

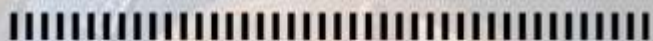


Teacher Manual



3rd Grade

Technology



32-LESSON COMPREHENSIVE CURRICULUM

SIXTH EDITION

by Ask a Tech Teacher

THIRD GRADE TECHNOLOGY

A 32-LESSON COMPREHENSIVE CURRICULUM

SIXTH EDITION

Part Four of Nine of the SL Technology Curriculum

Sixth Edition 2016

Part Four of Structured Learning’s nine-volume Technology Curriculum

Visit the companion website at <http://askatechteacher.com>© for more resources

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Introduction

The educational paradigm has changed—again. Technology has become granular to learning, included in educational standards from Kindergarten onward, like these from Common Core:

- Expect students to demonstrate sufficient command of **keyboarding** to type a minimum of one page [three by sixth grade] in a single sitting
- Expect students to **evaluate different media**
- Expect students to **gather relevant information** from print and digital sources
- Expect students to integrate and evaluate **information presented in diverse media** and formats
- Expect students to **interpret information** presented visually, orally, or quantitatively [such as Web pages]
- Expect students to make **strategic use of digital media**
- Expect students to use **glossaries or dictionaries, both print and digital ...**
- Expect students to use information from **illustrations and words in print or digital** text
- Expect students to communicate with a **variety of media**
- Expect students to **use text features and search tools** (e.g., key words, sidebars, **hyperlinks**) to locate information

But how is this taught?

With the **Structured Learning Technology Curriculum**. Aligned with [Common Core State 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. It's project-based. 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 information 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 with proper scaffolding. The end result is a phenomenal amount of learning in a short period of time.

● ● ●
“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.”

● ● ●
“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

If there are skills you as teacher don't know, visit our Help blog (AskATechTeacher.com) and co-teaching wikis (if link below doesn't work, copy-paste into your address bar):

- [K-3rd grade — http://k-3tech.wikispaces.com/](http://k-3tech.wikispaces.com/)
- [4th grade — http://fourthgradetech.wikispaces.com/](http://fourthgradetech.wikispaces.com/)
- [5th grade — http://5thgradetechclass.wikispaces.com/](http://5thgradetechclass.wikispaces.com/)

They're free and staffed by teachers who use the curriculum.

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 in the curriculum includes five topics that should be woven into 'most' 21st-century lesson plans:

- *keyboarding—more than typing*
- *digital citizenship—critical with the influx of Chromebooks and iPads*
- *problem-solving—to encourage independence, critical thinking*
- *vocabulary—decode unknown words in any subject quickly with technology*
- *publishing-sharing—to promote collaborative learning*

Most grade-level curricula include full lessons on keyboarding, digital citizenship, and problem solving.

Here's a quick overview of what is included:

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

Each weekly lesson includes:

- *assessment strategies*
- *big idea*
- *class exit ticket*
- *class warm-up*
- *Common Core Standards**
- *differentiation strategies*
- *educational applications*
- *essential question*
- *examples, rubrics, images, printables*
- *ISTE Standards*
- *materials required*
- *pedagogic articles (if any)*
- *problem solving for lesson*
- *skills—new and scaffolded*
- *steps to accomplish goals*
- *supporting links*
- *teacher preparation required*
- *time required to complete*
- *vocabulary used*
- *weekly how-to video (online)*

Throughout the text are links to extend lessons, add enrichment, and/or provide flexibility in your teaching. No PDF? Usually the website is spelled out. If not, Google the name or contact our help site.

Programs Used

Programs used in this curriculum focus on skills that serve the fullness of a student's educational career. Free alternatives are noted where available:

General		2-8
Email	Drawing program	Word processing tools
Google Earth	Image editor	Spreadsheet tools
Web tools	Keyboarding tool	Desktop publisher
		Presentation tools

What's New in the Sixth Edition?

A good tech curriculum is aligned with best practices in technology and education. That means it must be updated every few years. Consider the changes to technology in education since SL's Fifth Edition published in 2013:

- *Windows updated its platform—twice.*
- *iPads have been joined by Chromebooks as a common classroom digital device.*
- *There is greater reliance in the classroom on internet-based tools than software. This underscores the importance of teaching digital citizenship to even the youngest learners.*
- *Student work is often collaborative and shared.*
- *Student work is done anywhere, not just the classroom and home, meaning it must be synced and available across multiple platforms, multiple devices.*
- *Keyboarding skills are often critical, especially to summative year-end testing.*
- *Technology in the classroom is the norm, but teacher training isn't.*
- *Education is focused on college and career with tech an organic, transformative tool.*
- *Teachers have moved from 'sage on the stage' to 'guide on the side'.*
- *Students have been raised on digital devices. They want to use them as learning tools.*
- *Using technology is no longer what 'geeky' students do. It's what all students want to do.*
- *Printing is being replaced with sharing and publishing.*
- *More teachers are willing to try technology when used authentically.*

In response, here are changes you'll find in the Sixth Edition:

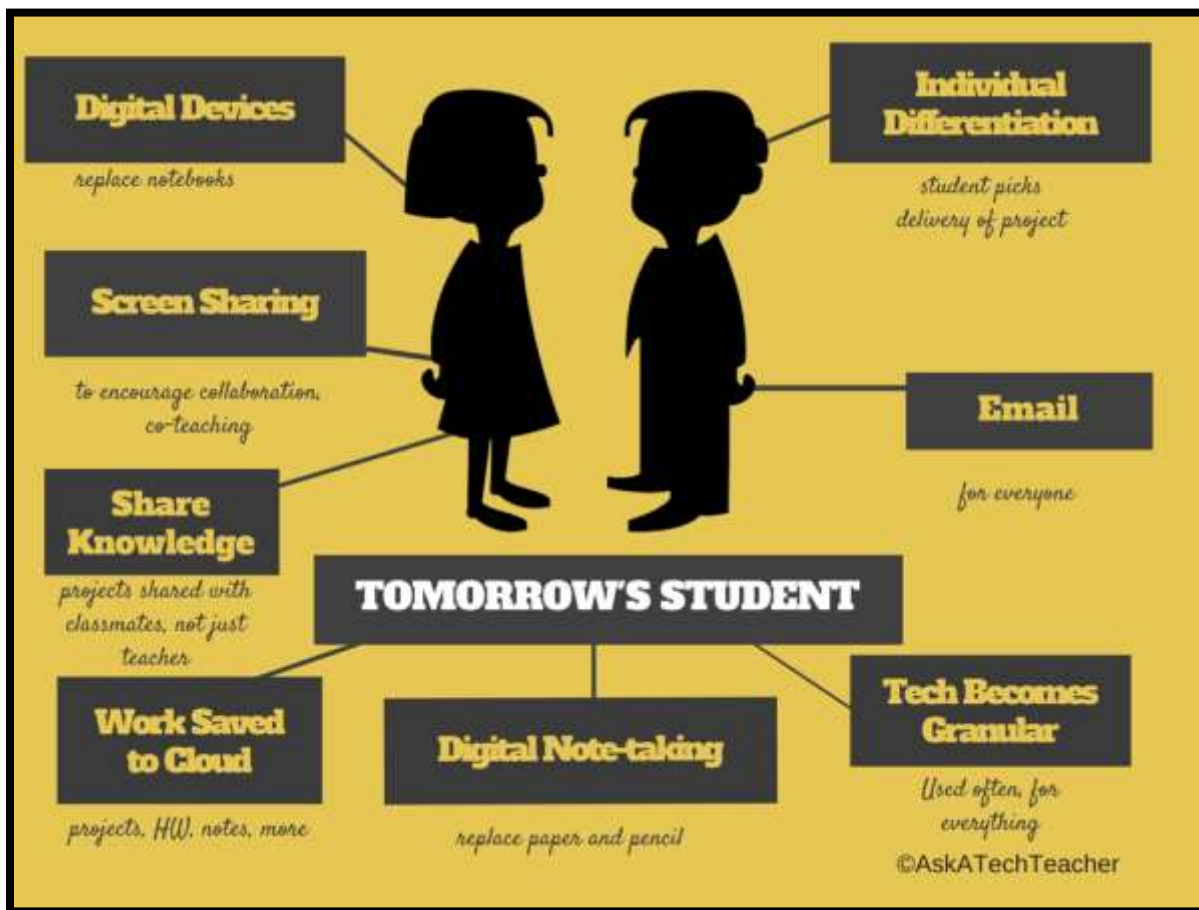
- *The lesson audience is now as likely to be the **grade-level teacher as the tech teacher**. You'll learn how to unpack the lesson regardless of which hat you wear.*
- *Lessons are adaptable to most **popular digital devices** including desktops, Chromebooks, and iPads.*
- *The importance of **higher order thinking**—analysis, evaluation and synthesis—is called out.*
- *The importance of '**habits of mind**'—critical to college and career goals—is included.*
- *It's easy to recognize which **skills are scaffolded** from earlier lessons and which are new.*
- *Each lesson points out **academic applications** of technology.*
- *Students learn to **understand the process**, not just replicate a skill.*

- **Collaboration and sharing** is often required.
- **Differentiation** is encouraged. Teachers learn strategies to meet students where they learn.
- Each lesson includes a **warm-up and exit ticket**, to assess and reinforce student learning.
- A **Table of Images** and a **Table of Assessments** are included for easy reference.
- Updated **Scope and Sequence** includes more references to Common Core.
- **Curriculum Maps** shows which month topics are covered as well as which grade.
- Each grade-level curriculum includes **student workbooks** (sold separately).
- Each grade level has a **lesson on coding**. These are free-standing and can be moved to any spot in the curriculum—like December for Hour of Code.

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.

Figure 1—Tomorrow's student



Or you are the classroom 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

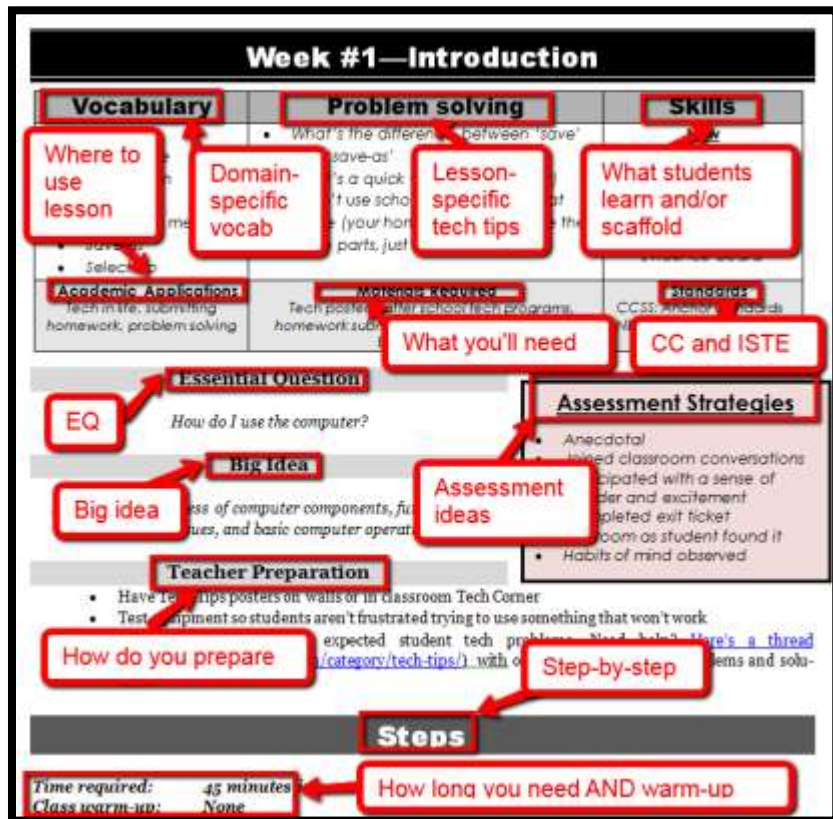
it. And significantly, you want to comply with Common Core State Standards, ISTE, your state requirements, and/or IB guidelines that weave technology into the fabric of inquiry. You are a homeschooler. Even though you're not comfortable with technology, you know your children must be. You are committed 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 a vital part of being a functional member of society—and should be part of every school's curriculum. If not you (the teacher), who will do this? To build Tomorrow's Student (Figure 1) requires integration of technology and learning. We show you how.

