Teacher Manual

Kindergarten Technology

A COMPREHENSIVE CURRICULUM

SIXTH EDITION

by Ask a Tech Teacher

KINDERGARTEN TECHNOLOGY

A COMPREHENSIVE CURRICULUM

SIXTH EDITION

Part One of Nine in the SL Technology Curriculum

Introduction

The educational paradigm has changed—again. Technology has become granular to learning, blended into educational standards from Kindergarten on, like these rephrased 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** [print or digital]*
- *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 interactive Web pages]*
- *Expect students to make **strategic use of digital media***
- *Expect students to use **glossaries/dictionaries, print and digital***
- *Expect students to use information from **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 through project-based work. The purpose is not to teach step-by-step tech skills (like adding borders, formatting a document, and creating a blog). There are many fine books for that. What this curriculum does is guide you in providing the **right 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 understanding digital risks and responsibilities. The Structured Learning curriculum makes sure students get what they need at the right age. The end result is a phenomenal amount of learning in a short period of time.

If there are skills you don't know, visit the Ask a Tech Teacher Help blog or visit the online companion resources at Structured Learning.

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

—CCSS

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

—CCSS

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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 lessons on keyboarding, digital citizenship, and problem solving. Here's a quick overview of what is included in the curriculum:

- *curated list of assessments and images*
- *articles that address tech pedagogy*
- *Certificate of Completion for students*
- *curriculum map of skills taught*

- *monthly homework (3rd-8th only)*
- *posters to visually represent topics*
- *Scope and Sequence of skills taught*
- *step-by-step weekly lessons*

Each weekly lesson includes:

- *assessment strategies*
- *class exit ticket and warm-up*
- *Common Core Standards*
- *differentiation strategies*
- *educational applications*
- *essential question and big idea*
- *examples, rubrics, images, printables*
- *ISTE Standards*
- *materials required*
- *pedagogic articles (if any)*

- *problem solving for lesson*
- *skills—new and scaffolded*
- *steps to accomplish goals*
- *suggestions to unpack*
- *suggestions based on digital device*
- *supporting links*
- *teacher preparation and time required*
- *vocabulary used*
- *weekly how-to video (online)*
- *weekly real-time online question sessions*

Throughout the text are links to extend lessons, add enrichment, and/or provide flexibility in your teaching. No PDF? Usually the link 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	
Web tools	Drawing program	Word processing tools	Desktop publisher
Google Earth	Image editor	Spreadsheet tools	Presentation tools
	Keyboarding tool	Email program	

What's New in the Sixth Edition?

A good tech curriculum is aligned with best practices in education. That means it is 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.*
- *Teachers will try technology used authentically.*

In response, here are changes in the Sixth Edition:

- *The audience is as likely to be the **grade-level teacher as the tech teacher**. You'll learn to unpack the lesson regardless of which you are.*
- *Lessons can be taught on **many digital devices**.*
- *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.*
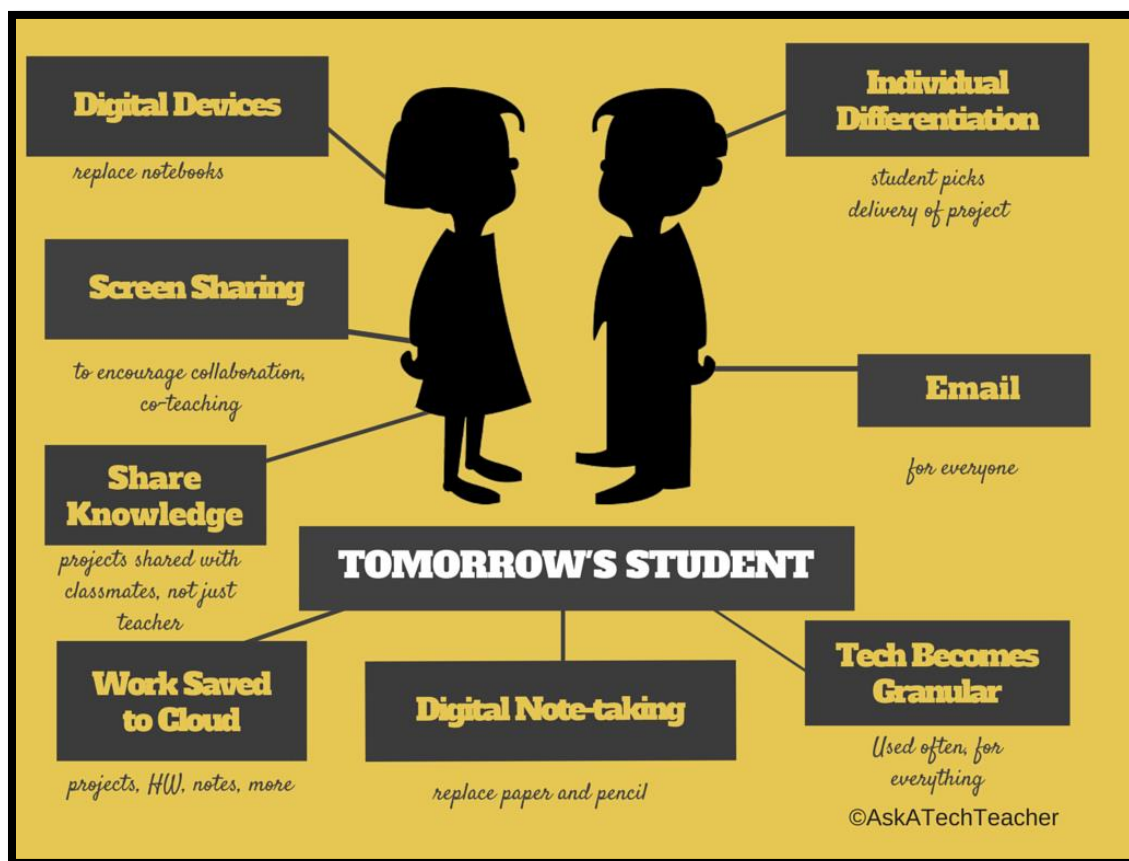
Who Needs This Book

