l improperly cited.</p>	
Links	<p>3 points</p> <p>All links are active and functioning.</p>	<p>2 points</p> <p>Most links are active</p>	<p>1 point</p> <p>Some links are not active.</p>	<p>0 points</p> <p>Many links are not active.</p>	
Layout and Text Elements	<p>3 points</p> <ul style="list-style-type: none"> Fonts are easy-to-read Use of bullets, italics, bold, enhances reading. Consistent format throughout 	<p>2 points</p> <ul style="list-style-type: none"> Sometimes fonts, size, bullets, italics, bold, detract from readability. Minor formatting inconsistencies exist 	<p>1 point</p> <ul style="list-style-type: none"> Text is difficult to read due to formatting 	<p>0 points</p> <ul style="list-style-type: none"> Text is difficult to read with misuse of fonts, size, bullets, italics, bold Formatting tools misused 	
Writing Mechanics	<p>3 points</p> <p>No grammar, capitalization, punctuation, spelling errors</p>	<p>2 points</p> <p>Few grammar, capitalization, punctuation, and spelling errors</p>	<p>1 point</p> <p>4+ errors in grammar, capitalization, punctuation, and spelling</p>	<p>0 points</p> <p>More than 6 grammar/ spelling/ punctuation errors.</p>	
TOTAL POINTS					/30

Assessment 8—Digital portfolio rubric

Digital Portfolio Rubric

CATEGORY	Exemplary	Proficient	Developing	Unsatisfactory	RATING
Selection of Artifacts	All artifacts and work samples are clearly and directly related to the purpose of portfolio.	Most artifacts and work samples are related to the purpose of the digital portfolio.	Some of the artifacts and work samples are related to the purpose of the digital portfolio.	None of the artifacts and work samples is related to the purpose of portfolio.	
Reflections	All reflections clearly describe growth, achievement and accomplishments, and include goals for continued learning (long and short term).	Most reflections describe growth and include goals for continued learning. It is clear student put thought and consideration into writing.	A few of the reflections describe growth and include goals for continued learning. It is not clear student put thought into his/her writing.	None of the reflections describe growth and does not include goals for continued learning. It is clear student put little thought into these writings.	
Use of Multimedia	Photographs, graphics, audio and/or video files enhance concepts, ideas and relationships, create interest, and are appropriate for chosen purpose.	Most graphic elements and multimedia contribute to concepts, ideas and relationships, enhance the written material and create interest.	Some of the graphic elements and multimedia do not contribute to concepts, ideas and relationships.	Multimedia doesn't contribute to concepts, ideas and relationships. The inappropriate use of multimedia detracts from content.	
Documentation & Copyright	All images, media and text follow copyright guidelines with accurate citations. All content throughout portfolio displays appropriate copyright permissions.	Most images, media and text created by others are cited with accurate, properly formatted citations.	Some images, media or text created by others are not cited with accurate, properly formatted citations.	No images, media or text created by others are cited with accurate, properly formatted citations.	
Ease of Navigation	Navigation links are intuitive. The various parts of portfolio are labeled, clearly organized and allow reader to easily locate an artifact.	Navigation links generally function well, but it is not always clear how to locate an artifact or move to related pages or different section.	Navigation links are confusing and it is often unclear how to locate an artifact or move to related pages or section.	Navigation links are confusing, and it is difficult to locate artifacts and move to related pages or a different section.	
Layout and Text Elements	Digital portfolio is easy to read. Fonts and type size vary appropriately for headings, sub-headings and text. Use of font styles (italic, bold, underline) is consistent and improves readability.	Digital portfolio is generally easy to read. Fonts and type size vary appropriately for headings, sub-headings and text. Use of font styles (italic, bold, underline) is generally consistent.	Digital portfolio is often difficult to read due to inappropriate use of fonts and type size for headings, sub-headings and text or inconsistent use of font styles (italic, bold, underline).	Digital portfolio is difficult to read due to inappropriate use of fonts, type size for headings, subheadings and text, and font styles (italic, bold, underline).	
Captions	All artifacts are accompanied by a caption that clearly explains importance of item including title, author, and date.	Most artifacts are accompanied by a caption that clearly explains importance of item including title, author, and date.	Some artifacts are accompanied by a caption that explains importance of item including title, author, and date.	No artifacts are accompanied by a caption that explains importance of item.	
Writing Mechanics	There are no errors in grammar, capitalization, punctuation, and spelling.	There are few errors in grammar and spelling. These require minor editing and revision.	There are four or more errors in grammar and spelling requiring editing and revision.	There are more than six errors in grammar and spelling requiring major editing and revision.	

Which Class Internet Start Page is Best?

The Internet is unavoidable in education. Students go there to research, access homework, check grades, and a whole lot more. As a teacher, you do your best to make it a friendly, intuitive, and safe place to visit, but it's challenging. Students arrive there by iPads, smartphones, links from classroom teachers, suggestions from friends—the routes are endless. The best way to keep the Internet experience safe is to catch users right at the front door, on that first click.



How do you do that? By creating a **class Internet start page**. Clicking the Internet icon opens the World Wide Web to a default page. Never take your device's default because there's no guarantee it's G-rated enough for a typical classroom environment. Through the 'settings' function on your browser, enter the address of a page you've designed as a portal to all school Internet activity, called an 'Internet start page'. Sure, this takes some time to set-up and maintain, but it saves more than that in student frustration, lesson prep time, and the angst parents feel about their children entering the virtual world by themselves. They aren't. You're there, through this page. Parents can save the link to their home computer and let students access any resources on it, with the confidence of knowing you've curated everything.

In searching for the perfect Internet start page, I wanted one that:

- *quickly differentiates for different grades*
- *is intuitive for even the youngest to find their page*
- *is customizable across tabbed pages to satisfy changing needs*
- *presents a visual and playful interface to make students want to go there rather than find work-arounds (a favorite hobby of older students)*
- *includes an immediately visible calendar of events*
- *hosts videos of class events*
- *provides collaborative walls like Padlet*
- *includes other interactive widgets to excite students about technology*

Here are four I looked at:

Symbaloo

A logo-based website curation tool with surprising flexibility in how links are collected and displayed. It's hugely popular with educators because collections are highly-visual and easy to access and use. Plus, Symbaloo collections made by one teacher can be shared with the community, making link

collections that much easier to curate.

The downside: Links are about all you can collect on Symbaloo.

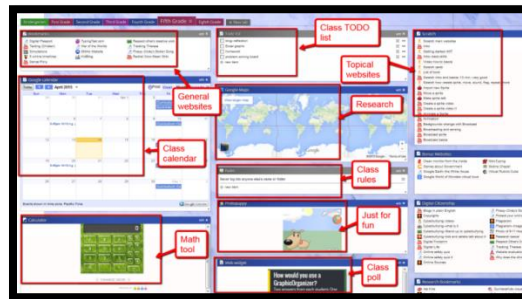
Ustart

Offers a good collection of useful webtools for students including links, news, calendar, notes, even weather. It provides tabs for arranging themed collections (like classes) and is intuitive to set up and use. It even includes options for embeddable widgets like Padlet. This is the closest to what I needed of all three.

Overall: This is a good alternative to the one I selected.

Protopage

Protopage did everything on my list. It's flexible, customizable, intuitive, and quick to use with a scalable interface that can be adjusted to my needs (2-5 columns, resize boxes, drag widgets between tabs—that sort). I set up a separate tab for each grade (or you can set up tabs for subjects). The amount of tabs is limited only by space on the top toolbar. Resources included on each tab can be curated exactly as you need. Mine includes:



- *oft-used websites*
- *themed collections of websites*
- *a To Do list*
- *an interactive map*
- *a calculator*
- *a calendar of events*
- *edit-in-place sticky notes*
- *pictures of interest*
- *rss feeds of interest*
- *weather*
- *news*
- *widget for polling the class (Padlet)*

In addition, the Protopage folks are helpful. Whenever I have a problem (which is rare), they fix it quickly.