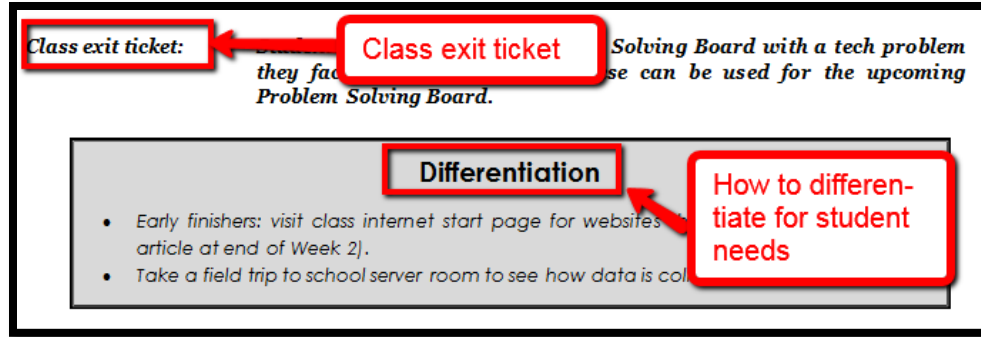
How to Use This Book

Figure 2a shows what's at the beginning of each lesson. Figure 2b shows what you'll find at the end:

Figure 2a—Beginning of each lesson; Figure 2b—end of each lesson



- Academic Applications
- Assessment Strategies
- Big Idea
- Class Warm-up
- Essential Question
- Material Required
- Problem solving
- Skills
- Standards
- Steps
- Teacher Prep
- Time Required
- Vocabulary



- Class differentiation strategies
- Class exit ticket

The curriculum map below (Figure 3) shows what's covered in which grade. Where units are taught multiple years, teaching reflects increasingly less scaffolding and more student direction.

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	☺	☺	☺	☺	☺					☺		☺	☺	☺		☺
1	☺	☺	☺	☺	☺			☺	☺	☺		☺	☺	☺		☺
2		☺	☺	☺	☺	☺	☺	☺	☺	☺		☺	☺	☺		☺
3		☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺
4		☺	☺		☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺
5		☺	☺		☺	☺		☺	☺	☺	☺	☺	☺	☺		☺
6		☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺	☺		☺
7		☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺
8		☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺

If you're the grade-level teacher, here's how to use the map:

- 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.
- If there are skills listed as covered prior years, confirm that was done. If they weren't (for whatever reason), when you reach lessons that require the skills, plan extra time.

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Figure 4 is a month-by-month curriculum map for this grade level. In the student workbook, students complete this themselves or as a group when they finish each lesson.

Figure 4—Curriculum Map—3rd grade, month-to-month

	Sept <i>Wk1-4</i>	Oct <i>Wk5-8</i>	Nov <i>Wk9-12</i>	Dec <i>Wk13-16</i>	Jan <i>Wk17-20</i>	Feb <i>Wk21-24</i>	March <i>Wk25-28</i>	April <i>Wk29-32</i>
<i>Blogs</i>		x						
<i>Class mgmt tools</i>	x	x			x			
<i>Coding/Programming</i>			x					
<i>Communication</i>		x			x	x	x	x
<i>Computer etiquette</i>				x				
<i>Critical thinking</i>		x	x		x	x	x	x
<i>DTP</i>				x	x			
<i>Digital Citizenship</i>	x	x	x	x	x	x	x	x
<i>Google Earth</i>				x				
<i>Graphics</i>						x	x	
<i>Hardware</i>	x						x	
<i>Internet</i>	x				x		x	
<i>Internet privacy</i>					x			
<i>Keyboarding</i>	x	x	x	x	x	x	x	x
<i>Problem solving</i>	x	x	x	x	x	x	x	x
<i>Publishing/sharing</i>		x		x	x			x
<i>Research</i>					x		x	
<i>Slideshows</i>							x	x
<i>Speaking and Listening</i>		x	x	x	x	x	x	x
<i>Spreadsheets</i>			x			x		
<i>Visual learning</i>			x	x				
<i>Vocabulary</i>	x	x	x	x	x	x	x	x
<i>Webtools</i>		x			x			
<i>Word Processing</i>		x	x	x				x

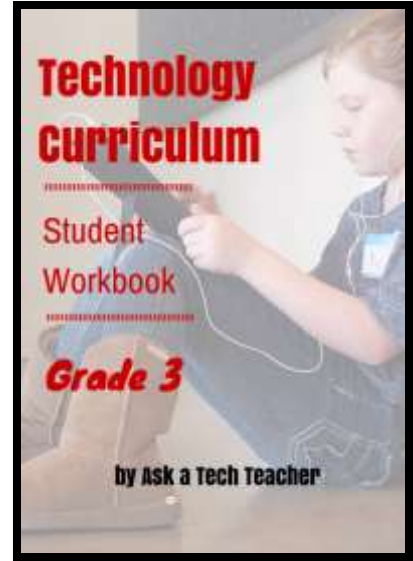
Some topics are covered every month. The strategy: spiral and scaffold learning until it's habit.

Here are hints to assist using this curriculum:

- Join the free grade-level companion wiki with the coupon code from the front of the book. If you have difficulty, email askatechteacher@gmail.com for a Join Code. Here, you get weekly videos on how to teach the upcoming lesson.
- Invest in student digital workbooks ([sold separately](#) — <http://bit.ly/1FVU6Sm>), a perfect student-centric companion to your teacher guide. Here are suggestions on how to use the workbooks:

- Full-color projects are at student fingertips complete with examples and directions (licensing may vary depending upon the plan your school selected).
 - With nominal direction from you, students learn tech skills. This is perfect if your school teaches technology across classes and developing good digital citizens is a priority.
 - Embedded links enable students to click and go—no searching for the site, typing in addresses, or suffering through spelling errors.
 - Workbooks can be shared through a reader where you and students add your own notes, how-tos and more.
 - Students can work at their own pace.
- If you want to use student workbooks in your class, here's how:
 - buy a multi-user license (room, school, district) to install eworkbooks on multiple devices (even at home with some licenses)
 - provide a weekly preview by reviewing the lesson on the class screen

Figure 5--Student workbook

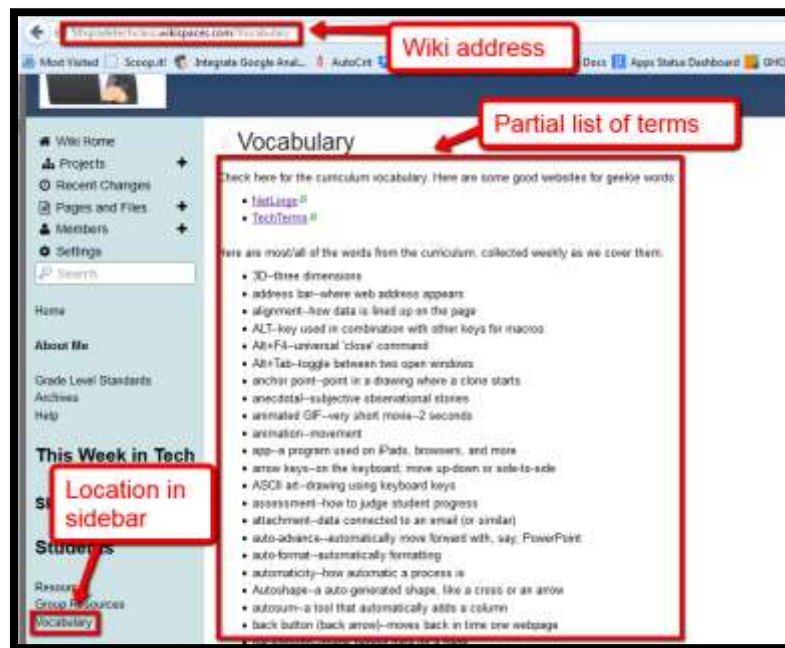


- Teach lessons in the order presented in the book (grades K-5). Lessons introduce, reinforce, and circle back on skills and concepts. Certain skills scaffold others so you want them solid before moving on. Resist the urge to mix up lessons, even if it seems your perfect time for a particular project comes earlier/later than placement in the book. **One exception: Coding/Programming.** Unpack this lesson when it works best for you.
 - Personalize the skills taught in each lesson to your needs with 'Academic Applications'. These are suggestions for blending learning into your existing curriculum.
 - Each lesson starts with a warm-up to get students back into tech and give you time to finish up a previous class. This is especially useful to the tech teacher and the LMS.
 - Each class includes an Exit Ticket to wrap up learning.
 - 'Teacher Preparation' often includes chatting with the grade-level team. Why?
 - tie tech into their inquiry
 - offer inquiry-specific websites for early finishers
- Check off completed items on the line preceding the activity so you know what to get back to when you have time. If you have the ebook, use iAnnotate, Goodreader, Subtext, Notable (Google for websites), or another annotation tool that works for your devices.
 - We understand when kids and technology collide, sometimes the class is too excited about the learning to move on. Two solutions:



- Leave line in front of uncompleted activity blank and return to it when you have time. You'll notice after using this curriculum a few years that students finish material faster.
- Take an extra week. Most school years run 35-40 weeks. This book includes 32 lessons. This provides flexibility also for missed time due to holidays, snow days, or field trips.
- If a link doesn't work, copy-paste the address into your internet browser. **A note: Links die.** If a link doesn't work even after copy-pasting, email us. We'll let you know a work-around.
- If there is no link, this means it was already provided or shows up readily in a Google search.
- Consider expecting students to back up their work—as a life habit. This can be onto a flash drive, by emailing the document to themselves, or saving to a secondary location on their digital device.
- Don't skip the 'Problem Solving' section, even if the problems don't come up in your class. Bring them up! These are important scaffolding for student ability to think critically and troubleshoot issues when you won't be there to help.
- Always use lesson vocabulary. Students gain authentic understanding of word use by your example. A complete glossary of lesson vocabulary can be found in the Companion Wiki (joined via the Coupon Code), in the sidebar tab 'Vocabulary' (Figure 6 is from the 5th grade Companion Wiki). Here, you'll find several hundred easy-to-understand definitions of domain-specific tech words.

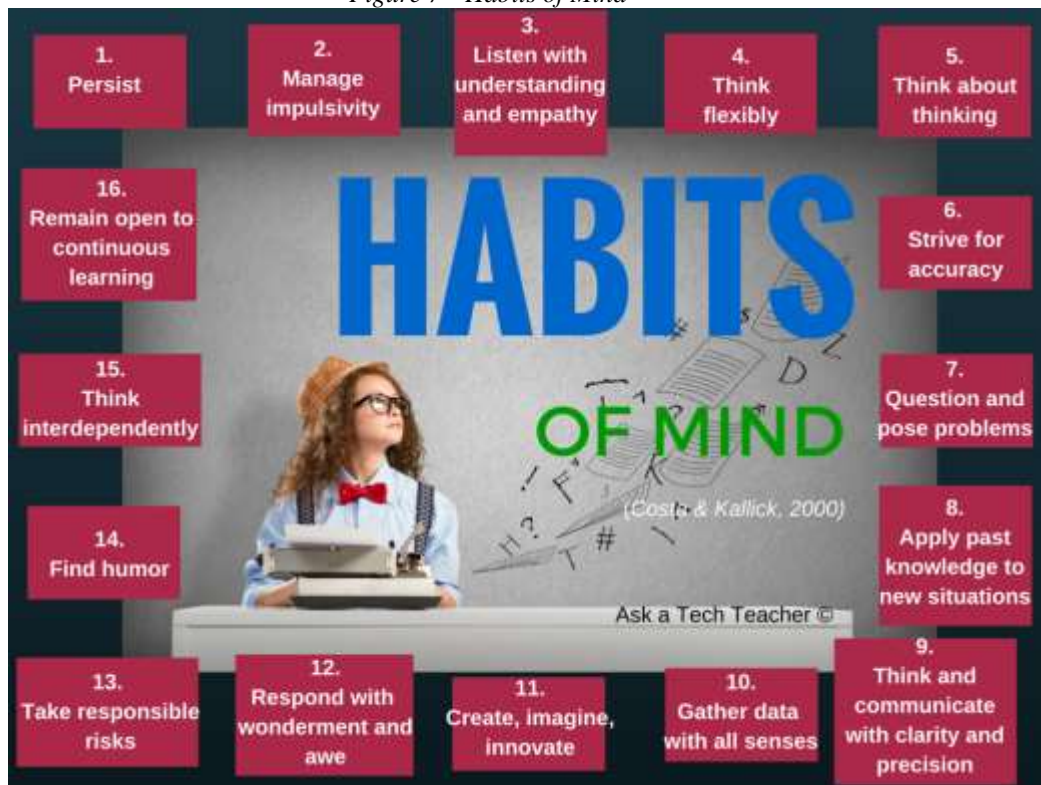
Figure 6—Glossary of tech ed vocabulary



- Some lessons provide options. For example, Lesson 7 has multiple choices to teach coding. Review the entire lesson prior to teaching and choose the option most suited to your students. All will accomplish the tech goals.
- Is class shorter than 45 minutes? Highlight items most important to your goals and leave the rest for 'later'.