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.
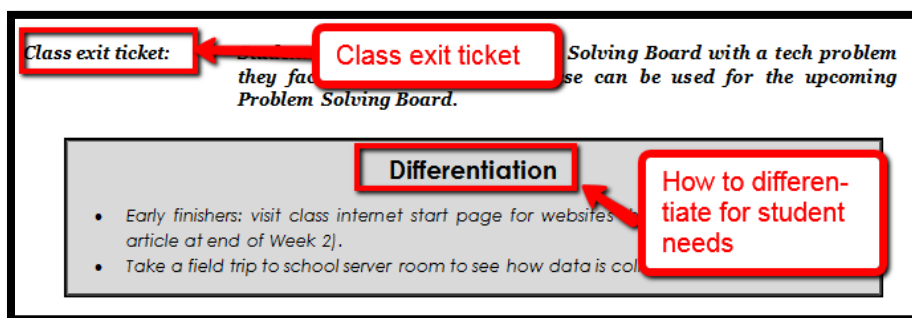
How to Use This Book

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

Figure 2a-b—What's in each lesson?
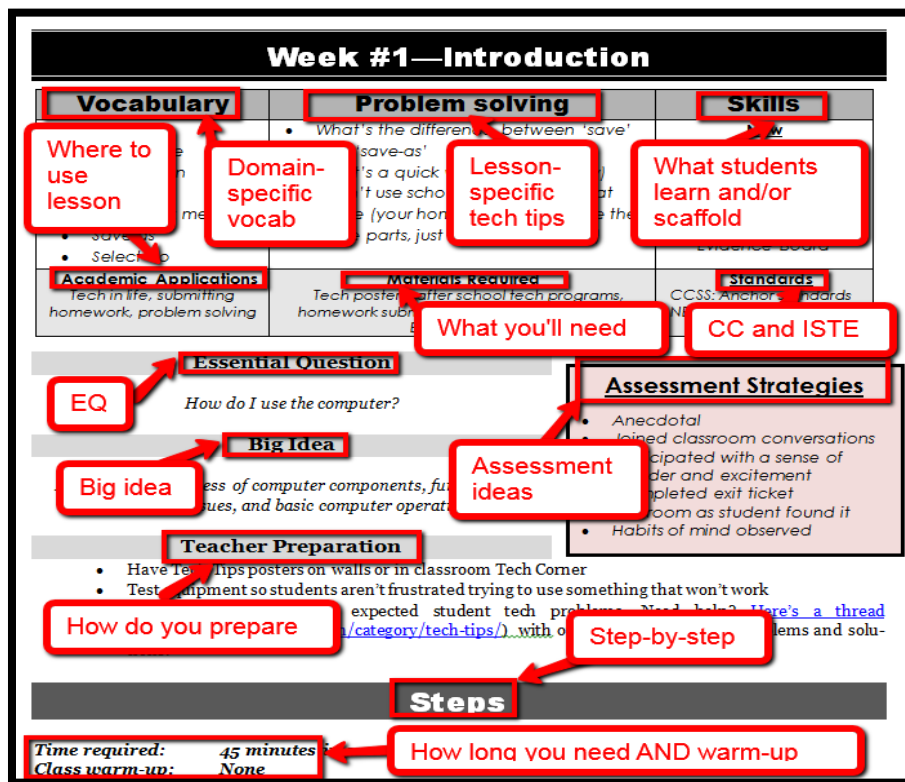
- *Academic Applications*
- *Assessment Strategies*
- *Big Idea*
- *Class Warm-up*
- *Essential Question*

- *Material Required*
- *Problem solving*
- *Skills*
- *Standards*
- *Steps*

- *Teacher Prep*
- *Time Required*
- *Vocabulary*

- *Class differentiation strategies*
- *Class exit ticket*

The curriculum map in *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.

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—Kindergarten, month-to-month

	Sept *Wk1-4*	Oct *Wk5-8*	Nov *Wk9-12*	Dec *Wk13-16*	Jan *Wk17-20*	Feb *Wk21-24*	Mar *Wk25-28*	Apr *Wk29-32*
Blogs								
Class mgmt tools	X	X						X
Coding/Programming			X					
Communication			X	X	X	X		
Computer etiquette	X							

Critical thinking		X	X	X				
DTP								
Digital Citizenship	X		X	X		X	X	
Google Earth					X			
Graphics				X		X	X	X
Hardware/Software	X					X		
Internet		X	X					
Internet privacy			X				X	
(Pre)Keyboarding	X	X	X	X	X	X	X	X
Problem solving	X	X	X	X	X	X	X	X
Publishing/sharing					X	X	X	X
Research					X			
Slideshows							X	X
Speaking and Listening							X	X
Spreadsheets								
Visual learning			X	X			X	
Vocabulary	X	X	X	X	X	X	X	X
Webtools	X	X	X		X		X	X
Word Processing					X	X	X	X

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

Here are hints on using this curriculum:

- Invest in student digital workbooks, a student-centric companion to the teacher guide. Here are suggestions on use:

  o *Full-color projects are at student fingertips complete with examples and directions (licensing varies depending upon the plan).*
  o *Workbooks can be viewed and annotated through a reader.*
  o *Students can work at their own pace.*

- If you want to use student workbooks in your class, here's how:

  o *buy a multi-user license (room, school, or district) to install eworkbooks on multiple devices (even at student's home with some licenses)*
  o *provide a weekly preview by reviewing the lesson on the class screen*

- 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 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.

- Don't expect to get through all of these lessons the first time you teach the curriculum. Lessons rely on scaffolded knowledge from prior years. Until students have built that foundation, they will move more slowly through assigned activities. Adapt each lesson for the skill level of your student group. As they become more accomplished, expect more from them.

Figure 1--Student workbook

- Personalize the skills taught in each lesson to your needs with 'Academic Applications'. These are suggestions for blending learning into your school 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?

    o *tie tech into their inquiry*
    o *offer websites for early-finishers that address their topics*