13 Ways Blogs Teach Common Core

If you aren't blogging with your students, you're missing one of the most effective tools available for improving student literacy and math. Blogs are easy to use, fun for students, encourage creativity and problem-solving, allow for reflection and feedback, enable publishing and sharing of work, and fulfill many of the Common Core Standards you might be struggling to complete. Aside from math and literacy, Common Core wants students to become accomplished in a variety of intangible skills that promote learning and college and career readiness. Look at these 13 benefits of blogging and how they align with Common Core:



1. **provide and get feedback**—building a community via comments is an integral part of blogging. If you didn't want feedback, you'd publish a white paper or submit work the old fashioned hard copy way. When students publish their ideas in blogs, other students, teachers, parents can provide feedback, join the conversation, and learn from the student.
2. **write-edit-review-rewrite**—teachers don't expect students to get it right the first time. Part of the writing process is revising, editing, rewriting. This is easy with blogs. Students publish a topic, collect comments, incorporate these ideas into their own thinking, and then edit their post.
3. **publish**—the idea that student work is created for a grade then stuffed away in a corner of their closet is disappearing. Current educators want students to publish their work in a way that allows everyone to benefit from the student's knowledge and work. There are many ways to do that—blogs are one of the easiest.
4. **share**—just like publishing, students no longer create for a grade; they share with others. Blogs allow for sharing of not only writing, but artwork, photography, music, multimedia projects, pretty much anything the student can create.
5. **collaborate**—blogs can easily be collaborative. Student groups can publish articles, comment on others, edit and rewrite. They can work together on one blog to cover a wider variety of topics and/or make its design attractive, appealing and enticing to readers.
6. **keyboarding**—blogs are small doses of typing—300-500 words, a few dozen for comments. This is an authentic opportunity to practice the keyboarding skills students will need for Common Core Standards in 4th grade and up.
7. **demonstrate independence**—blogs are about creativity. No two are alike. They offer lots of options for design and formatting so students can tweak it to their preference. Because they are open 24/7, students can do blog work when it suits them, not in the confines of a 50-minute class.
8. **build strong content knowledge**—blog posts can be drafted as the student collects information, posted when the student is ready. Links can be included to provide evidence of student statements, as well as linkbacks for reference and deeper reading for interested students.
9. **respond to the varying demands of audience, task, purpose, and discipline**—Students can create their work in whatever digital tool fits the audience, task, purpose they are focused on, and then embed it into their blog post. This is possible even in a simplified blogging platform like Kidblog. Most

online tools (such as Voki, Wordle, and Tagxedo) provide the html codes that can be easily placed in the blog post. Then, the student at their option can focus on presenting their ideas as music, art, photos, text, an infographic, a word cloud—whatever works for their purposes.

10. **comprehend as well as critique**—student bloggers are expected to critique the posts of others by thoroughly reading the post and commenting based on evidence. If the reader doesn't understand, they ask questions in the comments. This insures that when they evaluate the post, they have all the information required to reach a conclusion.
11. **value evidence**—blogs make it easy to provide all the necessary evidence to support a point of view. Students can link back to sources to provide credit and link to experts to provide credibility for statements. In fact, in the blogosphere, good bloggers are expected to do this as a means of building credibility for opinions they write
12. **use technology and digital media strategically and capably**—certainly blogs are great for writing, but they're also excellent as digital portfolios to display student work developed in a variety of places. Students pick the technology that fits what they're expected to accomplish in a class, then publish it to the blog. Have you seen the movies students put together on a topic? Some are amazing.
13. **understand other perspectives and cultures**—blogs are published to the Internet. Even private blogs are accessed by many more people than possible with a hand-written paper. Students write knowing that people of all cultures and perspectives will read their material, knowing they can add comments that share their beliefs. This encourages students to develop the habit of thinking about *perspective* as they write.



Don't try all of this at once. Spiral into it, starting in second or third grade. Let their blogging grow with their intellectual skills.

How to Integrate Web Tools into the Classroom

‘Web 2.0’ is a term familiar to all teachers. Stated in its simplest form, it’s the set of interactive internet-based tools used by students to enrich educational opportunities—blogs, wikis, class internet homepages, class internet start pages, twitter, social bookmarks, podcasting, photo sharing, online docs, online calendars, even Second Life—tools that require thoughtful interaction between the student and the site. For teachers, it’s a challenge to keep up with the plethora of options as the creative minds of our new adults stretch the boundaries of what we can do on the internet. Students, adults, teachers who use this worldwide wealth of information and tools are referred to as ‘digital citizens’. They leave a vast digital footprint and it is incumbent upon them to make healthy and safe decisions, including:



- *Treat others and their property with respect (for example, plagiarism—even undiscovered—is immoral and illegal)*
- *Act in a responsible manner*
- *Look after their own security*

Here are some activities you can do in your classroom that will make your lessons and activities more student-centered and more relevant to this new generation of students:

1. Create a **classroom blog**. Blogging has become one of the most effective learning tools in education. It introduces students to new methods of communicating, improves their writing, and motivates them to find their voice. You ask students about it, they’ll tell you—blogs make learning fun.
2. Create a **classroom internet start page**. When students log onto the internet, have them bring up a start page with information relevant to them—targeted links, a To Do list, RSS feeds, search tools, email. Ask them what should be on it. Maybe they’d like sponge websites to fill extra minutes. Make it exciting!
3. Each has a library of custom fields to individualize the start-up experience.
4. Build your own **classroom webpage**. Make it a learning portal open for business 24/7. Make sure it engages students while facilitating authentic real-world activities. You can make a free page through Google Sites.
5. Create **online calendars** for students. These replace the traditional planners students carry to classes (and lose who knows where which becomes a traumatic event in young lives). Create

- your own on Google Calendars with viewing privileges for students and parents only, and then embed it into your class webpage, start page or wiki.
6. Create a **wiki**—a web page built by and for students. The most famous example is Wikipedia. Wikis can communicate school news, information on a research topic, terminology—whatever you want. For example, after teaching a lesson, have students go to the class wiki and summarize what they understood. Then, when test time arrives, students can study from everyone’s notes.
 7. Set up **social bookmarking** so students can save links to webpages they use for research, sports, music, and share them with others. Imagine the vast database you can compile by having students investigate a topic—say, the French Revolution—save the sites they visit to a group folder, and benefit from each other’s research. What an amazing tool!
 8. **X/Twitter** is a free social messaging utility that allows you to update parents and older students via short messages everyone will have time to read. In my case, I have one account for parents (it’s private, so I won’t share it here) and one for my PLN (personal learning network—I’d love to have you follow me). You can incorporate twitter widgets into webpages, add it to your Google desktop/ smartphone/ iPad, even your blog.
 9. **Photo sharing** through Flickr or others. Free online photo collections enable students/parents/teachers to share pictures from school events, sports and more. Students can search for photos to help with research (be sure to teach them correct annotations) and educators can upload photos for classes, school events, and more. At my school, students had to complete a photo journal after a field trip. Everyone uploaded their pictures, creating a huge pool to use for the follow-up project.
 10. **Podcasting** is an efficient method of sharing lectures, instructions, and information. They appeal to those multi-intelligences that prefer visual and audio and can be replayed 24/7. With a nominal amount of equipment, anyone can create files and post them to the internet that can be accessed from a personal computer or handheld device. The most popular site is YouTube, but also try Vimeo.
 11. Everyone should try **online docs**. Google Docs has become the standard for free, easy-to-use document sharing at schools and can be limited to the school community of registered users. Even if you don’t use it in your school, share it with parents. You’ll be surprised how many will appreciate the alternative to MS Office.

Which others do you use to enhance and enrich your school teaching?

Photo credit: Johns Hopkins School of Education

Article 8 "8 Things My Blog Taught Me"

8 Things My Blog Taught Me

When I started blogging, I wasn't sure where to take it. I knew I wanted to connect with other tech teachers so I used that as the theme. Now, thanks to the 491,000+ people who have visited, I know much more about the 'why'. It's about getting to know kindred souls, but there is so much more I've gotten from blogging. Like these:



How to write

I've learned to be frugal with my words. I choose verbiage that conveys more than one-word's-worth of information and I leave tangential issues for another post. Because I realize readers are consuming on the run, I make sure to be clear—no misplaced pronouns or fuzzy concepts like 'thing' or 'something'.