- 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.
- Expect students to direct their own learning. You are a 'guide on the side'. You are a facilitator, not lecturer. Learning is accomplished by both success and failure. Don't expect to have free time while students work. Move among them to provide feedback and assistance, and make anecdotal observations on their keyboarding, problem-solving, and vocabulary decoding skills.
- Encourage student-directed differentiation, opportunities for them to present their knowledge in ways suited to their abilities. 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.
- Use as much technology as possible in your classroom—authentically and agilely. Make it adaptive and native. 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.
- Remind students they've learned and understand skills. Check them off in the Scope and Sequence additional times as you circle back on them.
- Lessons expect students to develop 'habits of mind'. You can read more about Art Costa and Bena Kallick's discussion of these principles at <http://habitsofmind.org>, in Figure 7, and in the article at the end of Lesson #1. In a sentence: Habits of Mind ask students to engage in their learning, not simply recite or memorize.

Figure 7—Habits of Mind



- If you need resources on specific topics, click for websites (<http://askatechteacher.com/great-kids-websites/>) or apps (<http://askatechteacher.com/great-apps/>).






-  indicates video
 -  indicates working with a partner
 -  indicates an article
 -  indicates a topical poster (in the Appendix)
 -  indicates annotatable rubric available in student workbooks (like rubrics)
- If there's a poster you want that is too small to read and not in the Appendix, [click here](http://askatechteacher.com/getting-started/free-posters/) for a printable copy.
 - Throughout the year, circle back on lessons learned. It takes students five times seeing a skill to get it—
 - *First:* They barely hear you
 - *Second:* They try it
 - *Third:* They remember it
 - *Fourth:* They use it outside of class
 - *Fifth:* They tell a friend
 - **Need more help?** Go to Ask a Tech Teacher© (<http://askatechteacher.com>) run by teachers using the curriculum or the discussion board on the grade-level companion wiki. Leave a comment or question. You can also email admin@structuredlearning.net or askatechteacher@gmail.com.

Figure 8a-g—Compatible digital devices

A desktop PC, iMac, laptop, MacBook, Chromebook, iPad, or smartphone



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Typical Lesson

Each lesson requires about 45 minutes a week, either in one sitting or spread throughout the week, and can be unpacked:

- In the grade-level classroom
- In the school's tech lab

Both are covered in each lesson. In general terms, here's how to run a lesson in **the tech lab**:

- Post a **simple written schedule** for the day on the class screen:
 - Warm up
 - Main activity
 - Exit ticket

This gives students a visual guideline to get started. Add it to your class blog or website to serve those students who aren't present. Expect students to start with the warm-up when they arrive to class.

- **Warm up about 10 minutes**, often with typing practice. Some days, youngers work on alphabet sites such as [Bembo's Zoo](#).
- Three students complete **Board presentations** (grades 3-8).
- If it's the end of a grading period, use **Scope and Sequence to review** skills accomplished.
- If starting a **new project, review it** and take questions. If you're in the middle of one, students use the balance of class to work towards completion. Monitor activities, answer questions, help as needed.
- As often as possible, give **younger students two weeks** to finish a project—one to practice, one to save/export/share/print. This redundancy reinforces new skills and mitigates stress. If it's week two, start with the project and finish with typing so students have ample time to work.
- List age-appropriate websites that **tie into inquiry** for students who complete the current project on class internet start page. Students know websites on this page can be used during free time.
- **Class exit ticket** might include lining up in arrays, answering a poll posted on the class screen, or simply leaving stations as students found them.
- Always **use tech wherever possible**. Model what you ask of them.

Here's how to run the lesson in **the grade-level classroom**:

- Take the lesson pieces mentioned above and scatter them throughout the week. For example:
 - **3-10 minutes for the class warm-up**—at the start the week
 - **10-15 minutes keyboarding practice**—any day
 - **10-15 minutes Board presentations**—any day
 - **15-35 minutes for the project**—any day
 - **2-3 minutes for the class exit ticket**—to reinforce learning

Figure 9--Five times for buy-in



3rd Grade Technology Curriculum: Teacher Manual

- Check off accomplished activities so you know what remains each week.
- In every class, **use tech wherever possible**. Be the model for what you're asking of them.

Here are useful pieces to extend this curriculum:

- *Teacher manual—the roadmap. That's this book.*
- *Student workbooks* (<http://bit.ly/1FVU6Sm>)—allow students to be self-paced
- *Teacher companion videos* (<http://bit.ly/1DlIfUB>)—preview before lesson. Free with K-5 books
- *Digital Citizenship curriculum* (<http://bit.ly/1JgKioZ>)—if this is a focus of your school
- *Keyboarding Curriculum* (<http://bit.ly/1JgKy7t>)—if this is a focus of your school
- *Class internet start page*—provides a class agenda, themed links, and more. Create in Protopage (Figure 10a), Diigo, LiveBinders (Figure 10b), Symbaloo (Figure 10c) or another.

Figure 10a—Start page using Protopage; 10b—LiveBinders; 10c—Symbaloo



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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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K-6 TECHNOLOGY SCOPE AND SEQUENCE©

Aligned with ISTE Standards

*Check each skill off with I/W/M/C under 'ISTE' as students accomplish it
(‘ISTE’ refers to the ISTE Standard addressed by the skill)*

**Intentionally
deleted**

Lesson #1—Intro and Review

Vocabulary	Problem solving	Skills
<ul style="list-style-type: none"> • Back-up • Class start page • CPU • Digital • Evidence of learning • Format • Mouse wheel • NumLock • PC • Right mouse button • Right-click menu • Start page • Windows 	<ul style="list-style-type: none"> • What if double-click doesn't work (push enter) • What if monitor doesn't work (push power) • What if computer doesn't work (Is mouse awake?) • What if volume doesn't work? • What if mouse doesn't work? • What if headphones don't work? • What if it really is someone's fault that *** happened? (take responsibility) • I don't agree with the rules (it's part of being in a community) 	<p>New</p> <p>Digital student Mulligan Homework Evidence Board</p> <p>Scaffolded</p> <p>Digital citizenship Delete, saving, undo, select-do Lab rules</p>
<p>Academic Applications General academics, CC standards</p>	<p>Materials Required Evidence Board, classroom rules, Problem-solving board, websites on class start page</p>	<p>Standards CCSS Anchor NETS: 6a</p>

Essential Question

How do I use technology?

Big Idea

Students develop an awareness of the part technology plays in supporting their educational goals

Teacher Preparation

- Test equipment so no students are frustrated trying to get something to work.
- Ensure required links are on student digital devices.
- Integrate domain-specific tech vocabulary into lesson.
- Collect words students don't understand for Speak Like a Geek Board presentations.
- Know whether you need extra time to complete this lesson with your student group.

Assessment Strategies

- Anecdotal observation
- Completed exit ticket
- Joined class conversations
- [tried to] solve own problems
- Made decisions that followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis
- Habits of mind observed

Steps

Time required: 45 minutes in one sitting or spread throughout the week
Class warm-up: None

- _____ Start by explaining to students your expectations for their time with you—what's the **21st century tech-infused lesson plan** (article at end of lesson)?
- _____ Clarify technology in their lives by drawing a silhouette of a student on the class



screen and ask students what they use technology for in their lives. As they mention activities, add them to your drawing. It may look like *Figure 11*:

Figure 11—Digital student



_____ Tour classroom. Show students where everything is. Review important posters, i.e., difference between ‘save’ and ‘save-as’ (*Figure 12a*), difference between ‘backspace’ and ‘delete’ (*Figure 12b*), portrait and landscape orientation of documents (*Figure 12c* and *12d*). Full size posters for *Figures 12a-d* and *Figures 13a-d* are in Appendix.



Figure 12a-d—Classroom posters



_____ Review the Undo shortkey (*Figure 13a*).

Review 'save early save often' (Figure 13b). What's this mean? Why is it a good idea?

Review 'Select-Do' (Figure 13c). What does that mean? (Hint: You must select something before you can do to it).

Review Mulligan Rule (Figure 13d). Any golfers? What's a mulligan in golf? In class, it means: If student doesn't feel they showed their true knowledge on a quiz or project, they can retake for full credit. You tell students when this is available.

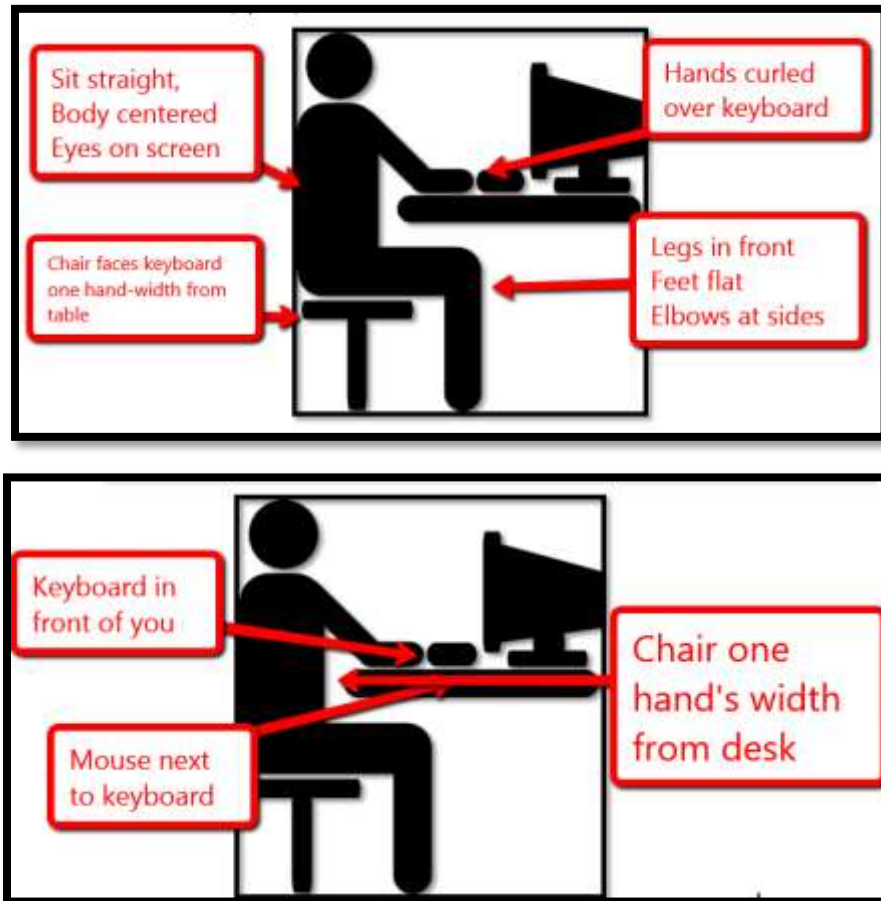


Figure 13a-d—More classroom posters



Review posture and computer positioning (Figure 14a and Figure 14b):

Figure 14a-b Student posture and positioning at computer



_____ Have students check posture of their neighbor. If correct posture isn't already a habit, make sure they sit this way everywhere they use a computer—home, school, the library, everywhere.



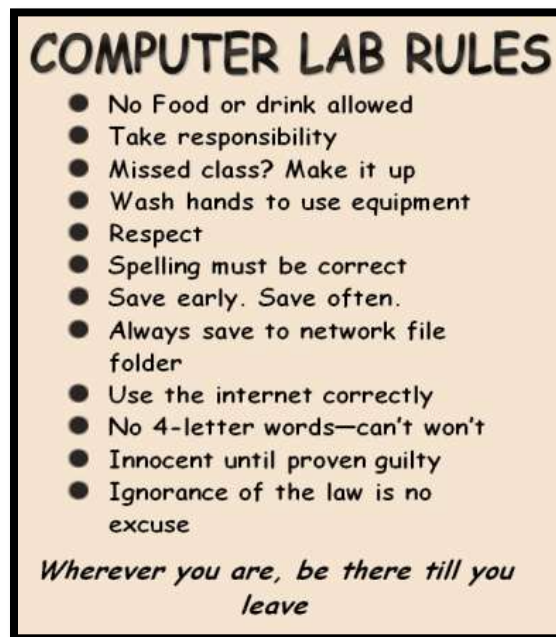
_____ Collect rules from students to guide classroom actions, including:



- *No excuses; don't blame others; don't blame digital device.*
- *Save early, save often—about every ten minutes.*
- *No food or drink around digital devices. Period.*
- *Respect the work of others and yourself.*
- *Keep hands to yourself. Feel free to help neighbors, but with words only.*

_____ You may start with a list like *Figure 15* from the prior year:

Figure 15—Classroom tech rules



_____ Make sure to include class discussion guidelines such as 1) listening to others, 2) taking turns while speaking, and 3) waiting to be called on before speaking.