- 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 a PDF annotation tool that works for your devices.
- Some lessons offer several activities that will meet the lesson goals outlined in the Essential Question and the Big Idea. Pick the activity (or activities) that work well for your student group. Alternatively, you can let students pick the one they like best.
- Sometimes the class is too excited about what they're learning to move on. Take an extra week. Most schools run 35-40 weeks. This book has 32 lessons.
- 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. These are important scaffolding for student critical thinking and tech troubleshooting when you won't be there to help.
- Expect students to direct their own learning. You are a facilitator not lecturer. Learning is accomplished by both success and failure. Don't expect free time while students work. Move among them to provide assistance, and observations on their keyboarding, problem-solving, and vocabulary decoding skills.
- Lessons expect students to develop 'habits of mind'. You can read about these principles in *Figure* 6 and the
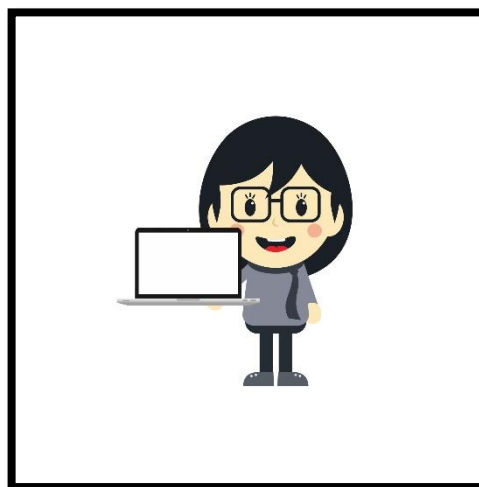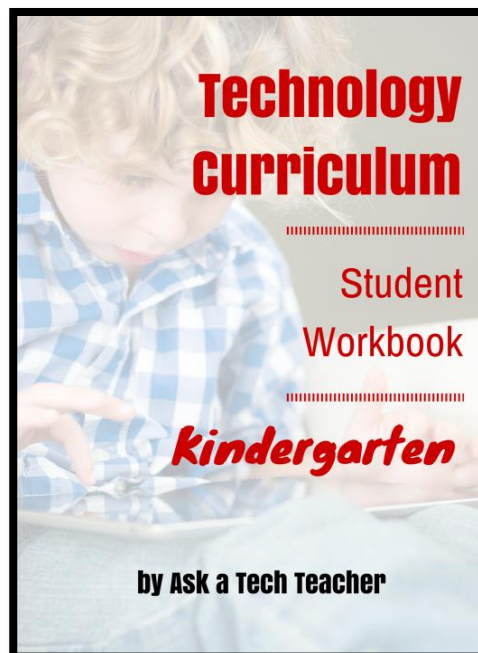
article at the end of Lesson #1. In a sentence: Habits of Mind ask students to engage in their learning, not simply memorize.

Figure 6—Habits of Mind
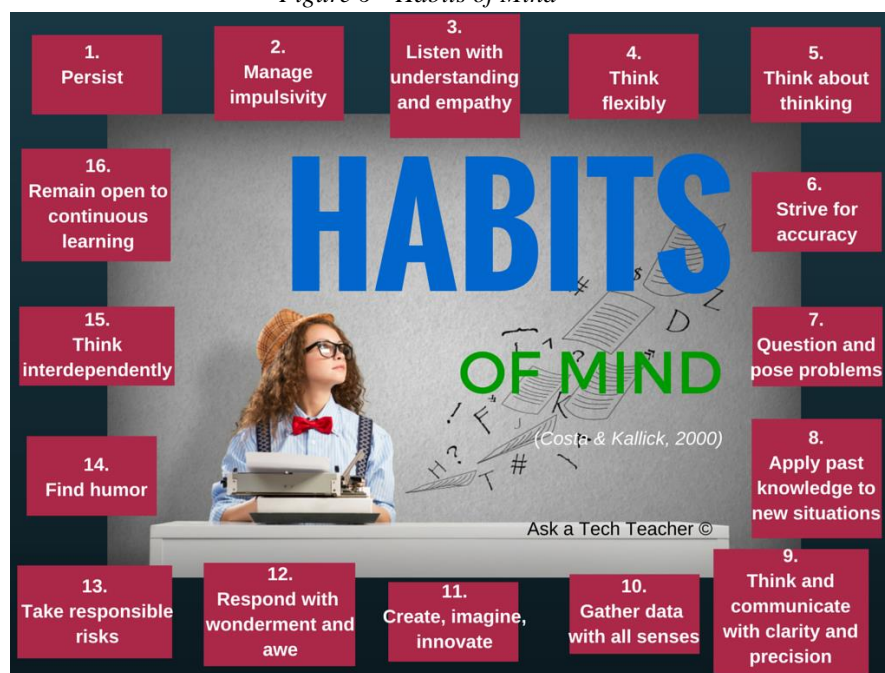
- Encourage student-directed differentiation. If the Big Idea and Essential Question can be accommodated in other ways, embrace those.
- Always use lesson vocabulary. Students gain authentic understanding by your example.
- If you need resources on specific topics, check Ask a Tech Teacher's resources.

    o *video*

    o *work with a partner*

    o *an article*

    o *a topical poster (in the Appendix)*

    o *material in student workbooks*

- 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.
- If you have the digital book, zoom in on posters, rubrics, lessons to enlarge as needed.
- Every effort has been made to accommodate most digital devices. You will often see examples in multiple platforms. If the activity is impossible in a particular digital device (i.e., iPads don't have mouses; software doesn't run in Chromebooks), focus on the **Big Idea and Essential Question**—the skill taught and its application to inquiry. Adapt instructions to the tool you use as you work through the steps.

Figure 7—Compatible digital devices

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

- Throughout the year, circle back on concepts. It takes five times to get a skill (*Figure 8*)—

  - o **First**: *They barely hear you*
  - o **Second**: *They try it*
  - o **Third**: *They remember it*
  - o **Fourth**: *They use it outside of class*
  - o **Fifth**: *They tell a friend*

- **Need more help?** Go to Ask a Tech Teacher© website, run by teachers using the curriculum.

Typical Lesson

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

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

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:

  - o *Warm up*
  - o *Main activity*
  - o *Exit ticket*

This gives students a visual guideline. 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.
- Complete student **Board presentations** (grades 3-8).
- If it's the end of a grading period, review skills accomplished with **Scope and Sequence**.

Figure 9--It takes 5 times...

- If starting a **new project, review it**. If in the middle of one, use the balance of class to work towards completion. Monitor, answer questions, and 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 on class internet start page that **tie into inquiry** for students who complete the current project. Students know these websites 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 have classmates verify that neighbors left their stations as they found it.
- **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 of 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 class exit ticket—to reinforce learning*

- **Check off accomplished activities** so you know what remains each week.
- In every class, **use tech wherever possible.**

Here are useful pieces to extend this curriculum:

- *Student workbooks—allow students to be self-paced*
- *Digital Citizenship curriculum— if this is a focus of your school*
- *Keyboarding Curriculum— if this is a focus of your school*
- *Class internet start page—provides a class agenda, themed links, and more. Created in Protopage (Figure 9a), LiveBinders (Figure 9b), Symbaloo (Figure 9c) or another option.*