Prove my point

This part of writing transcends what print journalists must do. Yes, they do it, but my readers expect me to support ideas with interactive links to sources. If I'm reviewing a tech ed concept, I link to other websites for deeper reading. That's something that can't happen in paper writing. Sure, they can provide the link, but to put the paper down, open the laptop, copy that link—I mean, who does that? In a blog, I get annoyed if someone cites research and doesn't provide the link.

Listen

When I write an article, I cross post to other parts of my PLN, sometimes to ezines I contribute to in other parts of the world. And then I listen. What are readers saying? What are their comments/suggestions to me? Often, I learn as much from readers as what I thought I knew when I wrote the article.

How to market my writing

I try lots of ideas to market my writing, but thanks to the blogosphere, I know what everyone else is doing. I can try as much or little of it as I want. For me, I found a comfortable baseline and add a few pieces every year (this year, it's Pinterest).

One point worth mentioning is headlines. Usually, all I get from a reader is seven seconds—long enough to read the title, maybe the first line. If my title doesn't seem personal and relevant, potential readers move on. There are over 450 million English language blogs. That's a lot of competition. I better hit a home run with the title.

There are lots of opinions out there

Often, I share my thoughts on the future or current status of tech ed. Sometimes, I'm surprised at comments I get. They might touch a corner of the idea I hadn't thought of or be 180 degrees from my conclusions. It forces me to think bigger as I write, consider how people who aren't me will read my words. That's both humbling and empowering. I think I'm much better at that than I used to be.

There are a lot of smart people in the world

In a previous lifetime when I built child care centers for a living, I read lots of data that said people thought the education system was broken—but not in their area. They considered themselves lucky because their schools worked. Well, as I meandered through life, I realized that applies to everything. People are happy with what they're comfortable with and frightened/suspicious of what they aren't used to. Through blogging, I get to delve into those ideas with them because we feel like friends. I've found that lots of people are smart, intuitive, engaged in life, looking to improve the world. I'm glad I learned that.

How to be responsible

Yes, blogging is demanding. I have to follow through on promises made in my blog profile and posts. When I say I'll offer tech tips weekly, I have to do that even if I'm tired or busy with other parts of my life. It's not as hard as it sounded when I first started. If you're a mom, you've got the mindset. Just apply it to blogging.

How to be a friend

My readers visit my posts and comment or poke me with a 'like'. Maybe, on my good days, they repost. Those are nice *ataboys*. I always return the favor by dropping by their blogs to see what they're up to, leave a comment on their latest article. It takes time, but like any relationship, is worth it. I have online friends I've never met who I feel closer to than half the people in my physical world. I've seen them struggle with cancer, new jobs, unemployment, kid problems. I've learned a lot about life from them.

Article 9 "13 Ways Twitter Improves Education"

12 Ways X/Twitter Improves Education

Twitter can easily be dismissed as a waste of time in the elementary school classroom. Students will get distracted. Students will see tweets they shouldn't at their age. How does one manage a room full of Tweeples without cell phones? Is it even appropriate for the lower grades?

Here's ammunition for what often turns into a pitched verbal brawl as well-intended teachers try to reach a compromise on Twitter (in fact, many of the new Web 2.0 tools—blogs, wikis, websites that require registrations and log-ins, discussion forums. You can probably add to this list) that works for all stakeholders:



You learn to be concise.

Twitter gives you only limited characters to get the entire message across. *Letters, numbers, symbols, punctuation and spaces all count as characters on Twitter.* Wordiness doesn't work. Twitter counts every keystroke and won't publish anything with a minus in front of the word count.

At first blush, that seems impossible. It's not. True, you must know the right word for every situation. People with a big vocabulary are at an advantage because they don't use collections of little words to say what they mean, they jump right to it. All those hints your English teacher gave you—picture nouns and action verbs, get rid of adverbs and adjectives—take on new meaning to the Twitter aficionado.

Twitter isn't intimidating

A blank white page that holds hundreds of words, demanding you fill in each line margin to margin is intimidating. Limited characters aren't. Students write their characters and whittle back, leave out emotional words, adjectives and adverbs, pick better nouns and verbs because they need the room. Instead of worrying what they'll say on all those empty lines, they feel successful.

Students learn manners

Social networks are all about netiquette. People thank others for their assistance, ask politely for help, and encourage contributions from others. Use this framework to teach students how to engage in a community—be it physical or virtual. It's all about manners.

Students learn to be focused

With only limited characters, you can't get off topic. You have to save those for a different tweet. Tweeples like that trait in writers. They like to hear what your main topic is and hear your thoughts on it, not your meanderings. When you force yourself to write this way, you find it really doesn't take a paragraph to make a point. Use the right words, people get it. Consider that the average reader gives a story seven seconds before moving on.

Here's an idea. If you feel you must get into those off-topic thoughts, write them in a separate tweet.

Students learn to share

Start a tweet stream where students share research websites on a topic. Maybe the class is studying Ancient Greece. Have each student share their favorite website (using a #hashtag — maybe #ancientgreece) and create a resource others can use. Expand on that wonderful skill they learned in kindergarten about sharing their toys with others. Encourage them to RT posts that they found particularly relevant or helpful.

Writing short messages perfects the art of “headlining”.

Writers call this the title. Bloggers and journalists call it the headline. Whatever the label, it has to be cogent and pithy enough to pull the audience in and make them read the article. That's a tweet.

Tweets need to be written knowing that tweeples can @reply

Yes. This is the world of social networks where people will read what you say and comment. That's a good thing. It's feedback and builds an online community, be it for socializing or school. Students learn to construct their arguments expecting others to respond, question, and comment. Not only does this develop the skill of persuasive writing, students learn to have a thick skin, take comments with a grain of salt and two grains of aspirin.

#Hashmarks develop a community

Create #hashmarks to help students organize tweets: #help for a question, #homework for homework help. Establish class ones to deal with subjects that you as the teacher want students to address.

Students learn tolerance for all opinions

Why? Because Tweeples aren't afraid to voice their thoughts. They only have limited characters—why not spit it right out. Because the Twitter stream is a public forum (in a classroom, the stream can be private, but still visible to all members of the class), students understand what they say is out there forever. That's daunting. Take the opportunity to teach students about their public profile.

Represent themselves well with good grammar, good spelling, and well-chosen tolerant ideas. Don't be emotional or spiteful because it can't be taken back. Rather than shying away from exposing students to the world at large, use Twitter to teach students how to live in a world.

Students are engaged

Twitter is exciting, new, and hip. Students want to use it. It's not the boring worksheet. It's a way to engage students in ways that excite them.

Consider this: You're doing the lecture part of your teaching (we all have some of that), or you're walking the classroom helping where needed. Students can tweet questions that show up on the Smartboard. It's easy to see where everyone is getting stuck, which question is stumping them, and answer it in real time. The class barely slows down. Not only can you see where problems arise, students can provide instant feedback on material without disrupting the class. Three people can tweet at once while you talk/help.

Twitter, the Classroom Notepad

I tried this out after I read about it on Online Universities and turns out, it works as well for 8th graders as it does for higher education. Springboarding off student engagement, Twitter can act as your classroom notepad. Have students enter their thoughts, note, and reactions while you talk. By the time class is done, the entire class has an overview of the conversation with extensions and connections that help everyone get more out of the time spent together.

Twitter is always open

Inspiration doesn't always strike in that 50-minute class period. Sometimes it's after class, after school, after dinner, even 11 at night. Twitter doesn't care. Whatever schedule is best for students to discover the answer, Twitter is there. If you post a tweet question and ask students to join the conversation, they will respond in the time frame that works best for them. I love that. That's a new set of rules for classroom participation, and these are student-centered, uninhibited by a subjective time period. Twitter doesn't even care if a student missed the class. S/he can catch up via tweets and then join in.

Please take a moment to vote in this poll. Tell me how you think Twitter would best benefit your classroom if you were using it.