_____ Review homework policy (homework in back of this text): due at the end of each month. Students submit homework in the manner that works best for your group (email, Google Apps, or another). Homework is keyboard practice, starting with one row and working up to all keys:

- **months 1-3:** *practice only one row per month*
 - *1st month: homerow*
 - *2nd month: QWERTY row*
 - *3rd month: lower row*
- **months 4-9:** *practice all rows*
- *too easy? cover hands*

_____ Discuss the Evidence Board (*Figures 16a and 16b*).

Figure 16a-b—Evidence Board and badge



- _____ This 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 will have an opportunity to share how they use tech skills in other classes, at home, or with friends. They will fill out a badge (like *Figure 16b*) and post it on the Evidence Board. By the end of the year, you want this collection to encircle the classroom.
- _____ Discuss student responsibility to make up missed classes. Show them where you post lessons.
- _____ Discuss **digital citizenship**. You'll cover it in depth in Lesson 4 and discuss it every time students use the internet. If you want more depth, see [K-8 Digital Citizenship curriculum \(http://bit.ly/1JgKioZ\)](http://bit.ly/1JgKioZ), a companion to this curriculum. Remind students any time they visit the internet, they do so safely and legally.
- _____ Open class internet start page on class screen (read ***“Which Class Internet Start Page is Best”*** article at end of lesson). What is this? Do students remember it from last year? This is where students find websites to be used during the current week, bundles of themed websites, and a class 'to do' list.
- _____ Remind students that **hardware quiz** is next week—no preparation required. It will be a benchmark of what you remember about computer parts from previous years.



Class exit ticket: *Load a poll on class screen where students click their answer to ‘How I used tech this summer’ as they leave class.*

Differentiation

- Embed a calendar of class events (created in Google Calendar or similar) into class website or blog with quizzes, project due dates, and more. Explain to students how to use it.
- Add homework due date to calendar—once a month.
- Post Hardware quiz on class calendar next week and speed quiz in two weeks.
- Offer after-school help for students who need assistance with a tech skill or a project involving tech. This might be on the same day you offer afterschool keyboarding sessions (for students who don't have digital devices at home to finish homework). Request student volunteers who will commit to assisting classmates. You may collaborate with your school's STAR program, where students volunteer for activities as part of their class requirements.
- To extend keyboarding lessons, follow [K-8 Keyboard Curriculum \(http://ow.ly/j6GH8\)](http://ow.ly/j6GH8).

Article 1 21st Century Lesson Plan

21st Century Lesson Plan

Technology and the connected world put a fork in the old model of teaching—teacher in front of the class, sage on the stage, students madly taking notes, textbooks opened to a particular chapter being reviewed, homework as worksheets based on the text, tests regurgitating important facts. Did I miss anything? This model is outdated **not because it didn't work** (many statistics show students ranked higher on global testing years ago than they do now), **but because the environment changed**. Our classrooms are more diverse. Students are digital natives, already in the habit of learning via technology. The 'college and career' students are preparing for is different so the education model must be different.



Preparing for this new environment requires radical changes in teacher lesson plans. Here are seventeen concepts you'll want to include in your preparation:

1. Students are graduating from high school unable to work in the [jobs that are available](#). It's the teacher's responsibility to insure students **learn over-arching concepts** such as how to speak to a group, how to listen effectively, how to think critically, and how to solve problems. The vehicle for teaching these ideas is history, science, literature, but they aren't the goal.
2. To focus on the over-arching concepts above, make learning **platform-neutral**. For example, when teaching spreadsheets, make the software or online tools a vehicle for practicing critical thinking, data analysis, and evidence-based learning, not for learning one brand of software or a particular spreadsheet tool. Besides, what you use at school may not be what students have at home. You don't want students to conflate your lessons with 'something done at school'. You want them to apply them to their life.
3. **Morph the purpose from 'knowing' to 'understanding'**. Teach the process, not a skill. Students should understand why they select a particular tool, not just how to use it. Why use a slideshow instead of a word processing program? Or a spreadsheet instead of a slideshow? Expect students to be critical thinkers, not passive learners.
4. **Transfer of knowledge is critical**. What students learn in one class is applied to all classes (where relevant). For example, *word study* is no longer about memorizing vocabulary, but knowing how to decode unknown academic and domain-specific words using affixes, roots, and context.
5. **Collaboration and sharing** is part of what students learn. They help each other by reviewing and commenting on projects before submittal to the teacher (GAFE makes that easy). The definition of 'project' itself has changed from 'shiny perfect student work' to *review-edit-rewrite-submit*. You grade them on all four steps, not just the last one. This makes a lot of sense—who gets it right the first time? I rewrote this article at least three times before submitting. Why expect differently from students? **Plus:** No longer do students submit a project that only the teacher sees (and then a few are posted on classroom bulletin boards). Now, it is shared with all classmates, so all benefit from every student's work.
6. **Self-help methods** are provided and you expect students to use them. This includes online dictionaries and thesauruses, how-to videos, and access to teacher assistance outside of class. These are available

- 24/7 for students, not just during classroom hours. This happens via online videos, taped class sessions, the class website, and downloadable materials so students don't worry that they 'left it in their desk'.
7. **Teachers are transparent** with parents. You let them know what's going on in the classroom, welcome their questions and visits, communicate often via email or blogs when it's convenient for them. That doesn't mean you're on duty around the clock. It means you differentiate for the needs of your parents. Your Admin understands that change by providing extended lunch hours, compensatory time off, or subs when you're fulfilling this responsibility.
 8. **Failure is a learning tool.** Assessments aren't about 'getting everything right' but about making progress toward the goal of preparing for life
 9. **Differentiation is the norm.** You allow different approaches as long as students achieve the Big Idea or answer the Essential Question. You aren't the only one to come up with these varied approaches—students know what works best for their learning and present it to you as an option.
 10. The **textbook is a resource**, supplemented by a panoply of books, primary documents, online sites, experts, Skype chats, and anything else that supports the topic. This information doesn't always agree on a conclusion. Students use habits of mind like critical thinking, deep learning, and evidence-based decisions to decide on the right answers.
 11. The **lesson plan changes from the first day to the last**—and that's OK. It is adapted to student needs, interests, and hurdles that arise as it unfolds, while staying true to its essential question and big idea.
 12. **Assessments** include a quiz or test, but it also judges the student's transfer of knowledge from other classes, their tenacity in digging into the topic, their participation in classroom discussions, and more.
 13. **Vocabulary is integrated into lessons**, not a stand-alone topic. Students are expected to decode words in class materials that they don't understand by using quickly-accessed online vocabulary tools, or deriving meaning from affixes, roots, and context.
 14. **Problem solving is integral** to learning, not a stressful event. It's viewed as a life skill. Who doesn't have problems every day that must be solved? Students are expected to attempt a solution using tools at their disposal (such as prior knowledge, classmates, and classroom resources) before asking for help.
 15. **Digital citizenship is taught**, modeled and enforced in every lesson, every day, and every classroom. It's no longer something covered in the 'tech lab' because every class has as much potential for working online as offline. Every time the lesson plan calls for an online tool or research using a search engine or a YouTube video, teachers review/remind/teach how to visit the online neighborhood safely. It's frightening how students blithely follow weblinks to places most parents wouldn't allow their child to visit in their neighborhood. Just as students have learned how to survive in a physical community of strangers, they must learn to do the same in a digital neighborhood.
 16. **Keyboarding skills are granular.** They aren't used only in the computer lab, but in every class students take. If students are using iPads, Chromebooks, laptops, or desktops for learning, they are using keyboarding—which means they must know how to do so efficiently, quickly, and stresslessly. Since keyboarding benefits all classes, all teachers—including the librarian—become partners in this effort. I go into classrooms and show students the broad strokes; the teacher reinforces it every time the student sits down at the computer.
 17. **Play is the new teaching.** It is a well-accepted concept for preschoolers and has made a successful leap to the classroom, relabeled as 'gamification'. Use the power of games to draw students into learning and encourage them to build on their own interests. Popular games in the classroom include Minecraft, Mission US, Scratch, and others on [this list](#). If your school is new to this concept, clear it with admin first and be prepared to support your case.

Habits of Mind vs. Common Core vs. IB

Pedagogic experts have spent an enormous amount of time attempting to unravel the definition of 'educated'. It used to be the 3 R's—reading, writing, and 'rithmetic. The problem with that metric is that, in the fullness of time, those who excelled in the three areas weren't necessarily the ones who succeeded. As long ago as the early 1900's, Teddy Roosevelt warned:

"C students rule the world."

It's the kids without their nose in a book that notice the world around them, make connections, and learn natively.

They excel at activities that aren't the result of a GPA and an Ivy League college. Their motivation is often failure, and taking the wrong path again and again. As Thomas Edison said:

"I have not failed. I've just found 10,000 ways that won't work."

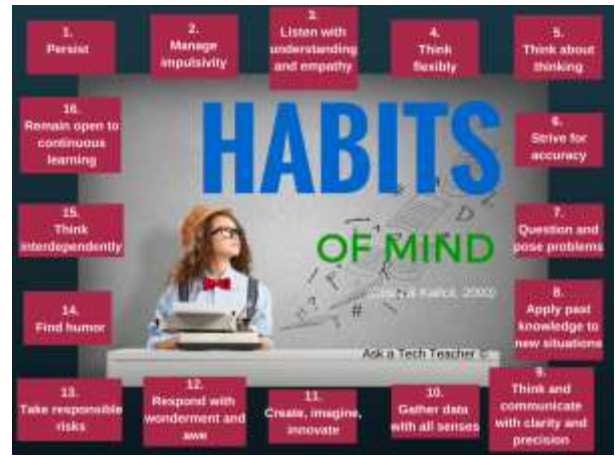
Microsoft founder, Bill Gates, and Albert Einstein are poster children for that approach. Both became change agents in their fields despite following a non-traditional path.

In the face of mounting evidence, education experts accepted a prescriptive fact: student success is not measured by milestones like 'took a foreign language in fifth grade' or 'passed Algebra in high school' but by how s/he thinks. One curated list of cerebral skills that has become an education buzz word is Arthur L. Costa and Bena Kallick's list of sixteen what they call [Habits of Mind](#) (Copyright ©2000):

- | | |
|---|---|
| 1. <i>Persisting</i> | 9. <i>Thinking and Communicating with Clarity and Precision</i> |
| 2. <i>Managing impulsivity</i> | 10. <i>Gathering Data through All Senses</i> |
| 3. <i>Listening with Understanding and Empathy</i> | 11. <i>Creating, Imagining, Innovating</i> |
| 4. <i>Thinking Flexibly</i> | 12. <i>Responding with Wonderment and Awe</i> |
| 5. <i>Thinking about Thinking</i> | 13. <i>Taking Responsible Risks</i> |
| 6. <i>Striving for Accuracy</i> | 14. <i>Finding Humor</i> |
| 7. <i>Questioning and Posing Problems</i> | 15. <i>Thinking Interdependently</i> |
| 8. <i>Applying Past Knowledge to New Situations</i> | 16. <i>Remaining Open to Continuous Learning</i> |

Together, these promote strategic reasoning, insightfulness, perseverance, creativity and craftsmanship.

But they're not new. They share the same goals with at least three other widely-used education systems: 1) Common Core (as close as America gets to national standards), 2) the International Baccalaureate (IB) program (a well-regarded international curriculum, much more popular outside the US than within), and 3) good ol' common sense. Below, I've listed each Habit of Mind with a brief explanation of what that means (in italics). I then point out connections to Common Core, the IB Program, and the common sense your grandma shared with



you. The result is a compelling argument that education is less a data download and more a fitness program for our brains.

Persisting

Stick with a problem, even when it's difficult and seems hopeless.

Winston Churchill said, "Never, never, in nothing great or small, large or petty, never give in..." The same decade, Albert Einstein said:

"It's not that I'm so smart, it's just that I stay with problems longer."

The Common Core is not a curriculum, rather a collection of forty-one overarching Standards in reading, writing, language, math, and speaking/listening that shape a student's quest for college and career. Sprinkled throughout are fundamental traits that go beyond the 3R's and delve deeply into the ability of a student to think. The math standards require students learn to 'persevere in solving problems'.

The IB Program has twelve attitudes that are fundamental to every learner: *appreciation, empathy, commitment, enthusiasm, confidence, independence, cooperation, integrity, creativity, respect, curiosity, and tolerance.* Students exhibiting the attitude of commitment persist in their own learning, persevere no matter the difficulties.

Managing Impulsivity

Consider options. Think before speaking.

Among his endless words of wisdom, Benjamin Franklin said:

"It is easier to suppress the first desire than to satisfy all that follow it."

Common Core Standards tell us to 'Use appropriate tools strategically'.

Besides the twelve attitudes listed above, the IB Program names ten traits that profile a learner: *inquirer, knowledgeable, thinker, communicator, principle, open-minded, caring, a risk-taker, balanced, and reflective.* Students who are reflective give thoughtful consideration before acting.

For the rest of the article, click <http://wp.me/pZUgb-coJ>



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 digital device 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.

Only2Clicks

Great for youngsters with their big bold buttons, colorful interface.

The downside: Too often, I have technical glitches as I try to set up collections. Maybe it's just me. Another downside: Like Symbaloo, Only2Clicks is focused mostly on link curation. If I want to add widgets, I have to select from their list. With kids, no matter how comprehensive the list, it misses the one I really really need.