Figure 9a—Start page using Protopage; 9b—LiveBinders; 9c—Symbaloo
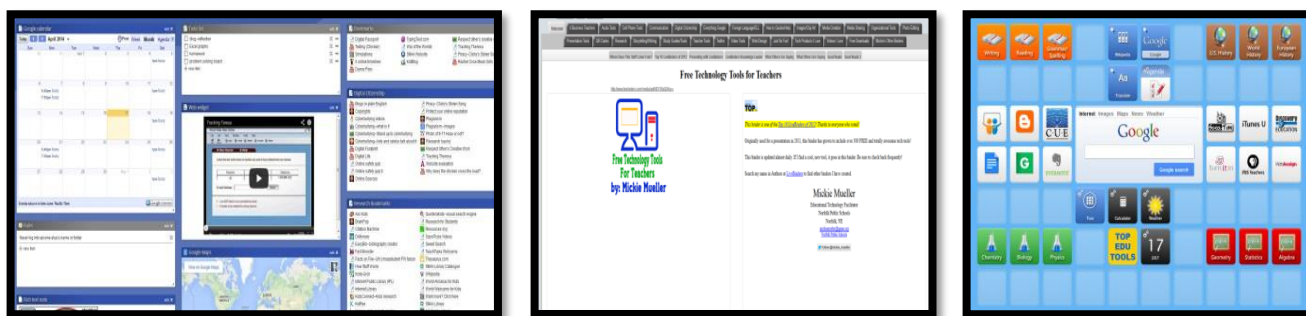
Avoid printing and/or registering for online tools when possible. A useful work-around is a screenshot:

- **Windows**: *Snipping Tool*
- **Chromebook:** *hold down control key and press window switcher key*
- **Mac**: *Command Shift 3 for a full screenshot; Command Shift 4 for a partial screenshot*
- **Surface tablet**: *hold down volume and Windows button*
- **iPad**: *hold Home button and power button at same time*
- **Online**: *a screenshot tool like Jing, Nimbus, or Snagit*

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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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2—Parts of an iPad
3—Parts of a Chromebook

Pages intentionally deleted

Lesson #3 Digital Tools in the Classroom

Vocabulary	Problem solving	Skills
- Annotation - App - Boot up - Click - Cloud - Digital portfolio - Enter - Home button - Hover - Instant on - iPad - Log-in (UN/PW) - Scroll - Swipe - Tablet - webtool - WiFi	- Mouse isn't working (is it upside down?) - Mouse click doesn't work (left button?) - Double-click doesn't work (push enter) - Volume doesn't work (check control, headphones, mute) - I can't log in - How do I open a program (tap it) - Where's start button? (it's called 'home' on iPads, 'launcher' on CB) - Where's iPad taskbar? (double tap Home to see recently used apps) - My iPad won't work (battery? WiFi?) - Students watch their iPads when not using them (have them close cover) - How do I find my digital portfolio (your teacher will help with this) - Where's the Cloud?	**New** Annotation tool Class calendar Digital portfolios Internet start page Vocabulary decoding tool Web tools **Scaffolded** Hardware
Academic Applications *Problem solving, vocabulary, language*	**Materials Required** *Internet, drawing program, mouse websites, WiFi connection, iPads, tools that require log-ins*	**Standards** *CCSS.W.K.6* *NETS: 1b, 4b*

Essential Question

What digital tools will I use this year—and why?

Big Idea

Students use digital tools to encourage learning

Teacher Preparation

- Test digital tools.
- Have class start page and digital portfolios ready.
- Have annotation tool loaded on digital devices.
- Have several parent helpers (if possible) on early lessons.
- Integrate domain-specific tech vocabulary into lesson.
- Know whether you need extra time to complete lesson.
- Know which tasks weren't completed last week and whether they are necessary to move forward.

Assessment Strategies

- Anecdotal observation
- Annotated workbooks (if using)
- Completed exit ticket
- Joined class conversations
- [tried to] solve own problems
- Decisions followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis
- Habits of mind observed

Steps

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

_____The amount of digital tools students use in the classroom increases every year. For kindergarten, there are surprisingly many, but expect students to be ready and willing to use them. They likely have access to tablets and smartphones at home and enjoy them.

_____Students will use a wide variety of digital tools on their digital devices. Here are the most common among kindergartners. Add your own.

- *annotation tool*
- *class calendar*
- *internet start page*

- *student digital portfolios*
- *webtools*
- *vocabulary decoding tools*

_____Note: Any time you use the internet in your class (say, for these digital tools), start with a reminder of how to do that safely and privately. That topic will be covered in depth in an upcoming lesson.

Student workbooks

_____If you're using the student PDF workbooks that go along with this tech curriculum, introduce them to students now. Show how to open them from their digital device, access links, find rubrics and project samples, and take notes using the annotation tool. Students can circle back to review concepts or forward to preview upcoming lessons.

Annotation Tool

_____If you're using student workbooks and you feel students are ready for the annotation tool, show them how to write in their copies with a tool such as Notability for iPads (*Figure 24a*), Notable for Chromebooks, Adobe Acrobat (*Figure 24b*), or another tool available in your school. You can find these suggestions by Googling for their websites or visit Ask a Tech Teacher's resources for Annotation. If you don't have a favorite one, try these three options and see which is best for your student group.

Figure 24a-b--PDF annotation tools
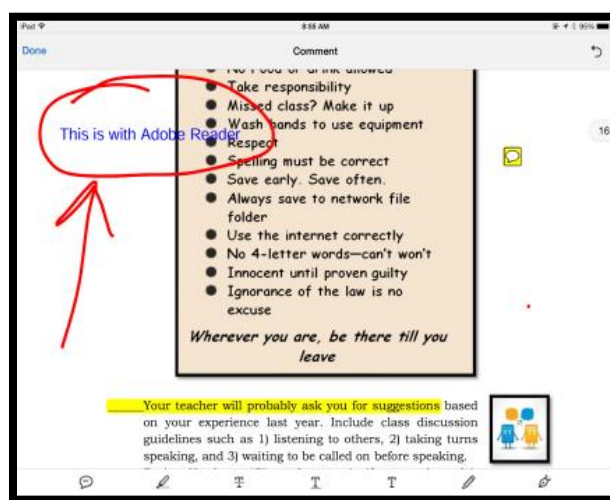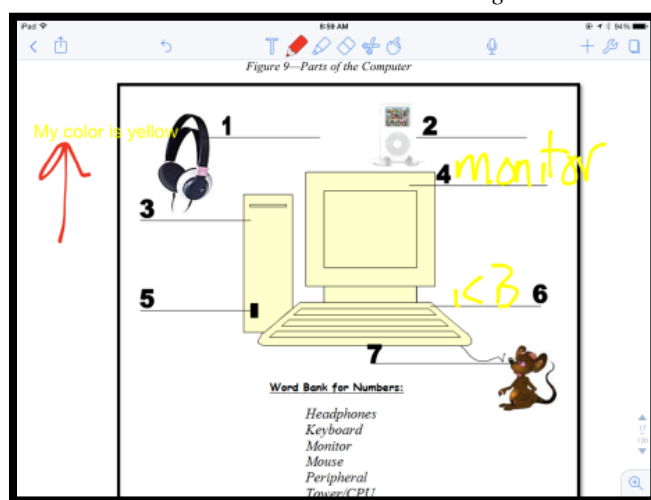
_____Review options available in the annotation tool you use, such as:

- *audio/video notes*
- *freeform*
- *highlighting*

- *note*
- *share*
- *text*

Class Calendar

_____Demonstrate how to access the calendar that tracks important class information.

_____You might use Google Calendar (*Figure 25a*—part of GAFE and Google Classroom), Office 365, a Padlet calendar template (*Figure 25b*), or another option (i.e., MS Publisher shown in *Figure 25c*). If possible, embed it into the class website.