**Intentionally
deleted**

Lesson #4 Problem Solving

Vocabulary	Problem solving	Homework
<ul style="list-style-type: none"> Cerebral Context Delineate Evidence Fail Sequence Shortkeys Strategic Task 	<ul style="list-style-type: none"> I can't solve problem (what strategies have you tried?) I don't like method I picked. (why?) Sign-up website doesn't work (use your problem-solving strategies) I didn't finish homework (why?) Did poorly on ** (Mulligan Rule) I know how to solve all problems listed (that's OK—you'll be teaching) 	<p>Review word processing, quotes, problem-solving strategies</p> <p>Select problem/date for Problem-solving Board</p> <p>Keyboard for 45minutes, 15 minutes at a time</p>
<p>Academic Applications</p> <p>Critical thinking, math, other academic topics</p>	<p>Required Skills</p> <p>Familiarity with speaking and listening standards, problem solving, keyboarding, digital citizenship</p>	<p>Standards</p> <p>CCSS: Stds for Math.Practice NETS: 4a, 5c</p>

Essential Question

How does technology help problem solving?

Big Idea

Problem solving is challenging and cerebrally-stimulating.

Teacher Preparation/Materials Required

- Have backchannel available.
- Have lesson materials online to preview.
- Update class calendar with class activities.
- Integrate domain-specific tech vocabulary into lesson.
- Ensure all required links are on student digital devices.
- Ask what tech problems students had difficulty with.
- Have Problem-solving Board sign-up available.
- Something happen you weren't prepared for? Show how you react.
- Know which tasks weren't completed last week and whether they are necessary to move forward.

Assessment Strategies

- Previewed required material; came to class prepared
- Annotated workbook (if using)
- Signed up for Board
- Worked well in a group
- Completed warm-up, exit ticket
- Joined classroom conversations
- [tried to] solve own problems
- Decisions followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis
- Habits of mind observed

Steps

Time required: 90-270 minutes, spread throughout the class grading period
Class warm-up: Keyboard on class typing program, paying attention to posture

Homework is assigned the week before you start this lesson.

Any questions from homework? Expect students to come to class with questions.

Review **“How to Teach Students to Problem Solve”** and **“Let Students Learn From Failure”** at the end of the lesson.



Discuss what it means to be a ‘problem solver’. Who do students go to when they need a problem solved? Parents? Do students believe that person gets it right more often than others? Would they believe most people are wrong half the time?

Problem solving is closely aligned with logical thinking, critical thinking, reasoning, and thought habits. Discuss why students should become problem solvers (hint: refer to prior point—most people students go to for assistance are wrong half the time). Discuss characteristics of a ‘problem solver’ (from Common Core):

- *attend to precision*
- *value evidence*
- *comprehend and critique*
- *demonstrate independence*
- *make sense of problems and persevere in solving them*
- *use appropriate tools strategically*
- *understand other perspectives*

Discuss ‘Big Idea’: How/why is problem solving ‘cerebrally-stimulating? Is it fun? Why or why not? Discuss great quotes about problem solving in *Figure 40*.

Figure 40—Problem-solving quotes

Great Quotes About Problem Solving

<p>"In times like these it is good to remember that there have always been times like these." — Paul Harvey <i>Broadcaster</i></p> <p>"Never try to solve all the problems at once — make them line up for you one-by-one." — Richard Sloma</p> <p>"Some problems are so complex that you have to be highly intelligent and well-informed just to be undecided about them." — Laurence J. Peter</p> <p>"Life is a crisis - so what!" — Malcolm Bradbury</p> <p>"You don't drown by falling in the water; you drown by staying there." — Edwin Louis Cole</p> <p>"The significant problems we face cannot be solved at the same level of thinking we were at when we created them." — Albert Einstein</p> <p>"It is not stress that kills us. It is effective adaptation to stress that allows us to live." — George Vaillant</p>	<p>"The most serious mistakes are not being made as a result of wrong answers. The truly dangerous thing is asking the wrong questions." — Peter Drucker <i>Men, Ideas & Politics</i></p> <p>"The problem is not that there are problems. The problem is expecting otherwise and thinking that having problems is a problem." — Theodore Rubin</p> <p>It's not that I'm so <u>smart</u>, it's just that I stay with problems longer. —Albert Einstein</p> <p>No problem can stand the assault of sustained thinking. —Voltaire</p> <p>The problem is not that there are problems. The problem is expecting otherwise and thinking that having problems is a problem. —Theodore Rubin</p> <p>Problems are only opportunities with thorns on them. —Hugh Miller</p>
--	---

Discuss shortcuts. How are they problem solving? Demonstrate this by asking students to tell you how to perform a skill. Is it easier to share the shortcut?

Discuss problem-solving strategies:

- Act out a problem
- Break a problem into parts
- Distinguish between relevant and irrelevant information
- Draw a diagram
- Guess and check
- Observe and collect data
- See patterns
- Think logically
- Try to solve before asking for help
- Try, fail, try again
- Use Help files
- Use tools available
- Use what has worked in past
- Work backwards

See Figure 41 for list of ‘**How to Solve a Problem**’ (full size in appendix):



Figure 41—How to solve a problem



When students face a problem, use Figure 41 strategies to solve it before asking for assistance.

Here are two projects to reinforce problem solving in everyday life:

- Problem-solving Board
- Analysis of authentic problem-solving skills

Problem-solving Board

Students sign up to teach classmates common problems faced with technology. Ideally, you have collected these throughout the year from students, other teachers, and parents—the types of problems that stopped students as they tried to use tech. This list might include (Figure 42):

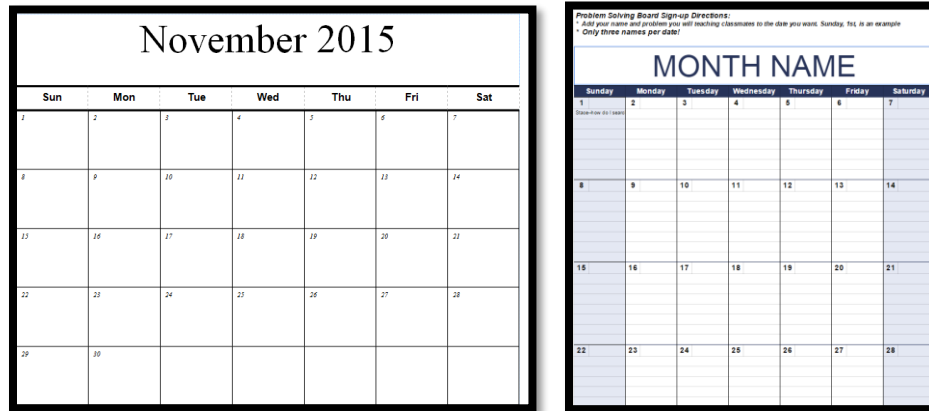
Figure 42—Common tech problems

Problem	
My browser is too small	I can't find a tool
Browser toolbar missing	My screen is frozen
Can't exit a program	My menu command is grey
What's today's date	Can't find Bold, Italic
Double click doesn't work	Can't find the program
Start button disappeared	Internet toolbar's gone
Program disappeared	My computer doesn't work
Erased my document	My programs are gone

_____ See a longer list at end of lesson. By the end of 7th grade, students should know all of these.

_____ Students sign up via a Padlet wall embedded into the class start page (Figure 43a), SignUp Genius, a shared spreadsheet (Figure 43b) or another method that works for you.

Figure 43a-b—Problem-solving Board sign-ups



_____ Note: As you move through the year, keep a list of problems for next year's Board.

_____ Here's how it works. Students:

- *Select presentation date and problem to teach classmates by signing up as required.*
- *Get solution from online resources, family, friends, help files--teacher is last resort.*
- *Teach classmates how to solve problem.*
- *Present findings, emphasizing points in a focused, coherent manner with pertinent descriptions, facts, details, examples.*
- *Use appropriate eye contact, adequate volume, and clear pronunciation.*
- *Adapt speech to the context and task.*
- *Take questions. Audience is responsible for making sure speaker makes sense.*

_____ Students can get answers through any of the strategies mentioned earlier in this lesson.

_____ Review digital rights and responsibilities before using the internet search functions.

_____ Entire presentation takes about three minutes. Figure 44 (Assessment at end of lesson) is a sample of the rubric you can fill out from your iPad.