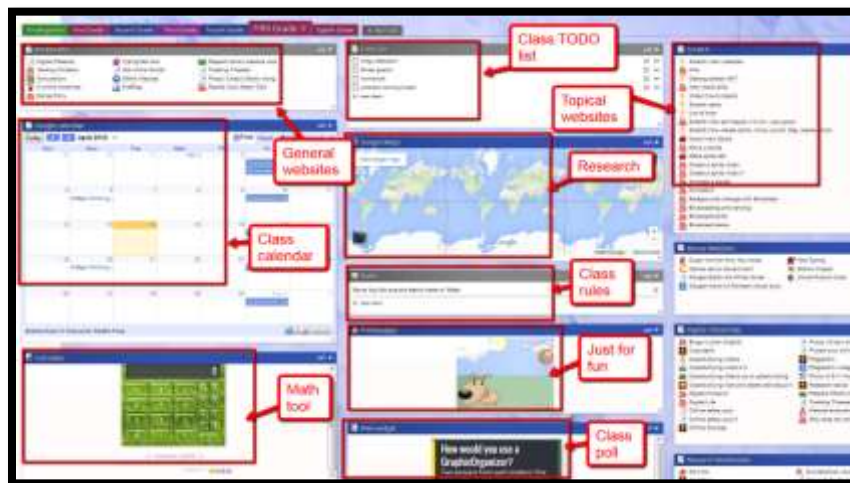
Ustart

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. If you're looking for more details on how to set up a Protopage start page, here's a [longish video](https://youtu.be/h5GQeva4zGU) with lots of details on setting up your Protopage internet start page (<https://youtu.be/h5GQeva4zGU>).



5 Authentic Assessment Tools

Assessments have become a critical piece to education reform. To prepare students well for college and career means they must deeply learn the material and its application to their lives and future learning. That means assessing student knowledge authentically and accountably.

A well-formed assessment is not always measured by a grade. Sometimes it derives evidence of learning from anecdotal observation, watching students apply prior learning, working in groups, or participating in classroom discussions.

Thanks to technology, there are lots of fun and effective ways to assess learning in ways that transform your classroom. Here are seven ideas:

Polls

Polls are quick ways to assess student understanding of the goal of your daily teaching. It measures student learning as much as lesson effectiveness. Polls are fast—three-five minutes—are anonymously graded and shared immediately with students. It lets everyone know if the big idea of the lesson is understood and if the essential questions have been answered.

These can be graded, but are usually used formatively, to determine organic class knowledge before moving on to other topics.



Quick Quizzes

These are one-two question checks during class to measure understanding. They are either delivered at an assigned time during class (where everyone participates at once) or are questions students answer when they gain that knowledge from a lesson. Both approaches are a great way for a teacher to determine if she has explained a topic clearly enough that students have a useful understanding of it.



A nice by-product of letting students answer questions when they're ready is they get a topic much faster than you expect. That means you know when to move on to more challenging information.

Gameshows

Team students up with study materials and prep time. This may be fifteen minutes or an entire class—you decide. Encourage them to strategize how to work best as a team. For example, they may decide to assign experts on topics or all be generalists. They may also select a captain, depending upon what type of 'gameshow' is being played.



When prep time is completed, review gameshow rules. They will differ depending upon the gameshow you select. Then get started! They'll think it's a game as you see what they really know on a subject.

Virtual Wall

Ask students a question and have them add their answer to a virtual wall.

Virtual walls are also great ideas for reviewing a subject prior to a summative assessment. Have each student post an important idea they got from the unit with significant required details.



Brainstorm

Create a group mindmap to evaluate what the class knows on the subject. This is well-suited to informing you what the class as a whole understands from your teaching, but also creates an excellent study guide for students.

Assessments that work best are those that are fresh and new to students, requiring they think critically and creatively as they share knowledge. What do you use to organically assess student learning?



For more assessment ideas, check Education.com has a good discussion on the importance of assessment.

Lesson #3—Keyboarding

Vocabulary	Problem solving	Skills
<ul style="list-style-type: none"> Benchmark Ctrl+P Digital Log-on Rhythm (in typing) Screen (vs. monitor) Shortcut Systray Toolbar Touch typing WPM 	<ul style="list-style-type: none"> Dance Mat won't play flash version (does digital device allow Flash?) Digital device doesn't work (check hardware) Why use shortcuts (they're faster and easier) How fast should I type? I don't know where the keys are so I'm slow (that's why you practice) I type fine with two fingers (have you tried all fingers?) 	<p>New Keyboarding assessment</p> <p>Scaffolded Keyboarding Typing posture</p>
<p>Academic Applications All academic subjects</p>	<p>Materials Required keyboard program, hardware quiz, key board quiz, optional keyboarding key assessments</p>	<p>Standards CCSS.ELA-Literacy.W.3.6 NETS: 4c, 6d</p>

Essential Question

How do I use a keyboard to share ideas?

Big Idea

Students connect keyboarding and classwork authentically

Teacher Preparation

- Include other members of the grade-level team, school admin, and parents in a united effort to build age-appropriate keyboarding speed and accuracy by.
- Have hardware quiz results.
- Talk with grade-level team so you tie into conversations.
- Ensure all required links are on student digital devices.
- Know which tasks weren't completed last week and whether they are necessary to move forward.
- Have speed quiz for today's quiz (or access to TypingTest.com).
- Integrate domain-specific tech vocabulary into lesson.
- Collect words students don't understand for Speak Like a Geek Board presentations.
- Know whether you need extra time to complete this lesson with your student group.

Assessment Strategies

- Completed keyboarding speed and accuracy assessment
- Used good keyboarding habits
- Completed warm-up and exit ticket
- Joined class conversations
- [tried to] solve own problems
- Made decisions that followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis

Steps

- Time required:** *45 minutes in one sitting or spread throughout the week with 15 minutes set aside for speed and accuracy quiz*
- Class warm-up:** *Keyboarding—warm up for keyboarding quiz on the typing tool used in your school for about ten minutes*

Discuss evidence of learning for Evidence Board. How do students take a tech skill like keyboarding and transfer it to their lives and other classes? Ask about this several times a month and post the evidence for the benefit of all students.

In this lesson, you'll cover:

- *Keyboarding assessment*
- *Keyboarding overview*
- *Keyboarding homework*
- *Keyboarding key knowledge and assessment*
- *Keyboarding skills*

Keyboarding Assessment: Speed and Accuracy

Today is the first speed and accuracy quiz of the year. They will take one per grading period.

Keyboarding goal this year:

- *15 wpm*
- *good posture*
- *attention to accuracy*

Assessment 4 is a list of criteria to evaluate keyboarding technique:

Assessment 1—Keyboarding criteria

Student _____													
Keyboarding Technique Checklist (3 rd – Middle School Grades)													
	Date	Date	Date	Date	Date								
Technique													
Feet placed for balance and sits up straight.													
Body centered to the middle of keyboard.													
Eyes on the screen.													
Types with correct fingering.													
Types with a steady, even rhythm.													
Keeps fingers on home row keys.													
Has a good attitude and strives for improvement.													
WPM (words per minute)													
Accuracy percent													
<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">4 pts =</td> <td style="width: 33%;">Mastery level</td> <td style="width: 33%;">2 pts =</td> <td style="width: 33%;">Partial Mastery level</td> </tr> <tr> <td>3 pts =</td> <td>Near Mastery level</td> <td>1 pt =</td> <td>Minimal Mastery level</td> </tr> </table>						4 pts =	Mastery level	2 pts =	Partial Mastery level	3 pts =	Near Mastery level	1 pt =	Minimal Mastery level
4 pts =	Mastery level	2 pts =	Partial Mastery level										
3 pts =	Near Mastery level	1 pt =	Minimal Mastery level										

Print Assessment 4 or load a digital copy for each student and then use an annotation tool like iAnnotate or Adobe Reader to assess.

Review each criterion with students so they understand what you're looking for. Because this list covers 3rd-8th grade, let students know which items you expect and which will come later.

DO NOT EXPECT TOUCH TYPING IN 3RD GRADE. Earliest: late fourth/early fifth, after several years of keyboarding practice.

If your students have just started to practice keyboarding, pick only a few of these criteria to assess. As the K-2nd graders get more practice, they'll come to 3rd grade with a greater facility and you can expect more. If you use iPads for keyboarding, adapt this list to that digital device. There is a small amount of research that shows iPad keyboarding is as fast as traditional—especially when users have grown up with that sort of keyboard.

Hand position students strive for will look like *Figure 20*:

Figure 17—Hand position



If using a word processing program to type the quiz (as in the first option), review the program layout that students learned in 2nd grade. Have students put heading at top of page (their name, teacher, date).

Students type for three-five minutes, then save/share/print.

This first quiz is a benchmark—to evaluate skills. The next two quizzes will be graded based on improvement. If students do their homework and tenaciously use good keyboarding habits when using the digital device, they'll do fine.

Here's the scale for the rest of the year (*Assessment 5*):

Assessment 2—Keyboarding grading key

Grading is based on improvement from their last quiz. A student who types 10 wpm could get a 7/10 if he didn't improve or a 10/10 if he improved from 8wpm on the last quiz. Here's the breakdown:

<i>20% improvement:</i>	<i>10/10</i>
<i>10% improvement:</i>	<i>9/10</i>
<i>1-10% improvement:</i>	<i>8/10</i>
<i>No improvement:</i>	<i>7/10</i>
<i>Slowed down:</i>	<i>6/10</i>

Grade level standards are:

<i>K-2</i>	<i>None</i>
<i>3rd Grade</i>	<i>15 wpm</i>
<i>4th Grade</i>	<i>25 wpm</i>
<i>5th Grade</i>	<i>30 wpm</i>
<i>6th Grade</i>	<i>35 wpm</i>
<i>7th Grade</i>	<i>40 wpm</i>
<i>8th Grade</i>	<i>45 wpm</i>

_____ The speed quiz can be delivered in several ways:

- *Print copies of a page from a book being read in class or a sample document for each student. They place it to the side of their keyboard and type (see Assessment 8 at end of lesson).*
- *Use an online typing test like TypingTest.com.*

_____ While students type, walk around and observe their posture, hand position, use of fingers. Fill out the criteria list for each student as they type.

_____ Done? Spell-check (F7 or right click on red squiggly line) and correct. Find word count; type it at the bottom of the quiz. Save (Ctrl+S) to digital portfolio; print (Ctrl+P) if desired or share.

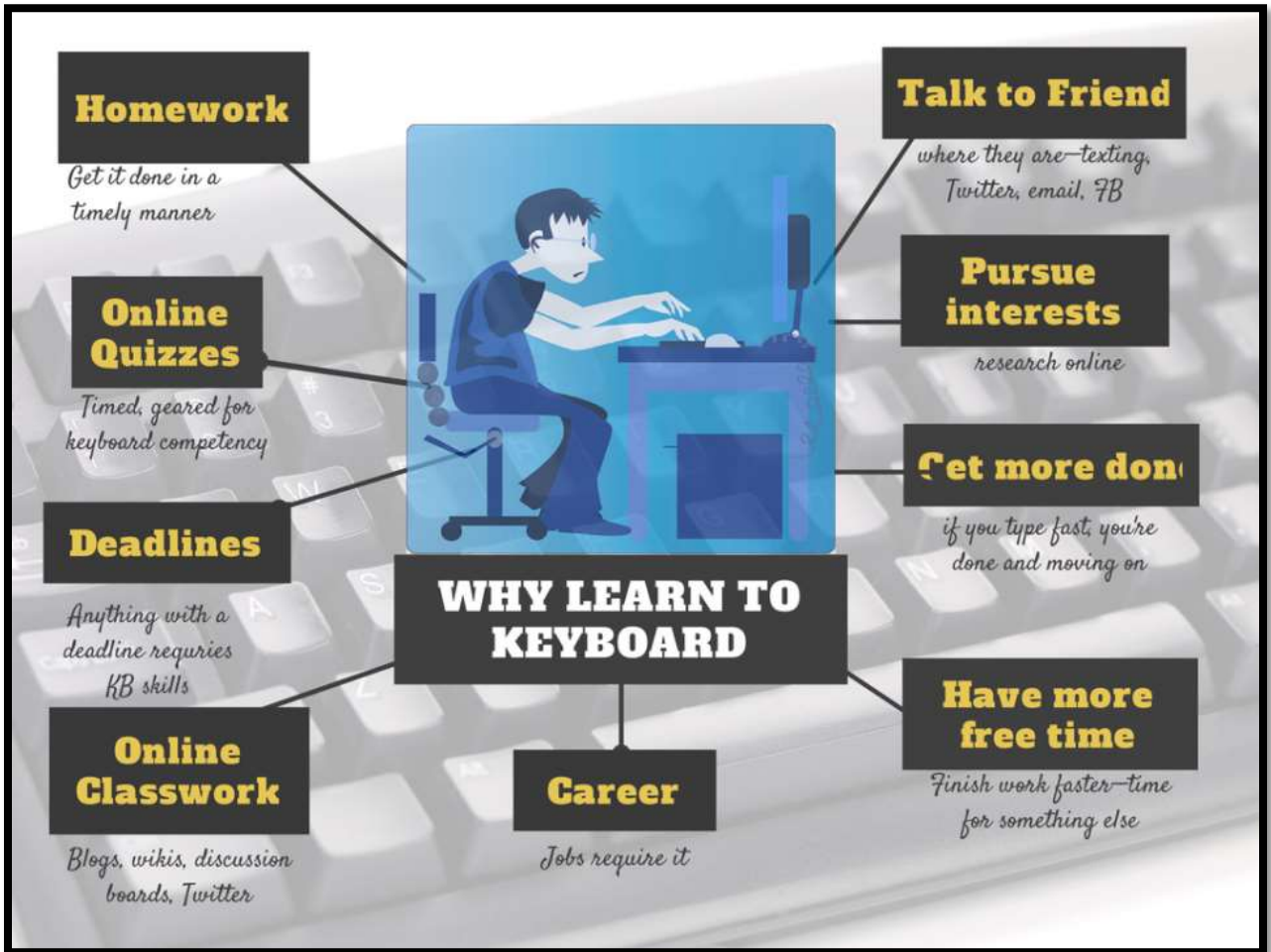
_____ **Mulligan Rule** applies here.