Figure 25a-c--Samples of class calendars

Class Internet Start Page

_____An internet start page is a website that comes up when students open the internet. It organizes critical content into a single location and curates links students use on a weekly basis.

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

_____*Figure 26* is an example of nine features included, using Protopage.com:

Figure 26—Sample of class internet start page
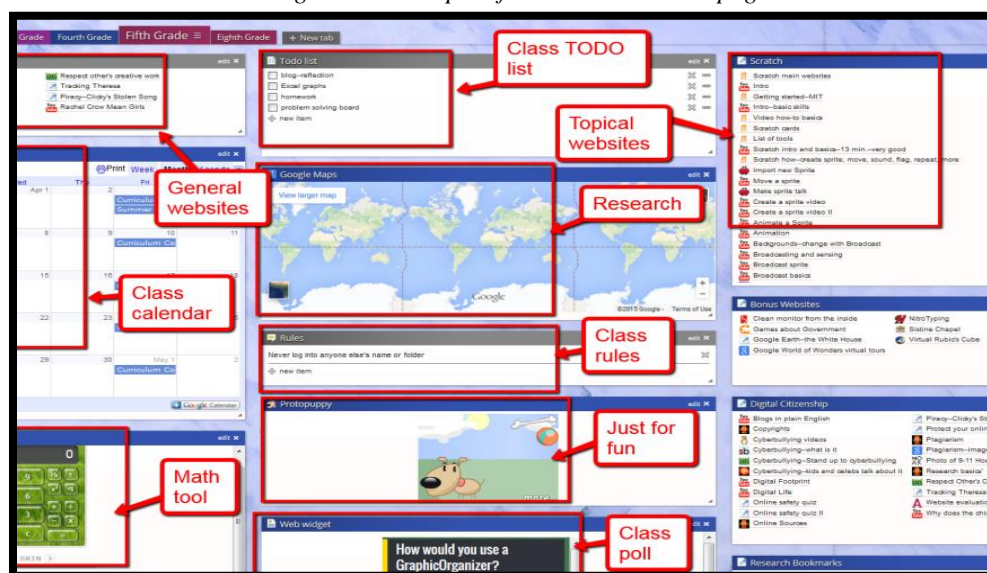
Student digital portfolios

_____Discuss how K-8 students use digital portfolios (also known as digital lockers):

- *store work (in Cloud) required in other classes or at home*
- *interact and publish with peers or others*
- *contribute to project teams*
- *edit or review work in multiple locations*
- *submit class assignments*

_____There are a variety of digital portfolios that satisfy some or all of the above: 1) folders on school network, 2) fee-based programs from companies such as Richer Picture (search Google for website), 3) cloud-based storage like Dropbox or Google Apps, 4) online collaborative sites like Google Classroom, or 5) an LMS like Otus (search for addresses if interested).

_____Have students practice uploading something to their digital portfolio. It'll take them five-seven times to get comfortable with most skills.

Class Webtools

_____Discuss the wide variety of digital tools students will use this year to complete projects. Let students know that you are open to alternative suggestions. For example, if you suggest Type to Learn Jr., a student can request Dance Mat Typing. Approval is required but will be granted if the tool fulfills project needs. Expect students to use evidence to build their case, compare-contrast their tool to your suggestion, and draw logical conclusions.

_____Here are examples of webtools you might use with students:

- *online math program (i.e., Everyday Math)*
- *digital keyboarding program (i.e., Type to Learn Jr., Typing Web)*
- *an avatar creator (Figure 27a)*
- *a badge to assess progress (Figure 27b)*
- *digital storytelling*
- *RAZ Kids (Figure 27c)*

Figure 27a-c--Useful class webtools

_____If any tool requires a login (i.e. RAZ Kids), have students test their log-in before moving on.

Vocabulary Decoding Tools

_____Show students how to access the native apps or webtools available on their digital devices to decode vocabulary. Depending upon the device, these will be on the homepage, the browser toolbar, a shortkey, or a right click. Show students how to quickly look up words rather than skipping over content that includes the word. Let them practice with several words in this lesson's *Vocabulary* list.

_____See if these dictionary tools may work for your students. Search the internet for the websites or visit Ask a Tech Teacher's Dictionary resources for alternatives:

- *Kids Wordsmyth*
- *Merriam-Webster for Kids*
- *Picture Dictionary*

_____Continually throughout class, check for understanding.

Class exit ticket: *Have student show neighbor their digital portfolio.*

Differentiation

- *Anytime you can inject tech into the class, do it! Students love seeing gadgets in action. For example—take a video of students working at their computers and upload to class website/blog/wiki.*
- *If this lesson doesn't work for students, use one from SL's How to Jumpstart the Inquiry-based Classroom. It has 5 projects aligned with curriculum.*

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Lesson #5 Tools, Toolbars, and Symbols

Vocabulary	Problem solving	Skills
• Caps lock • Drag and drop • headphones • Icon • Monitor • Nested • Network • Num lock • Screenshot • Symbol • Taskbar • Toolbars • Tools • Web-based	• How do I open a program (double click the desktop icon) • How do I close a program (file-exit; x) • Monitor doesn't work (check power) • Volume doesn't work (are headphones plugged in? Do you have the right headphones?) • Why are there icons for some programs and not others? • Drawing program won't allow saving? Take a screenshot and save that (using Jing, Snippet, or similar). • I can't find tool (look on toolbars to left and bottom)	**New** Symbols Tools, toolbars Digital citizenship Icons Drawing program Taskbar Letter websites **Scaffolded** Mouse skills Care of digital devices Hardware problems Log-in
Academic Applications Problem solving, art, drawing, speaking-listening	**Materials Required** Internet, keyboarding program, drawing program, mouse websites, student workbooks (if using)	**Standards** CCSS. Math.Practice.MP8 NETS: 1d, 5c

Essential Question

How can the program layout help me communicate my message?