_____ Students should own these tech problems by end of 7th grade.

Figure 44—Problem-solving Board rubric

PROBLEM SOLVING BOARD	
Grading Rubric	
Name:	_____
Knew question	_____
Use problem solving strategies to solve problem	_____
Sequenced ideas logically in arriving at solution	_____
Looked audience in eye	_____
No umm's, stutters	_____
No nervous movements (giggles, wiggles, etc.)	_____
Demonstrated command of language	_____
Answered audience questions with evidence	_____
Overall	_____

Analysis of authentic problem-solving skills

_____ During the grading period, student must identify five-ten problems faced in any part of their life—home, school, or personal—and what problem-solving strategy they used to solve it. They'll record them in a collaborative spreadsheet that is shared with classmates. They'll include (see sample—Assessment 14a-b):

- *what tech problem they faced*
- *how they solved it*
- *what strategy they used from the list*
- *any additional comments*

_____ At the end of class, it will be a resource students can draw on for future problems.

_____ Here's how this works:

- *Student records 5-10 problems faced during the grading period in a Google Spreadsheet created by you and shared with students.*
- *Student answers a Google Forms poll (like Assessment 14a) that you create and share.*
- *They must have 5-10 of these during grading period.*

Assessment 14a-b—Problem solving authentic data

The image shows a Google Form on the left and a Google Spreadsheet on the right. The form is titled "Common Tech Problems and Solutions" and asks for a name, a tech problem, a solution, and a strategy. The spreadsheet shows the collected data. A blue arrow points from the form to the spreadsheet.

Timestamp	A	B	C	D	E	F
1	Timestamp	What is your name?	What tech problem did you face?	What was the solution?	What problem solving strategy you used?	Anything you'd like to add?
2	11/8/2015 13:24:05	Test	How to find text on a page	Ctrl+F	Guess and check, Thought logically	
3						
7						
8						
9						

_____ At the end of the class, share collected data with students.

Class exit ticket: **Enter one problem into Google Form.**

Differentiation

- Have one student create Google Form for Problem Solving to be used to track class results.
- Add 'other' to the poll and let students share their own unique strategy with classmates.
- Students may present with video or a podcast (done appropriately).
- Students may use visual props during their presentation.
- If student can't attend class, they can present virtually (with parent permission).
- Student has a problem they'd like to share that isn't from the list. Consider allowing it.

Assessment 15—Problem-solving Board

PROBLEM-SOLVING BOARD

Grading Rubric

Name: _____

Problem solved: _____

Knew question _____

Knew answer _____

Asked audience for help if didn't know answer _____

No umm's, stutters _____

No nervous movements (giggles, wiggles, etc.) _____

No slang _____

Overall _____

Assessment 16—Problem-solving Presentation Assessment

Problem Solving Presentation Assessment						
Project: Problem Solving			Student/Team:			
Pts	Investigate	Design	Plan	Create	Evaluate	Group
0	<i>Team does not complete investigation to standard discussed in class</i>	<i>Team does not complete design to standard discussed in class</i>	<i>Team does not complete plan to standard discussed in class</i>	<i>Team does not complete work to standard discussed in class</i>	<i>Team does not complete evaluation to standard discussed in class</i>	<i>Team does not work together to standard discussed in class</i>
1-2	<i>Team states problem but not clearly, vaguely, understanding skills required. Students have difficulty verbalizing steps required to complete</i>	<i>Team addresses some detail about how project will be presented with selected tool, but leaves critical elements out</i>	<i>Team project plan contains some goals for completing project; timeline is not sustainable</i>	<i>Team creates at least part of storyboard, timeline, product/solution</i>	<i>Team evaluates product/solution as they work, but does not adapt plan or project to problems that arise</i>	<i>Team occasionally works well as a group, but has difficulty allocating work and arriving at consensus</i>
3-4	<i>Team states problem clearly with a strong understanding of skills required. Team shows evidence of researching and describes solution in detail</i>	<i>Team addresses all specifics required to create a how-to and present to class</i>	<i>Team produces a plan that contains a clear and achievable goal for using time wisely during class</i>	<i>Team uses appropriate techniques and equipment, storyboard is effective. Team follows plan, and modifies when required, resulting in good quality project</i>	<i>Team evaluates how-to project and their performance; suggests ways to improve, and tests solution before presenting to class</i>	<i>Team frequently incorporates group member input into project, showing respect for the value of all members</i>
Sub total						
Total						/20

Figure 45—Common tech problems

Common problems students face with computers

	Problem	Solution
1.	My browser is too small	<i>Double click blue bar</i>
2.	Browser toolbar missing	<i>Push F11</i>
3.	Can't exit a program	<i>Alt+F4</i>
4.	What's today's date	<i>Hover over clock Shift+Alt+D in Word</i>
5.	Double click doesn't work	<i>Push enter</i>
7.	Start button disappeared	<i>Use Windows button</i>
8.	Program disappeared	<i>Check taskbar</i>
9.	Erased my document	<i>Ctrl+Z</i>
10.	I can't find a tool	<i>Right click on screen; it'll show most common tools</i>
11.	My screen is frozen	<i>Clear a dialogue box Press Escape four times</i>
12.	My menu command is grey	<i>Press escape 4 times and try again</i>
13.	Can't find Bold, Italic, Underline	<i>Use Ctrl+B, Ctrl+I, Ctrl+U</i>
14.	Can't find the program	<i>Push Start, use 'Search' field</i>
15.	Internet toolbar's gone	<i>Push F11</i>
16.	My computer doesn't work	<i>Check monitor/tower power, plugs</i>
17.	My programs are gone	<i>Are you logged in correctly?</i>

How to Teach Students to Solve Problems

Of all the skills students learn in school, **problem solving** arguably is the most valuable and the hardest to learn. It's fraught with uncertainty—what if the student looks stupid as he tries? What if everyone's watching and he can't do it— isn't it better not to try? What if it works, but not the way Everyone wants it to? When you're a student, it's understandable when they decide to let someone tell them what to do.

But this isn't the type of learner we want to build. We want risk-takers, those willing to be the load-bearing pillar of the class. And truthfully, by a certain age, kids want to make up their own mind. Our job as teachers is to provide the skills necessary for them to make wise, effective decisions.



It's not a stand-alone subject. It starts with a habit of inquiry in all classes—math, LA, history, science, any of them. I constantly ask students questions, get them to think and evaluate, provide evidence that supports process as well as product. Whether they're writing, reading, or creating an art project, I want them thinking what they're doing and why.

Common Core puts problem solving front and center. It comes up in ELA ("*Students will be challenged and asked questions that push them to refer back to what they've read. This stresses critical-thinking, problem-solving, and analytical skills that are required for success in college, career, and life.*"), but is inescapable in Math. In fact, students cannot fully meet the Math Standards without understanding how to effectively approach the unknown. Consider the Standards for Mathematical Practice that overlay all grade levels K-12:

- *Make sense of problems and persevere in solving them*
- *Reason abstractly and quantitatively*
- *Construct viable arguments and critique the reasoning of others*
- *Model*
- *Use appropriate tools strategically*
- *Attend to precision*
- *Look for and make use of structure*
- *Look for and express regularity in repeated reasoning*

Do these sound like great strategies for more than math? How about deciding what classes to take? Or whether to make a soccer or basketball game on the weekend? Or which college to attend? Using these eight tools strategically, with precision, and tenaciously is a great first step.