Keyboarding Overview

_____ Talk as a class about why students learn keyboarding. Come up with a list of reasons and compare it to *Figure 21* (full size in Poster appendix):



Figure 18—Why learn keyboarding



_____ This lesson builds on the pre-keyboarding skills started in kindergarten, preparing students for increasing technology demands of education (*Figure 22b*—full size poster in Appendix).

All relevant keyboarding information is collected into this one place so you know where to look when you need it.

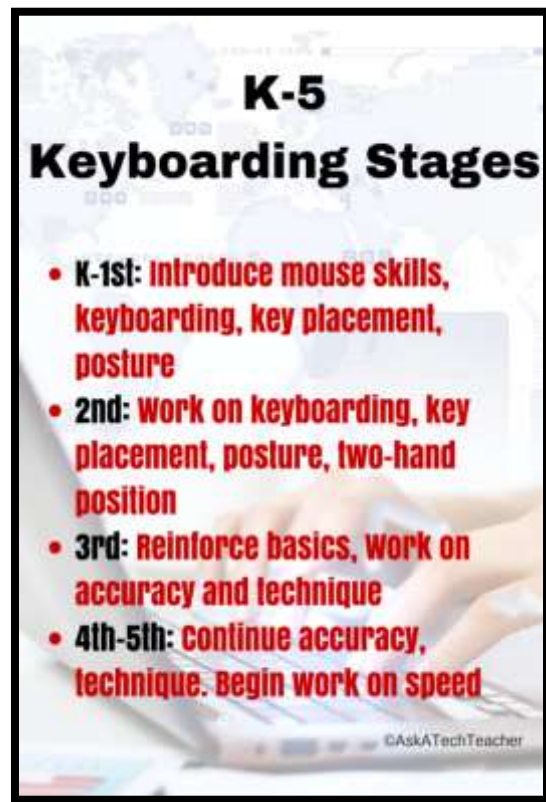
It is preferable that students practice keyboarding on a traditional keyboard rather than the iPad version. If students question this, suggest they engage in a research study, using the scientific method, to determine if keyboarding is as fast and accurate on an iPad as on a traditional keyboard.

As students complete projects throughout the year that require keyboarding (i.e., the slideshow, the magazine, and the book report in this curriculum), anecdotally review their:

- *proper posture*
- *speed and accuracy*
- *keyboarding hints in Figure 22a (full size poster in Appendix):*



Figure 19a—Keyboarding hints; 22b—Keyboarding curriculum map



Keyboarding Homework

Review Homework found in the back of this book. It's due monthly, via the method that works best for your group.

Homework is keyboard practice. Students practice one row a month for three months, keyboarding using [Popcorn Typer](http://bit.ly/1da4z5G) (<http://bit.ly/1da4z5G>) or [Dance Mat Typing](http://www.bbc.co.uk/guides/z3c6tfr) (<http://www.bbc.co.uk/guides/z3c6tfr>) or another tool that **focuses on one row at a time**.

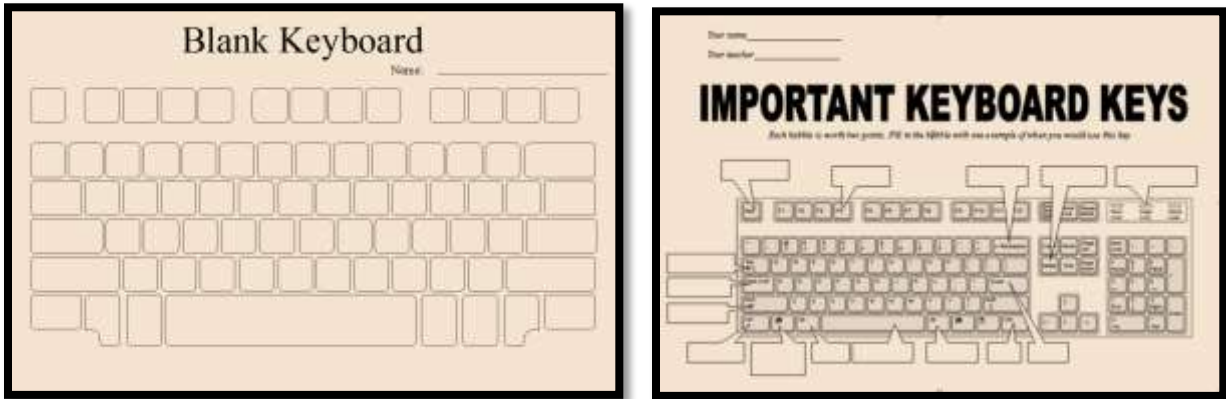
By Month Four, students practice all rows using a different program (i.e., Type to Learn or [Typing Web](#)).



Keyboarding Key Knowledge Assessment

Throughout the year, evaluate student keyboarding by testing their knowledge of key placement. This includes two optional quizzes that are required by fourth grade: 1) to test knowledge of letter keys (*Figure 23a*), and 2) to assess ‘important non-letter keys’ (*Figure 23b*). More on this one later, when it comes up in the lessons:

Figure 20a-b—Keyboarding keyboard assessments



You will find full-size templates for both at the end of the lesson.

Note: The ‘Important Keys’ will vary slightly depending upon the digital device you use. Adapt as needed.

Keyboarding Skills

Keyboarding skills include more than typing. Now, ‘good keyboarding’ includes many of the basics required to excel at summative year-end testing. This includes drag-and-drop, highlighting, copy-paste, and stamina. See *How to Prepare Students for PARCC/SBA Testing* at the end of this Lesson.

Class exit ticket: *Take three minutes with a neighbor and try to name as many of the fifteen important keyboard keys as possible*



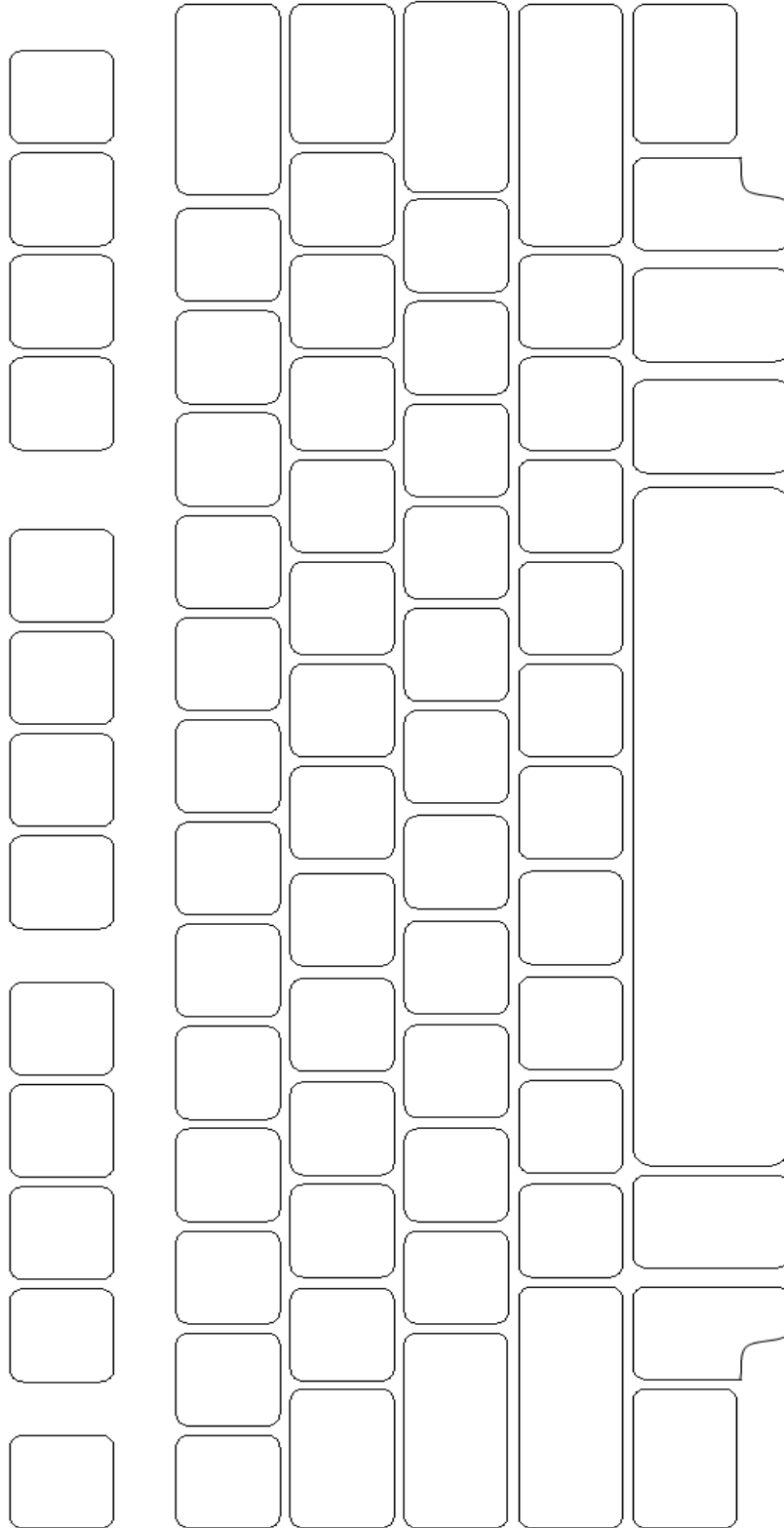
Differentiation

- *Early finishers: visit class internet start page for websites that tie into classwork.*
- *Add homework due dates to class calendar.*
- *If this lesson doesn't work for your student group, use one from [How to Jumpstart the Inquiry-based Classroom](#). It has 5 additional projects aligned with the SL curriculum.*
- *Offer a Keyboarding Club after school two days a week to accommodate students who can't do their homework at home. Limit it to 45 minutes.*
- *For more depth, follow keyboard lessons in [K-8 Keyboard Curriculum](http://ow.ly/j6GH8) (<http://ow.ly/j6GH8>).*