Big Idea

Computer programs have similar tools and toolbars. This makes technology easier to use

Teacher Preparation
- Have drawing program on class internet start page
- Talk with grade level team to tie drawing into inquiry
- Have parent helpers (if possible) on early tech lessons
- Know which letters students are covering in class.
- Know whether you need extra time to complete lesson.
- Integrate domain-specific tech vocabulary into lesson.
- Know which tasks weren't completed last week and whether they are necessary to move forward.

Assessment Strategies

- Anecdotal observation
- Understood symbolic nature of tools, toolbars
- Completed project
- Annotated workbooks (if using)
- Completed warm-up, exit ticket
- Joined class conversations
- [tried to] solve own problems
- Decisions followed class rules
- Left room as s/he found it
- Higher order thinking: analysis, evaluation, synthesis
- Habits of mind observed

Steps

Time required: **45 minutes in one sitting or spread throughout the week**
Class warm-up: **Show neighbor proper mouse hold, posture and position when sitting at a digital device. Check each other five minutes later.**

_____Review proper care and feeding of computer:

- *No food or drink around the computer.*
- *No banging on the keyboard.*
- *Never touch a neighbor's station.*

_____Review hardware problems that arise daily when using digital devices and how to solve them:

- *Volume doesn't work—are headphones plugged in? Is volume on? Is student using correct headphones?*
- *Monitor doesn't work—is power on?*
- *Computer doesn't work—is power on? Is monitor on?*
- *Mouse doesn't work—is there a light showing it's plugged in? Is student holding it correctly?*
- *Keyboard doesn't work—push Num Lock. If that light works, keyboard works*

Figure 30--Hardware problems and solutions
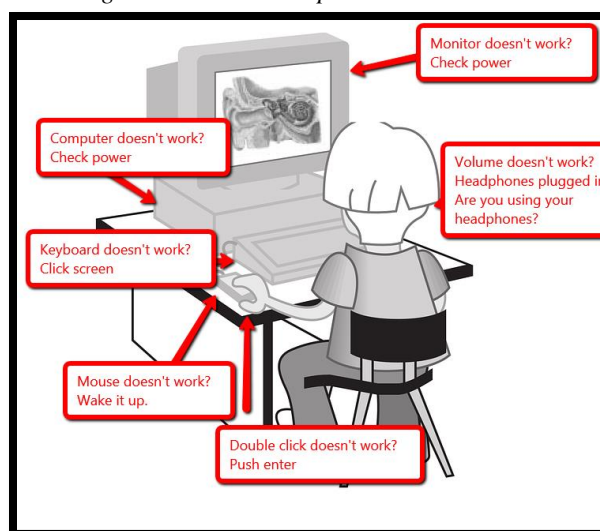
©Ask a Tech Teacher

_____These hardware problems will be revisited in the lesson on *Problem Solving*.

_____Tools and toolbars are essential to understanding how to use computer programs. But before we discuss them, let's talk about what they are built from: symbols. Little pictures that visually represent an action.

Symbols

_____Discuss the meaning of 'a picture is worth a thousand words'. Is a picture a symbol of words and thoughts?

_____As students share their thoughts, remember agreed-upon rules for discussions (such as listening to others and taking turns speaking).

_____What are symbols familiar to students?

_____What do the pictures in *Figures 31a-c* symbolize? Meaning: What do students think of when you see these pictures?

Figure 31a-c--Pictures as symbols

_____Discuss math symbols (*Figures 32a-c*). How do these represent actions, thoughts, or ideas?

Figure 32a-c--Math symbols
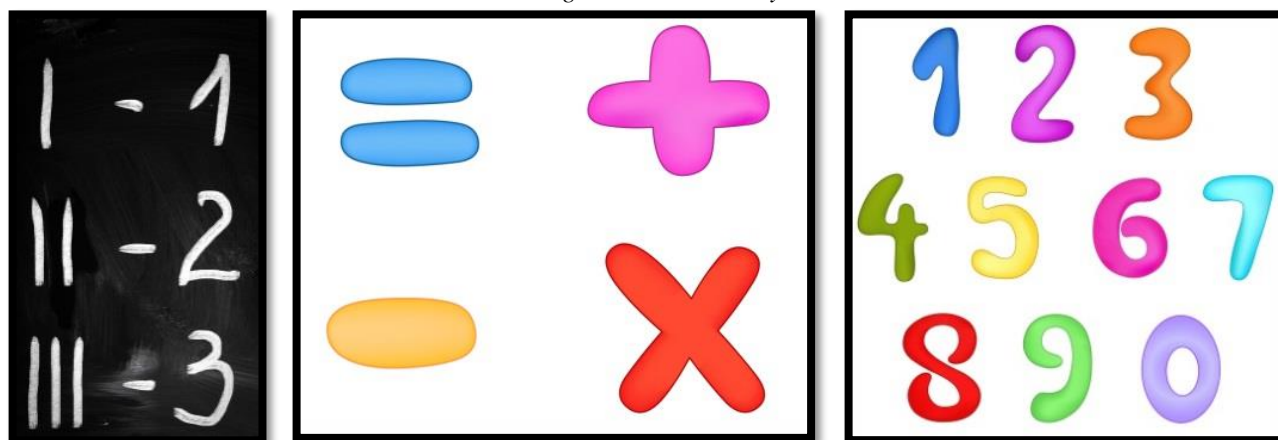
Toolbars

_____Discuss symbols students have already seen while using their digital devices:

- *Desktop icons (Figure 33a)*
- *Tools on program toolbars (Figure 33b)*

Figure 33a--Desktop icons; 33b--tools and toolbars

_____Discuss how symbols make technology clearer and easier to use.

_____If computers aren't logged in, help students do this. Discuss username and password.

_____Think about Common Core Standards for Mathematical Practice. How do tools and toolbars relate to the expectation that students look for regularity in reasoning?