The question becomes: How do students **learn to use them**? Certainly, as they accomplish their grade-level math curriculum, you as teacher remind them they aren't doing a multiplication problem (or an Algebra one); rather they're reasoning abstractly or using appropriate tools strategically, or expressing regularity in repeated reasoning. But for deep learning, hands-on authentic experience is required. Let's say, for example, the class is investigating the purchase of an MP3 player. Should they purchase an iPod, a smartphone, a dedicated use MP3 player, or a different option? How do students arrive at a decision—solve that problem? Ask students to work through the steps below as they address a decision. Ask them to note where they accomplish one or more of the Standards for Mathematical Practice above:

1. What do you want in an MP3 player? Should it play music, show videos, pictures, communicate with others, be a phone also? Make that list so you know how to evaluate information as you collect it (**compare/contrast**).
2. What do you know about the topic (**evidence**)? Have you seen some you liked or didn't like? What have you heard about those on your list? You are a good resource to yourself. Don't discount that. You'll be surprised how much you know on a variety of topics. This step is important to college and career. Future employers and schools want you to think, to use your intelligence and your knowledge to evaluate and solve problems.
3. What advice do knowledgeable friends have (**perspective taking, collaboration**)? You want the input of MP3 users. Your friends will think whatever they own is the best, because they're vested in that choice, but listen to their evidence and the conclusions they draw based on that. This is important to a team-oriented environment. Listen to all sides, even if you don't agree.
4. **Dig deeper (close reading)**. Check other resources (**uncover knowledge**). This includes:
 - *people who don't like the product*
 - *online sources. Yep, you might as well get used to online research if you aren't yet. Statistics show more people get their news from blogs than traditional media (newspapers, TV) and you know where blogs are.*
 - *your parents who will bring up topics friends didn't, like cost, longevity, reliability*
5. **Evaluate your resources (integration of knowledge)**. How much money do you have? Eliminate the choices that don't fit your constraints (money, time, use, etc.) If there are several choices that seem to work, this will help you make the decision. You might have to save money or get a job so you can afford the one you've chosen. Or, you might decide to settle for a cheaper version. Just make sure you are aware of how you made the choice and are satisfied with it.
6. What are the **risks involved** in making the decision (**reflection**)? Maybe buying an MP3 player means you can't do something else you wanted. Are you comfortable with that choice?
7. **Make a decision (transfer learning)**. That's right. Make a decision and live with it knowing you've considered all available information and evaluated it logically and objectively.



Optionally, you might have students evaluate problem solving in their favorite game, say, Minecraft. All it requires is that as they play, think about what they're doing:

- *What is the goal of Minecraft? How is it best achieved*
- *What does the student know about playing the game that can be used in achieving the goal?*
- *Does working with friends and gaining feedback make life easier in Minecraft?*
- *How does experience in the game affect progress?*
- *And so on...*

This is how students become the problem solvers required of their Future. When the day comes that how they solve a problem affects the direction their life takes (college, career, marriage, children, a tattoo), they'll be happy to have strategies that make it easier.

5 Must-have Skills for New Tech Teachers

If you teach technology, it's likely you were thrown into it by your Admin. You used to be a first grade teacher or the science expert or maybe even the librarian and suddenly, you walked into school one day and found out you'd become that tech person down the hall you were always in awe of, the one responsible for classroom computers, programs, curriculum, and everything in between. Now that's you—the go-to person for tech problems, computer quirks, crashes and freezes, and tech tie-ins for classroom inquiry.



You have no idea where to begin.

Here's a peek into your future: On that first propitious day, everything will change. Your colleagues will assume you received a data upload of the answers to every techie question. It doesn't matter that yesterday, you were one of them. Now, you will be on a pedestal, colleague's necks craned upward as they ask, *"How do I get the class screen to work?" "We need microphones for a lesson I'm starting in three minutes. Can you please-please-please fix them?"* You will nod your head, smile woodenly, and race to your classroom for the digital manuals (if you're lucky) or Google for online help.

Let me start by saying: Don't worry. Really. You'll learn by doing, just as we teach students. Take a deep breath, engage your brain, and let your brilliance shine.

That's the number one skill—confidence—but there are a five other practical strategies that have worked for those who came before you. Consider:

Be a communicator

Talk to grade-level teachers weekly. Scaffold your lessons with what they teach. Ask them to stay during tech class and offer on-the-spot tie-ins between what you teach and they say in class. Yes, they might want/need the time for planning or meetings, but the benefit to students of this team-teaching approach is tremendous. And it benefits the teachers, also. Many of them are not yet sold on integrating tech into their classrooms. They know they must if they're in one of the 46 Common Core adoptive states, but they don't like it, don't know how to do it, and don't see why it's so important. When they see you do it, they will be more willing to weave it into their lessons. For example, when they hear how you reinforce good keyboarding skills, they will be more likely to insist on those traits in their classroom.

Be a risk-taker

Flaunt your cheeky geekiness. Start a Twitter feed. Use your iPhone as a timer or the iPad to scan in an art project for a digital portfolio. At any opportunity, share your geek glee. Let them see that tech is part of life,

not a subject taught in school. It's a habit, a time-saver, a facilitator, a joy. It won't take long to convert them. A couple of admiring glances from friends or appreciative thanks from parents and they'll be sold.

Be an explorer

Go to the grade-level classrooms and demonstrate how technology is part of learning. This can be via iPads, the class pod of computers, the netbooks, or whatever is available. Ask students what they are doing in class and offer tech methods to make it easier. For example, are they submitting homework in a pile on the teacher's desk? Try a dropbox—or email. Could they type reports instead of handwrite them (I know—this gets philosophic, so be prepared for that discussion)?

Be a negotiator

You need parental buy-in on tech ed, but it is a topic typically outside their comfort zone. I often hear from 2nd grade parents that their children know more than they do (I'm talking MS Office, internet use, and some online tools). Understand that this frightens them and part of your job is to mitigate their fears. Here are some ideas:

- Have your door always open. Be ready and willing to talk with them about how to complete their child's projects—not so they can do for them, but so they feel it is within their child's grasp. Take as long as needed and welcome them to return.
- Answer parent tech questions, even if it's about a home computer. My experience is these are often simple, but intimidating. If you mitigate fear, you maximize support for tech ed.
- Offer a parent class to teach skills students are learning. Listen to your group. What makes these intelligent adults nervous about tech? Solve it for them. I often start with an agenda and end with a free-for-all, where I answer questions or help parents create fliers for soccer teams or solve home-based tech problems. It's all good. They leave feeling I'm a partner.

Don't take life too seriously

Have a sense of humor about everything. You're going to have computer meltdowns. It's why robots can't replace teachers, so embrace chaos. One of the true joys of tech is the puzzling. Why doesn't the mouse work? Why does a website work on one computer and not another? Where'd the taskbar go? Let students see how much fun it is to engage the brain.

Let Students Learn From Failure

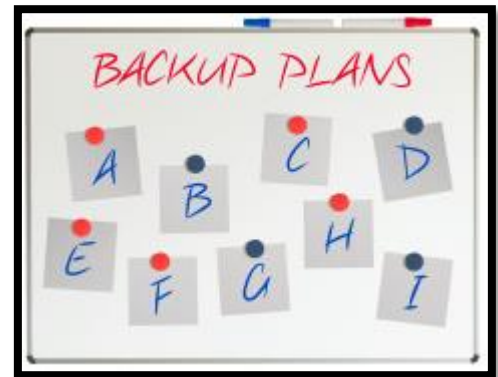
Too often, students—and teachers—believe learning comes from success when in truth, it's as likely to be the product of failure. Knowing what doesn't work is a powerful weapon as we struggle to think critically about the myriad issues along our path to college and/or career. As teachers, it's important we reinforce the concept that learning has many faces. Here are ten ways to teach through failure:

Use the Mulligan Rule

What's the Mulligan Rule? Any golfers? A mulligan in golf is a do-over. Blend that concept into your classroom. Common Core expects students to write-edit-resubmit. Make that part of every lesson. After submittal, give students a set amount of time to redo and resubmit their work. Some won't, but those who do will learn much more by the process.

Don't define success as perfection

When you're discussing a project or a lesson, don't define it in terms of checkboxes or line items or 100% accuracy. Think about your favorite book. Is it the same as your best friend's? How about the vacation you're planning—would your sister pick that dream location? Education is no different. Many celebrated 'successful' people failed at school because they were unusual thinkers. Most famously: Bill Gates, who dropped out of college because he believed he could learn more from life than professors.



Education pedagogists categorize these sorts of ideas as *higher-order thinking* and *Habits of Mind*—traits that contribute to critical thinking, problem solving, and thriving. These are difficult to quantify on a report card, but critical to life-long success. Observe students as they work. Notice their risk-taking curiosity, how they color outside the lines. Anecdotally assess their daily efforts and let that count as much as a summative exam that judges a point in time.

Let students see you fail

One reason lots of teachers keep the same lesson plans year-to-year is they are vetted. The teacher won't be surprised by a failure or a question they can't answer. Honestly, this is a big reason why many eschew technology: Too often, it fails at just that critical moment.