Assessment 3—Blank keyboard quiz

Blank Keyboard

Name: _____



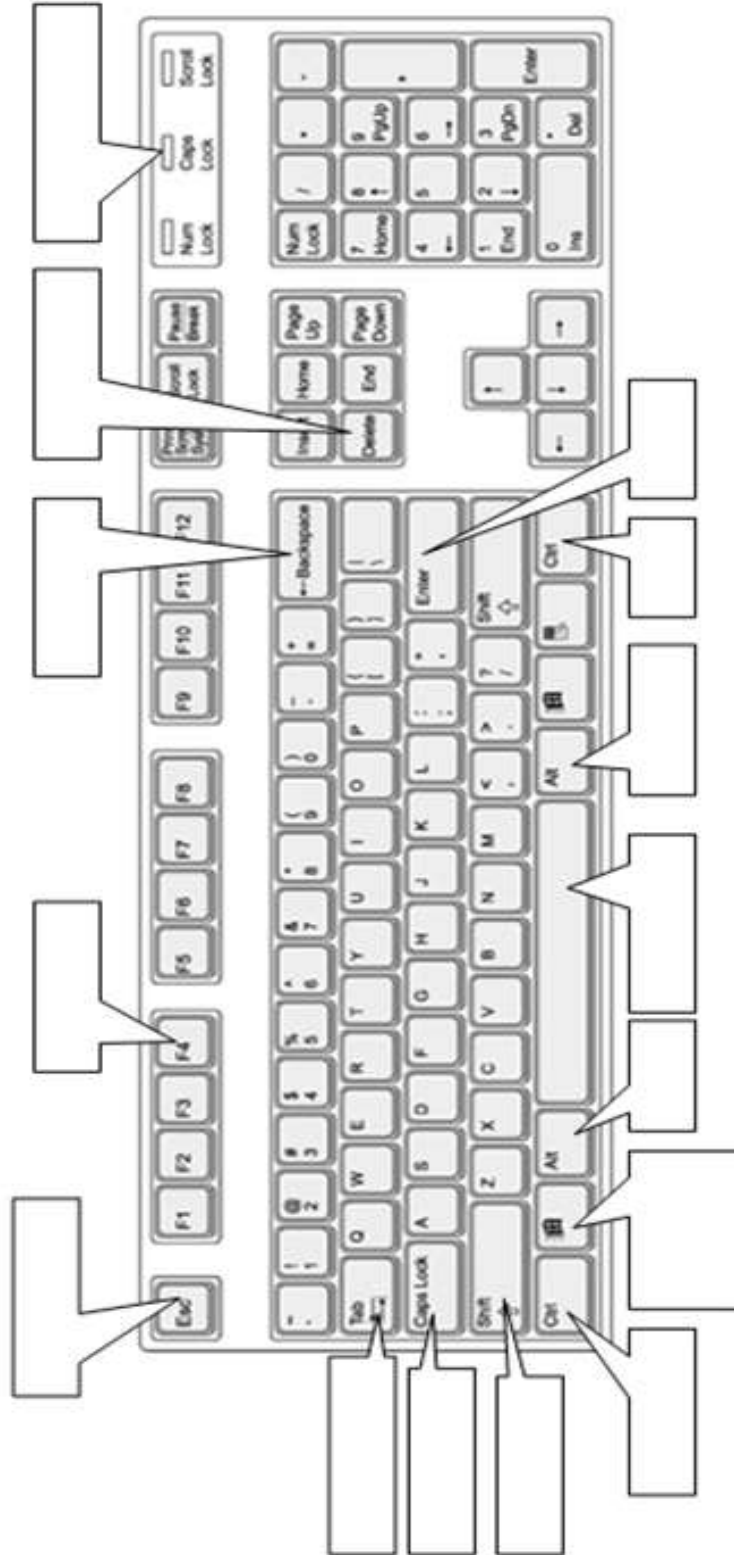
Assessment 4—Blank Important Keyboard Keys

Your name _____

Your teacher _____

IMPORTANT KEYBOARD KEYS

Each bubble is worth two points. Fill in the bubble with one example of when you would use this key.



Assessment 5—Print copy of keyboarding quiz

A Day in an Iranian School

Abah stands tall to read a lesson from his fourth-grade book. His gleaming brown eyes catch every word, pass quickly over the pages.

Class takes place inside a tent with no seats or desks. A washed-out blackboard stands in the corner. A square was cut in the tent to create a window overlooking mountains and a fast-flowing river.

Abah attends a typical school in Afghanistan. The schools have few supplies. Fourth-graders learn from first grade books. Many schools have been built in the past four years, but few have enough teachers, chairs, or classrooms. Boys study with girls until the seventh grade. Then, they are transferred to an all-boys school.

At Abah's school, there's not enough room to house all the elementary and high school students at once. So high school classes are scheduled for four hours in the morning, and elementary school classes for four hours in the afternoon, six days a week. The students take winters off because it's too hard to trudge through the snow.

"We make the best of what we have right now," says school principal Pari Gul Darwishyar.

Today, as Abah finishes his story, it is summer. Students and teachers endure 100-degree heat in the tents. They can hear the water as it crashes on the river rocks. Only a rare breeze cools their sweat. A girl in the third grade now stands to read the story of the hare and tortoise, as her classmates repeat every word, following along in their book.

Article 5 At What Age is Typing Faster than Handwriting?

At What Age is Typing Faster Than Handwriting?

Most elementary-age students struggle with typing. This doesn't surprise me. They've been handwriting since kindergarten. They're proud of their new cursive skills. It's easy to grab and pencil and write. Typing, though requires setting up their posture, hand position, trying to remember where all those pesky keys are (why aren't they just alphabetized? It's a good point. Discuss that with students).

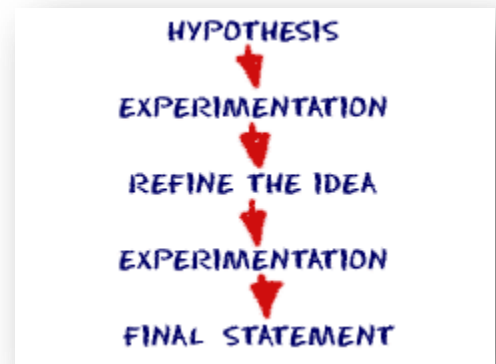
In third grade, I gather the students and we chat about it. Why do they have to learn to keyboard? It's more than a skill they trot out for the keyboarding software and then forget.

Discuss the idea of sharing ideas—the Gutenberg Press, when writing began with scrolls and rocks, why was it important to save ideas in perpetuity? Why is it important to students?

The discussion should come around to the idea that putting ideas in some sort of permanent fashion is important to the history of mankind. The question is how, and the 'how' that's relevant to the students is a comparison of handwriting and keyboarding. Here's where we go from there:

Circle back on science in technology

- Discuss whether students handwrite faster/slower than they type. Ask students to share thoughts on why their opinion is true. You are likely to get opinions on both sides of this discussion. If not, prod students with logic for both.
- When it's clear the class is divided on this subject (or not—that's fine too), suggest running an experiment to see which is faster—handwriting or typing.
- Circle back to science class and engage in a discussion on the Scientific Method. Develop a hypothesis for this class research, something like: *Third grade students in Mr. X's class can handwrite faster than they type* (this is the most common opinion in my classes).
- Have students hand-copy the typing quiz they took earlier in the trimester for 3 minutes.
- Analyze the results: Compare their handwriting speed to their typing speed. I encourage an individual comparison as well as a class average comparison to help with understanding the conclusion.
- Discuss results: Why do students think some students typed faster and others typed slower? (In my classes, third graders typed approx. 10 wpm and handwrote approx. 15 wpm. Discussion was heated and enthusiastic on reasons. Especially valuable were the thoughts of those rare students who typed faster).



- Students will offer lots of reasons for slower typing (they're new to typing, don't do it much in class, their hands got off on the keyboard). In truth, the logistics of typing make it the hands-down winner once key placement is secured. Fingers on a keyboard are significantly faster than the moving pencil.
- One reason students suggest is that they don't usually type from copy. Key in on this reason (quite valid, I think—don't you?) and revise the experiment to have students type and handwrite from a prompt.
- What is the final conclusion?
- If possible, share results from 4-8th. What grade level do students consistently type faster than they handwrite? Why? Are students surprised by the answer?
- Post a list on the wall of students who type faster than they handwrite. This surprises everyone.

I do this experiment in 3rd, 4th and 5th grade. Third, students on average handwrite faster. By 4th, the average is the same—students can type as fast as they handwrite. This surprises them and energizes them to work harder on their keyboarding. By 5th, most students type faster, though many didn't expect that.

After this experiment, I see more students selecting keyboarding over handwriting, especially if iPads are available rather than the cumbersome laptop or desktop. I also see them caring more about the skill of keyboarding as they realize it is their future. This has become an important tool in my keyboarding toolkit that is fully as effective as practicing drills.

For more tricks like this, check out [*The Essential Guide to Keyboarding in 45 Minutes a Week.*](#)

Note: There are lots of examples of the scientific method and they all vary when talking about elementary grades. Talk to your science teacher and adapt this experiment to the one she uses.

How to Prepare Students for PARCC/SBA Tests

As part of my online tech teacher persona, I get lots of questions from readers about how to make technology work in an educational environment. This one from Terry is probably on the minds of thousands of teachers:



Any help for identifying and re-enforcing tech skills needed to take the online PARCC tests (coming in 2014-15)? Even a list of computer terms would help; copy, cut, paste, highlight, select; use of keys like tab, delete, insert; alt, ctrl and shift. There does not seem to be any guidelines as to prepping students on the “how to’s” of taking an online test and reading and understanding the directions. It would be great to take advantage of the time we have before the PARCC’s become a reality. Thanks!

Between March 24 and June 6, more than 4 million students in 36 states and the District of Columbia will take near-final versions of the PARCC and Smarter Balanced efforts to test Common Core State Standards learning in the areas of mathematics and English/language arts. Tests will be administered via digital devices (though there are options for paper-and-pencil). The tests won’t produce detailed scores of student performance (that starts next year), but this field-testing is crucial to finding out what works and doesn’t in this comprehensive assessment tool, including the human factors like techphobia and sweaty palms (from both students and teachers).

After I got Terry’s email, I polled my PLN to find specific tech areas students needed help with in preparing for the Assessments. I got answers like these:

“They had to drag and drop, to highlight, and they had to compare and contrast. They had to write a letter. They had to watch a video, which meant putting on headphones. They had to fill in boxes on a table. There were a lot of different mouse-manipulation tasks.”

“Students are asked to retype a paragraph to revise. My students can’t type fast enough!”

“...questions [are] a mix of multiple-choice, problem solving, short-answer responses, and other tasks. Students had to drag and drop answers into different boxes.”

It boils down to five tech areas. Pay attention to these and your students will be much more prepared for Common Core assessments, be it PARCC or Smarter Balanced:

Keyboarding

Students need to have enough familiarity with the keyboard that they know where keys are, where the number pad is, where the F row is, how keys are laid out. They don’t need to be touch typists or even

facilely use all fingers. Just have them comfortable enough they have a good understanding of where all the pieces are. Starting next school year, have them type fifteen minutes a week in a class setting and 45 minutes a week using keyboarding for class activities (homework, projects--that sort). That'll do it.

Basic computer skills

These skills--drag-and-drop, keyboarding with speed and accuracy, highlighting, and playing videos--are not easy for a student if they haven't had an instructive course in using computers. It won't surprise any adult when I say using an iPad isn't the same as using a computer. The former has a bunch more buttons and tools and the latter more intuitive. And typing on an iPad virtual keyboard is not the same as the reassuring clackity-clack of a traditional set-up. Will students get used to that? Yes, but not this month.

Make sure students are technologically proficient in their use of a variety of digital devices, including computers and iPads. This means students have an understanding of what defines a digital device, how it operates, what type of programs are used on various types (for example, apps are for iPads and software for laptops) and how do they operate, and what's the best way to scaffold them for learning? Being comfortable with technology takes time and practice. Make digital devices and tech solutions available at every opportunity--for note-taking, backchannel communications, quick assessments, online collaboration, even timing an activity. Make it part of a student's educational landscape.

This includes the safe and effective use of the internet. Students should understand how to maneuver through a website without distraction.

One area Terry asks about is vocabulary. The words she mentioned--*copy, paste, cut, highlight*--these are domain-specific. Use the correct terminology as you teaching, but observe students. If they don't understand what you're saying, help them decode it with context, affixes, or an online dictionary for geek words. Keep a list of those words. Soon, you'll have a vocabulary list for technology that's authentic and specific to your needs.

Stamina

Expect students to type for extended periods without complaint. Common Core requires this. That's what 'one page in a sitting in 4th grade, 2 pages in a sitting in 5th grade, 3 pages in a sitting in 6th grade' means. The Assessments expect students have that sort of stamina. They're long tests with lots of keyboarding and other tech skills. Make sure your students have practiced working at computers for extended periods.

A good idea is to have students take some online assessments prior to this summative one. These can be created by the teacher using any number of online tools like Google Forms or use already-created tests like those that follow BrainPop videos.

Problem Solving

Make sure students know what to do when a tech problem arises. They should be able to handle simple problems ([here's a list](#) you can start with) like 'headphones don't work' or 'caps lock won't turn on' or 'my document froze'. This is easily accomplished by having students take responsibility for solving tech problems, with the teacher acting as a resource. They will soon be able to differentiate between what they have the ability to handle and what requires assistance.

A great starting point when teaching problem solving are Common Core [Standards for Mathematical Practice](#). These are aligned with the Math Standards, but apply to all facets of learning.

Teacher Training

Make sure teachers administering the online tests are familiar with them and comfortable in that world. They should know how to solve basic tech issues that arise without calling for outside help. This is effectively accomplished by having teachers use technology in their classroom on a regular basis for class activities, as a useful tool in their educational goals. Helps teachers make this happen.

Lesson #7—Word Processing I

Vocabulary	Problem solving	Skills
<ul style="list-style-type: none"> • Ctrl • Edit • Heading • Menu bar • Non-verbal • Ribbon • Right-click • Spell-check • Shortkey • Synonyms 	<ul style="list-style-type: none"> • Program disappeared (check taskbar) • Can't find my doc/file (Start-Search) • What's the difference between 'save' and 'save-as'? • Select-do (Always select what you want to work on before doing) • How do I edit (backspace or delete) • I can't get rid of colored squiggles (right click and select option) 	<p style="text-align: center;"><u>New</u> Synonyms</p> <p style="text-align: center;"><u>Scaffolded</u> Word processing Editing Speaking and listening Keyboarding</p>
<p><u>Academic Applications</u> Writing, literacy</p>	<p style="text-align: center;"><u>Materials Required</u> Evidence Board, Problem-solving Board rubrics, word processing program, typing program</p>	<p style="text-align: center;"><u>Standards</u> CCSS.ELA-Literacy.W.3.3 NETS: 1b, 2b</p>

Essential Question

How can technology make words better communication tools?