_____Open a drawing program used in your classroom (KidPix, Pixie, Paint, TuxPaint or similar). IPad classes can use KidPix Deluxe (for a fee). For Chromebooks, try an internet-based drawing program like ABCYaPaint or SumoPaint (Sea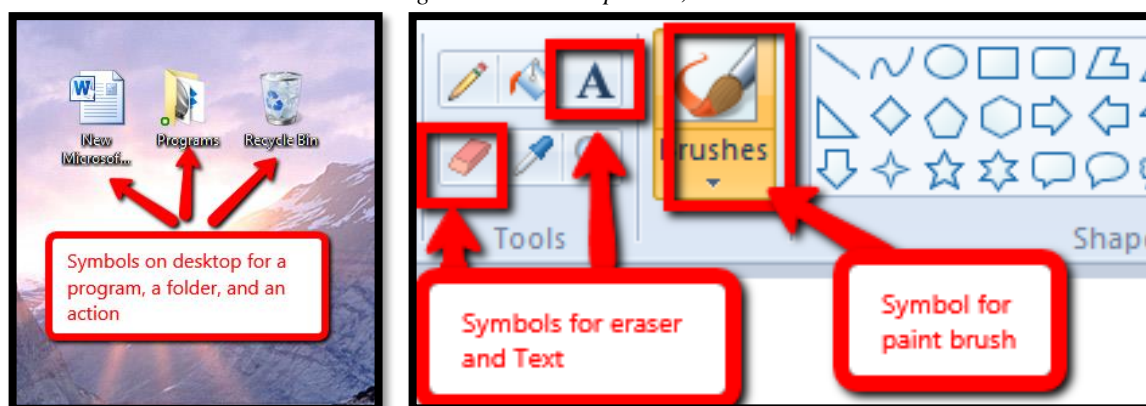rch Google for addresses or visit Ask a Tech Teacher's resource pages for alternatives). If using software, show students where the icon is on the desktop or start button. Explain what that means.

_____Note: Any time you use the internet in your class (say, for digital tools), remind students how to do that safely and privately. More on this in Lesson on *Digital Citizenship*.

_____Discuss program tools and toolbars—they are symbols used to make technology easier. Some tools are 'nested' beneath other tools. Explain how to find 'nested' tools.

_____If students have workbooks, have them open them to this lesson's toolbars. If not, show *Figure 34a* (from Paint), *Figure 34b* (from ABCYa Paint, and *Figure 34c* (from KidPix) on the class screen. Ask students to point out the tools and toolbars.
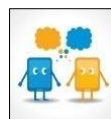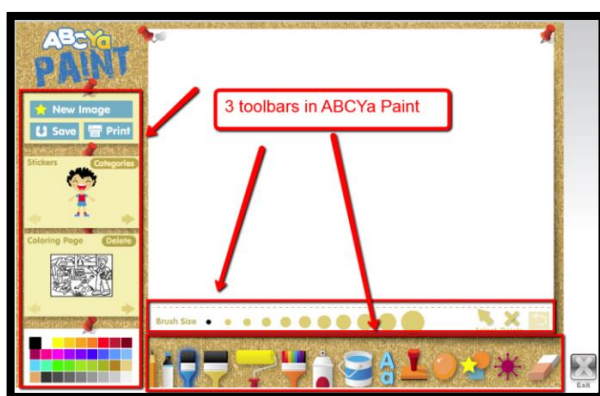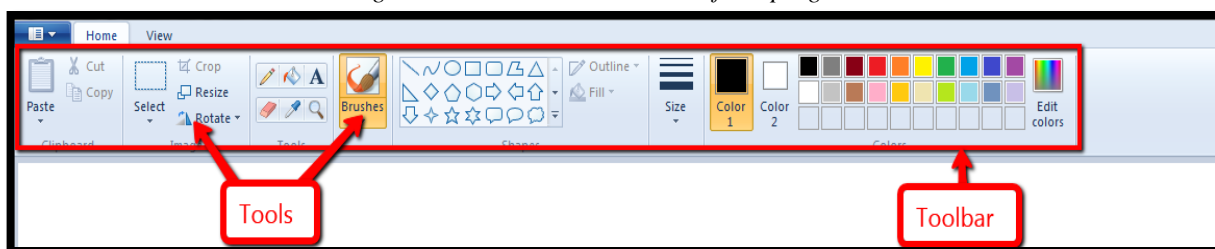
Figure 34a-c--Tools and toolbars from programs

_____If there's a taskbar on the digital device being used, how is that like a 'toolbar' (*Figure 35*)?

Figure 35--Taskbar

_____Every time during this year that a new toolbar shows up in a program students use, take a moment to compare it to tools and toolbars familiar to your students.

_____Continually throughout class, check for understanding.

_____When finished, if there's time: Go to 'letter' websites to reinforce grade-level discussions on this topic. Here are suggestions or visit Ask a Tech Teacher's resource pages for alternatives:

- *Starfall Letters*
- *Alpha Pig*

Class exit ticket: **Have student show neighbor five tools from a toolbar used in class (they can open it on their computer or use a replica from their student workbook if you use those) and explain what they represent.**

Differentiation

- *If there's time, have students use the class drawing tool to review tools, toolbars, and mouse skills by drawing a symbol they believe represents an idea. If your class drawing tool is online, review how to use the internet safely before starting.*
- *Anytime you can inject tech into the class, do it! Students love seeing gadgets in action. For example—take a video of students working at their computers and upload to class website/blog/wiki.*
- *Follow keyboard lessons in SL's K-8 Keyboard Curriculum.*
- *If this lesson doesn't work for students, use one from SL's How to Jumpstart the Inquiry-based Classroom. It has 5 projects aligned with curriculum.*

Computer User's Haiku

Chaos reigns within.
Reflect, repent, and reboot.
Order shall return.

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Lesson #9 Digital Citizenship

Vocabulary	Problem solving	Skills
Ads *Back button* *Bling* *Browser* *Cyberbullying* *Digital citizen* *Internet* *Digital neighborhood* *Links* *Netiquette* *Tabbed browsing* *Toolbar*	*What if program disappears (look on taskbar)* *Website address didn't work (Did you spell it correctly? Is there a link you can use instead?)* *I got off website by accident (click back arrow or class start page tab)* *I hear music that isn't from my website (close other tab)* *I won a computer (that's an ad)* *The site is asking for my name (never give personal information)*	**New** *Pre-keyboarding posture/position* *Digital citizenship* *Internet safety* *Using the internet* *Cyberbullying* *Passwords* *Digital rights and responsibilities* **Scaffolded**
Academic Applications *any subjects that use internet links, research*	**Materials Required** *Internet, digital citizenship websites, keyboarding program*	**Standards** *CCSS: RI.K.10* *NETS: 2b*

Essential Question

How do I use the internet safely and responsibly, enjoying my digital rights while fulfilling my digital responsibilities?

Big Idea

Safety rules on the internet resemble student's neighborhood

Teacher Preparation

- Talk with the grade-level team about digital citizenship issues noticed during their classes.
- Integrate domain-specific tech vocabulary into lesson.
- Know which tasks weren't completed last week and whether they are necessary to move forward.
- Know whether you need extra time to complete this lesson with your student group.