Revise your mindset. Don't hide your failures from students. Don't apologize. Don't be embarrassed or defeated. Show them how you recover from failure. Model the steps you take to move to Plan B, C, even X. Show your teaching grit and students will understand that, too, is what they're learning: How to recover from failure.

Share strategies for problem solving

Problems are inevitable. Everyone has them. What many people DON'T have is a strategy to address them. Share these with students. Post these on the classroom wall. When students have problems, suggest they try a strategy from this list, and then another, and another. Eventually, the problem will resolve, the result of a tenacious, gritty attack by an individual who refuses to give up.

Exult in problems

If you're geeky, you love problems, puzzles, and the maze that leads from question to answer. It doesn't intimidate or frighten you, it energizes you. Share that enthusiasm with students. They are as likely to meet failure as success in their lives; show them your authentic, granular approach to addressing that eventuality.

Assess grit

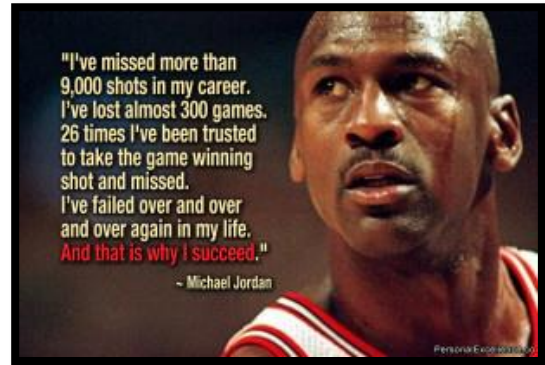
Success isn't about right and wrong. More often, it's about grit—tenacity, working through a process, and not giving up when failure seems imminent. Statistically, over half of people say they 'succeeded' (in whatever venture they tried) not by being the best in the field but because they were the last man standing.

Integrate that into your lessons. Assess student effort, their attention to detail, their ability to transfer knowledge from earlier lessons to this one, their enthusiasm for learning, how often they tried-failed-retried, and that they completed the project. Let students know they will be evaluated on those criteria more than the perfection of their work.

Let students teach each other

There are many paths to success. Often, what works for one person is based on their perspective, personal history, and goals. This is at the core of differentiation: that we communicate in multiple ways—visually, orally, tactally—in an effort to reach all learning styles.

Even so, students may not understand. Our failure to speak in a language they understand will become their failure to learn the material. Don't let that happen. Let students be the teachers. They often pick a relationship or comparison you wouldn't think of. Let students know that in your classroom, brainstorming and freedom of speech are problem-solving strategies.



Don't be afraid to move the goal posts

Even if it's in the middle of a lesson. That happens all the time in life and no one apologizes, feels guilty, or accommodates your anger. When you teach a lesson, you constantly reassess based on student progress. Do the same with assessment.

But make it fair. Let students know the changes are rooted in your desire that they succeed. If you can't make that argument, you probably shouldn't make the change.

Success is as much serendipity as planning

Think of Velcro and post-it notes—life-changing products resulting from errors. They surprised their creators and excited the world. Keep those possibilities available to students.

Don't reward speed

Often, students who finish first are assigned the task of helping neighbors or playing time-filler games. Finishing early should not be rewarded. Or punished. Sometimes it means the student thoroughly understood the material. Sometimes it means they glossed over it. Students are too often taught finishing early is a badge of honor, a mark of their expertise. Remove that judgment and let it be what it is.

**Intentionally
deleted**

Lesson #10-11 Online Image Legalities

Vocabulary	Problem solving	Homework
<ul style="list-style-type: none"> • Attribution • Citation • Copyright • Creative Commons • Crop • Fair use • Image • Layer • Macro • Plagiarism • Public domain • Watermark 	<ul style="list-style-type: none"> • Project disappeared (use search) • There's a watermark on picture I picked (Use one not copyrighted) • Someone stole my artwork (options?) • It takes a while to find the copyright information on an image (it's not a race) • I want to merge two pictures (be a problem solver) • Why can't I always use Fair Use—I'm always a student (only for educational purposes) • Who will know I 'borrowed' an image? 	<p>Review material</p> <p>Watch videos to prepare for class</p> <p>Draw an original piece of artwork</p> <p>Practice keyboarding for 45 minutes, 15 minutes at a time</p>
<p><u>Academic Applications</u> Writing, research, reading, art</p>	<p><u>Required Skills</u> Problem solving, keyboarding, digital citizenship, online images</p>	<p><u>Standards</u> CCSS: WHST.6-8.6 NETS: 2b-c</p>

Essential Question

Why should I learn to create my own unique images rather than use those of others? I'm not creative.

Big Idea

The internet has a wealth of images that must be accessed carefully and judiciously

Teacher Preparation

- Have backchannel device available.
- Have links to plagiarism materials.
- Have lesson materials online for upcoming unit.
- Talk with grade-level team so you tie into inquiry.
- Have personal stories about using online images.
- Cover tech problems students have difficulty with.
- Ensure required links are on student digital devices.
- Integrate domain-specific tech vocabulary into lesson.
- Know whether you need extra time to complete this lesson with your student group.

Assessment Strategies

- Previewed required material; came to class prepared
- Annotated workbook (if using)
- Worked independently
- Completed project
- Used good keyboarding habits
- Completed warm-up, exit ticket
- Joined classroom conversations
- [tried to] solve own problems
- Decisions followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis
- Habits of mind observed

Steps

Time required:
Class warm-up:

90 minutes
Keyboarding on the class typing program, paying attention to posture

Homework is assigned a week early so students can prepare for a flipped class.

Any questions from preparatory homework? Expect students to review upcoming unit and come to class with questions.

Before beginning, put backchannel device onto class screen (class Twitter account, or Google App). Show how to access if necessary.

This lesson includes three activities:

- *Copyrights*
- *Hoaxes*
- *Summative Project*

Copyrights

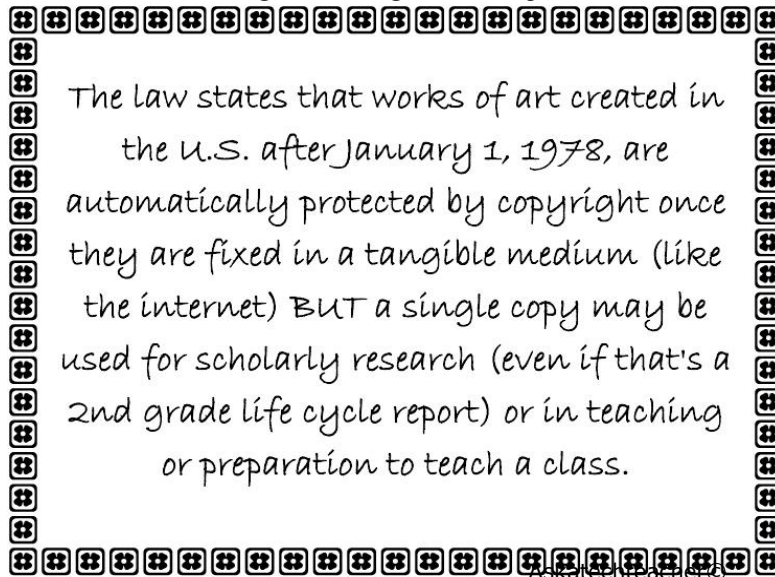
What do students remember from last year’s discussion on image copyrights? Some are licensed under Creative Commons (what is this?), but many have more restrictive licenses. What does that mean? What is the legal way to use an online image?

Watch and discuss *A Fair(y) Use Tale* (available on YouTube).



Review copyright law (*Figure 72* is a rephrasing).

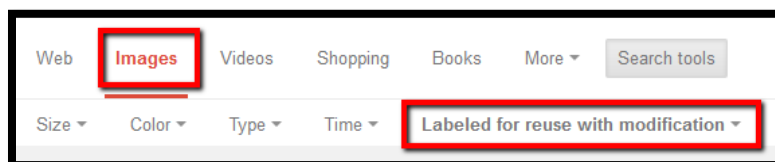
Figure 72—Digital law—rephrased



Copyrights range from public domain—creative work can be used without permission or notification—to intensely private—available only to view, on the host website.