Big Idea

Writing follows rules and technology makes that easier.

Teacher Preparation

- Understand what grade level team expects from student writing so you reinforce.
- Have grading rubrics for Problem-solving Board.
- Ensure all required links are on the student digital devices.
- Know which tasks weren't completed last week and whether they are necessary to move forward.
- Integrate domain-specific tech vocabulary into lesson.
- If you don't have the primary digital device or digital tool mentioned in this lesson, adapt **Big Idea and Essential Question, steps and required skills**, to your learning environment.
- Collect words students don't understand for Speak Like a Geek Board presentations.
- Know whether you need extra time to complete this lesson with your student group.

Assessment Strategies

- Completed presentation
- Completed project
- Used good keyboarding habits every time
- Completed warm-up and exit ticket
- Joined class conversations
- [tried to] solve own problems
- Made decisions that followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis
- Habits of mind observed

Steps

Time required: *45 minutes in one sitting or spread throughout the week with 30 minutes set aside for word processing editing.*

Class warm-up: *Keyboard home or QWERTY row with Popcorn Typer (<http://bit.ly/1da4z5G>) or another tool that focuses on one row at a time. Observe student posture, hand position.*

- _____ Remember: Homework due at end of each month.
- _____ Problem-solving Board presentations today. Review grading rubric if necessary.
- _____ Review the word processing program you use in your school. Include:



- *layout*
- *tools and toolbars*
- *entering text and pictures*
- *editing text*

_____ Today, we discuss two ways to edit a story:

- *correct grammatical errors*
- *add clarifying detail*

_____ You may remember *Figure 42* from last year (if you used the SL technology curriculum). We added the yellow bubbles to show changes 3rd graders would be expected to include:

Figure 21—Edit a story



_____ Read it aloud:

She lived in a house with two dogs, Casey and Stoney.

_____ Are students pulled into the story? Do the words tell enough? What else would they like to know? Take suggestions that add detail such as is included in the yellow bubbles:

- *Tell more about the house.*
- *Tell more about the dogs.*



_____ In this story, what is the house (*hint: setting*)? What are the dogs (*hint: characters*)?

_____ Open word processing program. If you've been using the SL curriculum, students used word processing in 2nd grade (*Figures 43a-c*):

Figure 22a-c—Projects in word processing



_____ If a program review is required, ask for a volunteer to show classmates how to use the opening screen, ribbons, toolbars, cursor, and other tools used last year. They can ask for help from other students if necessary.



_____ Put heading at top of document. It will include the information required in your classroom. It may be *name, date, and teacher*. How can you find the date? How about hovering over the clock in the lower right corner of your screen?

_____ Display the story in *Figure 44* on the class screen. Students will type it into the word processing program. Include crossed out words and misspellings.

Figure 23—Story to be edited

Halloween

One very ~~spoo~~ky Halloween a ~~litt~~le boy and his ~~fr~~ends went out for a ~~fun~~ night of trick-or-treating.

- 1. Correct misspellings.***
- 2. Find synonyms for crossed out words.***
- 3. Add several sentences to add descriptive detail to the story***
- 4. Use words that help us understand the chronologic order of events***
- 5. End the story with a sense of closure***

_____ What are the red, green and blue squiggly lines? Ask for a volunteer to show how to use *right-click* to correct misspellings and grammar errors. Have students correct their document while the volunteer shows them how.

_____ Discuss a 'synonym'. Ask students to suggest synonyms for crossed out words 'little' and 'fun'? Why is 'little' not very descriptive? A mouse is little compared to an elephant, but not so little compared to a grasshopper. Think of the word 'old'. You probably consider *twenty*

old. Others consider it young. What's a better description for the words 'little' and 'fun' that clarifies what is meant?

- _____ As students come up with synonyms for 'little' and 'fun', add them to the class screen. When done, students will edit their story with synonyms that are a better fit for their story.
- _____ Next, as a group, add several sentences to story that include detail on:

- *character(s)*
- *setting*
- *plot*

- _____ They should help the reader understand the chronologic order of events.
- _____ Finally, add an ending sentence to provide closure. What does that mean?
- _____ Note: The story can be a collaborative or individual effort.
- _____ Every ten minutes save with Ctrl+S. What's the difference between 'save' and 'save-as'?
- _____ When do you 'save' and when 'save as'?
- _____ Next week, students will finish story and decorate.
- _____ Those who finish: Practice Home row using online keyboard program. Third grade goal: 15 wpm. Remind students to maintain correct posture, legs in front; hands on home row, fingers curved over keys every time they sit at the keyboard—not just for typing practice.

More Editing

- _____ *Figure 45* is another example of content that requires clarification (text box, not yellow bubbles. Those are added later). Type it on the class screen:

Figure 24—More editing of a story

Coyote was very old. His fur was mangy and falling out in spots. And his bright white teeth had yellowed with the diet of grasses he ate. He had...

"Mr. Coyote was getting very old and had to be more careful for his own safety. He had been walking for hours and hours through a beautiful valley when he came upon a large tree. Mr. Coyote was very tired and wanted to rest but he also needed to be safe. He kindly asked the **tree**, "Please open up so I can rest safely in your care."

Its trunk was craggy and thick, and its arms spread wide over the grass as though welcoming Mr. Coyote.

"Mr. Coyote was getting very old and had to be more careful for his own safety. He had been walking for hours and hours through a beautiful valley when he came upon a large tree. Mr. Coyote was very tired and wanted to rest but he also needed to be safe. He kindly asked the **tree**, "Please open up so I can rest safely in your care".

- *Discuss as a group. Are students pulled into story? Why or why not? What else would they like to know about the characters? The plot? How about the setting? Think in terms of who, what, when, where, why, how. What is missing about action, thoughts, feelings, and the passage of time?*
- *Offer alternatives to underlined words. Does a tired, old coyote ‘walk’? What word might better describe the valley than ‘beautiful’? Have them close their eyes and visualize the valley. What do they see?*
- *Write their suggestions on class screen.*
- *Now read suggested changes (similar to yellow bubbles in Figure 45).*
- *Use these to further enhance the story. For example:*
 - *fully develop ideas*
 - *organize story with additional detail*
 - *improve sentence fluency*
 - *build a stronger voice*
 - *include more colorful word choice*
 - *make sure details support main ideas*

Class exit ticket: *Pass out words from the story used and ask students to share a synonym that fits the plot and characters of the story before leaving class.*

Differentiation

- *Early finishers: Practice keyboarding on QWERTY row.*
- *Add homework due date to calendar—once a month.*
- *If students have Google Docs accounts, have them complete this project together.*
- *If this lesson doesn’t work for your student group, use one from [How to Jumpstart the Inquiry-based Classroom](#). It has 5 additional projects aligned with the SL curriculum.*

Haikus to calm you

*Stay the patient course.
Of little worth is your ire.
The network is down.*

*A crash reduces
Your expensive computer
To a simple stone.*

*Three things are certain:
Death, taxes and lost data.
Guess which has occurred.*

7 MS Word Tricks Every Teacher Should Know

Computers are a foreign language. The more students can do for themselves, the more fun they have learning the intricacies of technology.

The good news is: Students love independence. It's cool to know how to do something no one else can. In my class, students love showing off their problem-solving skills by helping neighbors. Here are 7 tricks that cover common problems students face with MS Word:

1. **Ctrl+Z–undo**

This will be your favorite. There are too many times I've had a frantic student, almost in tears because s/he thought s/he'd lost his/her document, and I retrieved it in two seconds. I was a hero for a period.

2. **Macro for a heading**

This is great for students who have to remember MLA rules. What goes in a heading? How big are margins? Where's a page number go? No worries. Create a macro and save as a template.

3. **How to find lost documents**

It takes a while to get accustomed to saving files on a network. Often, documents end up lost. My students learn early to use 'search' on the start menu.

4. **How to insert data**

The 'insert' key is so confusing it's disappearing from newer keyboards. If students complain they lose data as they type, this is probably why. Show them how to push 'insert' and all will be fixed.

5. **Show-hide tool.**

*Kids try to strong-arm Word into doing their will—often the wrong way. My favorite is 'enter enter' to double space. It seems to work until they have to edit, and then everything blows up. Have students push **show-hide** to see if they're using the double space tool.*

6. **Tables—they work so much better than columns and tabs.**

*Teach it to kids **early and use it often**. It will save you miles of distress.*

7. **How to insert the date**

*It takes until Middle School for students to remember the date. Until then, show them **Shift+Alt+D** to insert current date.*

9 Google Docs Tricks Every Teacher Should Know

The list below highlights tools that are available in Google Docs and make a big difference in an academic setting. See if you agree:

1. Revision History

Use revision history to track student involvement and go back in time to a version that worked better.

2. Share/Collaborate

Multiple students can use the same document and it is automatically saved to their GAFE account. Take advantage of that for note-taking, projects, and wherever it's suited. The document is automatically shared with all stakeholders (rather than 'save as' to multiple accounts).

3. Research

Use the 'Research function to insert graphics so citations are seamless.

4. Don't worry about saving

Google does that for you—constantly. Once a document is created it is automatically saved to the cloud.

5. Spell-check on only the red line

There's no 'spell check tool' or F7. Find the red squiggle, right click, pick the correct spelling (or use Research to assist).

6. Download As

Create the document in Google Docs, but download it in any format—Office, Open Office, whatever works for stakeholders. Some users may not be comfortable with Google Docs—help them out by sending the doc as an MS Word.

7. Embed

Once a document is created in Google Apps, it can be embedded into a student blog, class website, a wiki, or any number of online locations. Called 'publishing', this is simple, requires an html code that is automatically generated by the program.

8. Copyright-free images

Available through Google, Life, and stock images, this is similar to MS Office's now-defunct clipart gallery.

9. Easily insert comments

Add notes to a collaborative document so stakeholders can see ideas from other members. These are automatically created and shared with involved parties. This is possible in MS Word, but not as smoothly.

CLASSROOM POSTERS

1. **Save and save-as**
2. **Backspace-Delete**
3. **Select-Do**
4. **Portrait**
5. **Landscape**
6. **Save early, save often**
7. **What's a Mulligan**
8. **Undo is your friend**
9. **Great keyboarding hints**
10. **Why learn to keyboard**
11. **Digital neighborhood**
12. **Here's what we've done**
13. **10 Favorite Chromebook shortcuts**
14. **10 Favorite iPad shortcuts**
15. **How to solve a problem**
16. **Netiquette rules**
17. **Email etiquette**
18. **I can't find my file**
19. **Online image use law**
20. **Steps for internet research**





Which book?	Price
<i>K-8 Tech Textbook (each grade level—print, digital, or both)</i>	\$32.99/25.99/53.08 + p&h
<i>K-8 Student tech workbooks (with video, teacher manual)</i>	\$199 per grade level
<i>35 More Projects for K-6 (aligned w curriculum—digital only)</i>	\$31.99/25.99/52.18 + p&h
<i>55 Tech Projects—Volume I, II, or both (digital only)</i>	\$18.99/\$32.49 + p&h
<i>K-8 Keyboard Curriculum (print, digital, or both)</i>	\$25.99-\$64
<i>K-8 Student keyboarding wkbks (with video, teacher manual)</i>	\$199 per grade level
<i>K-8 Digital Citizenship Curriculum</i>	\$29.95/25.99/50.38 + p&h
<i>K-8 Common Core Lessons</i>	FREE-\$48.55 + p&h
<i>Pedagogic Articles</i>	\$6.99 (digital only)
<i>K-8 Tech Scope and Sequences (Word doc)</i>	\$9.99 each (digital only)
<i>Posters for the Tech Lab</i>	\$2.99 each (digital only)
<i>16 Holiday Projects</i>	\$4.99 (digital only)
<i>98 Tech Tips From Classroom</i>	\$9.99 (digital only)
<i>Classes (certificate and college credit)</i>	\$260-\$450
<i>Project-based learning (lesson plans)</i>	\$1.99 each on varied topics
<i>New Teacher Survival Kit (K-5)</i>	\$360 and up (+ p&h)
<i>New Teacher Survival Kit (K-6)</i>	\$380 and up (+ p&h)
<i>New Teacher Survival Kit (6-8)</i>	\$330 and up (+ p&h)
<i>Homeschool Tech Survival Kit</i>	Starts at \$99.00
<i>Bundles of lesson plans</i>	\$7.99 and up
<i>Mentoring (1 hr. at a time)</i>	\$50/hour and up
<i>Year-long tech curriculum help (via wiki)</i>	\$145
<i>Consulting/seminars/webinars</i>	Call or email for prices
Total	

Fill out this form (prices subject to change).

Email Zeke.rowe@structuredlearning.net.

Use PayPal, Amazon, TPT, pre-approved district PO

Questions? Contact Zeke Rowe