Assessment Strategies

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

Steps

Time required: **45 minutes in one sitting or spread throughout the week**
Class warm-up: **Keyboard on a typing tool that focuses on key placement.**

_____Discuss **digital citizenship**. What do students remember from last year? You'll cover it repetitively throughout the year, as it authentically arises during lessons.

_____In this lesson, introduce the topics listed in *Figure 49* under kindergarten. They will be scaffolded the next five years:

- *Cyberbullying*
- *Digital rights and responsibilities*
- *Internet safety*

- *Passwords*

Figure 49--Digital citizenship topics

Digital Citizenship Topics	K	1	2	3	4	5	6
Cyberbullying	x	x	x	x	x	x	x
Digital commerce					x		x
Digital communications				x		x	x
Digital footprint and Online presence			x	x	x	x	x
Digital law				x		x	x
Digital privacy			x	x	x	x	x
Digital rights and responsibilities	x	x	x	x	x	x	x
Digital search and research				x	x	x	x
Fair use, Public domain			x	x	x	x	x
Image copyright			x		x	x	x
Internet safety	x	x	x	x	x	x	x
Netiquette		x	x	x	x	x	x
Online Plagiarism			x	x	x	x	x
Passwords	x	x	x	x	x	x	
Social media						x	x

_____For a full curriculum, refer to SL's K-8 Digital Citizenship curriculum.

_____Post *Figure 50c* in your classroom (full-size poster in appendix). Every time you've discussed a topic, mark it off. By the end of 5th grade, most topics should be covered.

Cyberbullying

_____What is **cyberbullying**? What does 'cyber' mean? What is the same/different about bullying and cyberbullying?

_____Use tools similar to those employed to deal with neighborhood bullies on cyberbullies.

_____Watch Common Sense's video on cyberbullying.

Digital rights and responsibilities

_____What are the **digital rights and responsibilities** of a kindergartner? Watch "Digital Rights and Responsibilities" on YouTube or visit Ask a Tech Teacher's resources for Digital Citizenship. Discuss:

- o *Act the same online as you do in your neighborhood.*
- o *Don't share personal information. Don't ask others for theirs.*
- o *Be aware of your surroundings. Know where you are in cyberspace.*
- o *Always show your best side online.*
- o *Anonymity doesn't protect you.*
- o *Share knowledge online.*
- o *If someone is 'flaming', stop it if possible or walk away.*

_____Discuss what the internet neighborhood is. Read poster on *Figure 50a* as a class and discuss.

Figure 50a--Digital neighborhood; 50b--Netiquette rules; 50c--What we've done
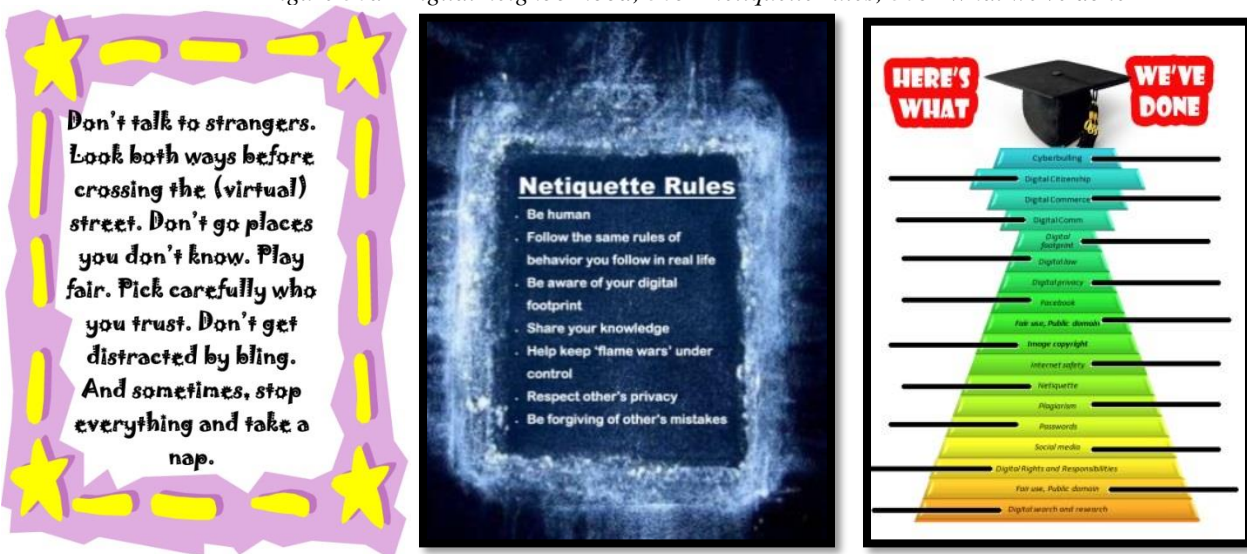
_____One important digital responsibility is to apply the same etiquette you use in the physical world—treat people with respect and care—to the online epeople you meet. This is called 'Netiquette'. Ask students what they know about this topic. (*Figure 50b*—full-size poster in appendix)? Review rules appropriate to your student group.

Internet safety

_____Remind students how to correctly use the website (*Figure 51*):

Figure 51---Online safety

- *don't click on other websites (how can you identify those?)*
- *don't click ads (what is an ad?)*
- *stay in the 'digital neighborhood'*

_____Watch BrainPOP's Internet safety video. Take quiz as a group. If you don't have a BrainPOP subscription, try another resource on Ask a Tech Teacher's digital citizenship resource pages. If students are independently watching a video, show them how to enlarge a video to fill the screen.

_____Bring up a website from class internet start page. Point out warnings in *Figure 52*:

Figure 52--Safe internet use

_____Have students visit (search Google for addresses or visit Ask a Tech Teacher's resource pages for alternatives):

- *My Online Neighborhood*
- *Internet Safety for K-3*

Passwords

_____Discuss how **passwords** protect privacy. Remind students not to share them even with friends.

_____Watch a video on passwords from your collection or visit Ask a Tech Teacher's resources pages for suggestions.

_____When done, have students watch BrainPOP Jr's video on Internet Safety, or visit Ask a Tech Teacher's resource pages for alternatives.

Class exit ticket: Have neighbors make sure they leave stations neat and orderly.

Differentiation

- *Anytime you can inject tech into the class, do it! Students love gadgets. For example—take a video of students working at their digital device and upload to class website/blog/wiki.*
- *If this lesson doesn't work for students, use one from SL's How to Jumpstart the Inquiry-based Classroom. It has 5 projects aligned with curriculum.*

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

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