When searching for images, adjust the search engine to provide only those that are in the public domain. *Figure 73* shows how to find this option in Google:

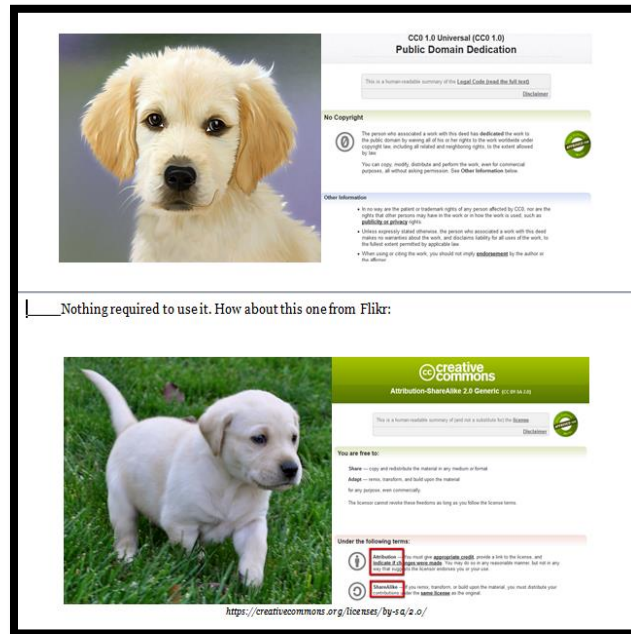
Figure 73—Copyright protections on browsers



Find several images online. Show students how to track them back to their source and then find the copyright protections that are invariably listed on the pages. This is often time-intensive, but necessary: Never assume an image is available freely to use. If students can't find the copyright notice, pick a different image.

Here are two examples (*Figure 74—zoom in to view better*):

Figure 74—Two copyrighted images

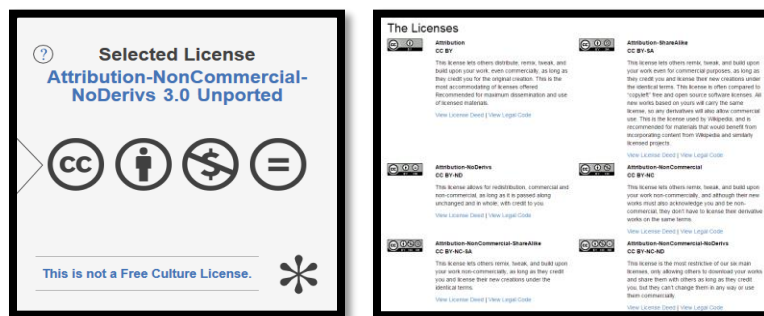


It requires attribution—a linkback or credit, which I've provided.

Some want to share work and collaborate with others. Watch and discuss *Wanna Work Together* (available on YouTube). about Creative Commons licensing.

Show students how to decode the copyright protections normally included with online images. Use the Creative Commons online licensing as an example—*Figures 75a-b*:

Figure 75a-b—Creative Commons licensing



Discuss how artists share material online. What do these terms mean?

- Attribution
- Non derivative works
- Share alike
- Non-commercial

_____ *Figure 76a* was drawn by a student and posted to her/his public website to share with family and friends. Without her/his knowledge, it was used forty-seven times (*Figure 76b*), not always in places s/he or her/his parents would approve.

_____ What could s/he do in the future? How about add a copyright notice to her/his website, announcing that all media contained on the website are protected by copyright laws and cannot be used without permission.

_____ Discuss how students can find out if an image they've created is being used online. If they drag-drop it into TinEye or Google Images, it shows all the online sites where it appears:

Figure 76a-b—Student drawing used without permission



_____ How would students feel if someone stole their drawing? What if thief posted it online? What if they made ugly comments about it? What if they made money off of it and didn't share it with creator. What if artist really needed that money to support a family or go to college?

_____ Define '**plagiarism**'. Discuss how to cite a website. Visit EasyBib or Citation Machine.

_____ When must you credit material found online? In general terms:

- *facts not commonly known or accepted; opinions that support research*
- *exact words and/or unique phrase*
- *reprint of diagrams, illustrations, charts, pictures, or other visual materials*
- *electronically-available media are copy-pasted, including images, audio, video*

Hoaxes

_____ Discuss how easy it is to fake a picture with programs like Photoshop.

_____ Look at *Figure 77*. Did President Roosevelt really ride a moose across a river?

Figure 77—Real or a hoax?



_____ In *Figures 78a-b*: Was the tree added to or erased from the original photo?

Figure 78a-b: Add or remove pieces from a photo



_____ Discuss as a class whether *Figures 79a-c* are accurate—and how do students know? It's no surprise photos are not accepted as proof in court.

Figure 79a-c—Real or hoax pictures?



_____ Visit the Zapatopi website about tree octopuses. Is it real? How do you know?

_____ Show 'War of the Worlds'—a famous video hoax (Google for address). Discuss how it confused fiction with reality if listeners missed the first ten minutes. Play it for students from that point.



Summative Project

_____ Conclusion: It's a lot easier to create your own graphics than use someone else's.

_____ Open school's graphic program. Have students draw a picture that collaborates with a class discussion (literature, history, or another).

_____ When done, take a screen shot and share on blog/website.

Class exit ticket: *Using Twitter, class Discussion Board, or student blog, share thoughts about copyrights and how they protect creative genius.*

Differentiation

- Do Webquest Hoax or Not and discuss.
- Have students find five copyright-free images to support a project from another class, one each from a public domain website, Google images, created in a drawing program,
- Create a blog post that includes images from classmates. Provide proper credit.
- Students who finish early go to class internet start page for websites tied to inquiry.

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Classroom Posters

- 1. 10 Steps to Become a Better Geek**
- 2. 15 Ways to Get Your Geek On**
- 3. Copyright Law**
- 4. Digital Neighborhood**
- 5. Email etiquette**
- 6. Here's What We've Done**
- 7. How to Save—4 Ways**
- 8. How to solve problems**
- 9. I Can't Find My File**
- 10. Netiquette Rules**
- 11. Popular Shortkeys**
- 12. Shortkeys—Chromebook**
- 13. Shortkeys—Internet**
- 14. Shortkeys—iPad**
- 15. Shortkeys—PCs**
- 16. Steps for Internet Research**
- 17. What's a Mulligan**

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Which book	Price (print/digital/Combo)
K-8 th Tech Textbook (each)	\$25.99-35.99 + p&h
K-8 Combo (all 9 textbooks)	\$248-450 + p&h
K-8 Student workbooks (per grade—tech or kb)	\$199/550/1500 (room/school/district)
35 K-6 Inquiry-based Projects	\$31.99/25.99/52.18 + p&h
55 Tech Projects—Vol I,II, Combo	\$18.99 /\$35.38—digital only (free shipping)
K-8 Keyboard Curriculum—3 options	\$20 and up + p&h
K-8 Digital Citizenship Curriculum	\$29.95/25.99/50.38 + p&h
CCSS—Math, Language, Reading, Writing	\$26.99 ea/80 for 4—digital only (free shipping)
K-5 Common Core Projects	\$29.95/23.99/48.55 + p&h
Themed webinars	\$8-30
Weekly tech webinars	Free or \$99 per year for 180+ per year
Summer PD classes (online—for groups)	\$795
Summer tech camp for kids	\$179 + p&h
College credit classes (online)	\$497 and up
Digital Citizenship certificate class	Starts at \$29.99
Classroom tech poster bundles	Start at \$9.99
PBL lessons--singles	\$1.99 and up
Bundles of lesson plans	\$4.99 and up (digital only)
Tech Ed Scope and Sequence (K-6 and 6-8)	\$9.99 and up (digital only)
New Teacher Survival Kit	\$285-620+ p&h
Homeschool Tech Survival Kit	\$99 + p&h
Mentoring (30 min. at a time)	\$50/session
169 Tech Tips From Classroom	\$9.99 (digital only)
Consulting/seminars/webinars	Call or email for prices

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Email Zeke.rowe@structuredlearning.net

Pay via PayPal, Credit Card, Amazon, TPT, pre-approved

