

Technology Curriculum

Student
Workbook

6th Edition

Grade 4

by Ask a Tech Teacher

TECHNOLOGY CURRICULUM STUDENT WORKBOOK

FOURTH GRADE

SIXTH EDITION

By Ask a Tech Teacher©

Part Five of Nine in the SL Technology Curriculum

Sixth Edition 2016

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ISBN 978-1-942101-10-9

Printed in the United States of America

INTRODUCTION

Technology in your classroom—what an exciting way to enhance your learning! You won't be memorizing tools and struggling through new programs. You'll learn them as you use them—authentically, as part of classroom activities. Your goal: Make school easier, more relevant, and more in tune with how you learn. We're going to help. All you need to do is follow this workbook.

How much time will that take? Here's an estimate:

Grades K-2
Grades 3-8

15-30 min. a week
30-60 min. a week



Are you surprised you can learn so much in such a short time? Wait till you see how much fun it is! We give you lots of choices. You can even work with a friend, both of you on laptops, Chromebooks, iPads (sometimes) or desktops, Windows or Macs.

Follow the plan. Execute it faithfully. It works.

PROGRAMS YOU'LL USE

Programs used in this curriculum focus on those that serve the fullness of your educational journey. Free alternatives are included where possible:

General		K-2
Email	Drawing tools	Productivity tools (Office, Google Docs)
Google Earth	Keyboard tools	Desktop publishing tools
Web tools		Photo editing tool(s)

To become the person in *Figure 4* means you use technology as a learning tool. We'll show you how.

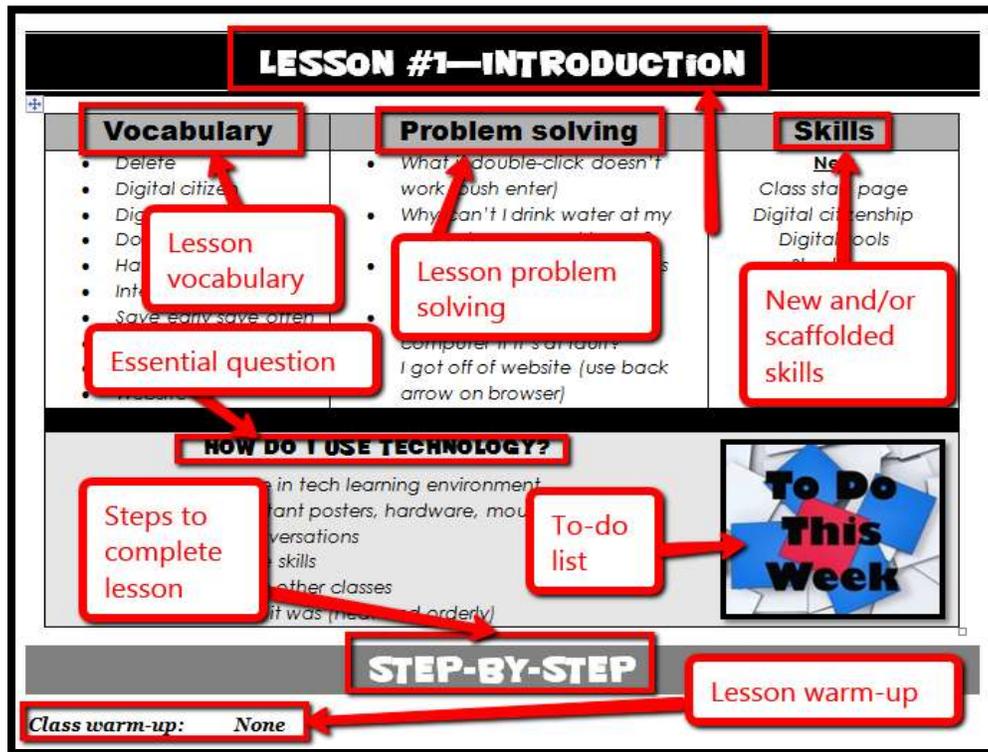
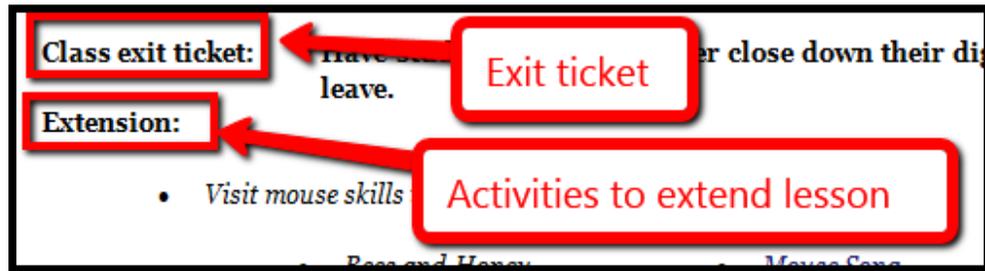
WHAT'S IN THIS WORKBOOK?

Each lesson includes:

- activities to extend lessons
- class exit ticket
- class warm-up
- essential question
- examples, rubrics, images, printables
- problem solving
- skills—new and scaffolded
- steps to accomplish goals
- suggestions based on digital device
- supporting links
- to-do list
- vocabulary used

Figure 1a-b shows what comes at the beginning of each lesson and the end:

Figure 1a-b—Detail of each lesson



HOW TO USE THIS BOOK

Your teacher(s) (meaning the adults who direct your technology training) will work with you about forty-five minutes a week. You'll spend an additional fifteen-sixty minutes each week using tech skills—online, with software, teaching friends, for homework, or in class projects. If there is a skill you don't understand, get help, especially when you see it come up a second or third time. By the end of 8th grade, you'll have a well-rounded tech education that prepares you for college and career.

The curriculum map in Figure 2 (zoom in if needed) shows what's covered in which grade. Where units are taught multiple years, teaching reflects increasingly less scaffolding and more independence on your part.

4th Grade Technology Curriculum: Student Workbook

Figure 2—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		☺	☺	☺	☺	☺			☺	☺	☺	☺	☺	☺	☺	☺

Figure 3 is a month-by-month map. Highlight each topic with your annotation tool when you finish it.

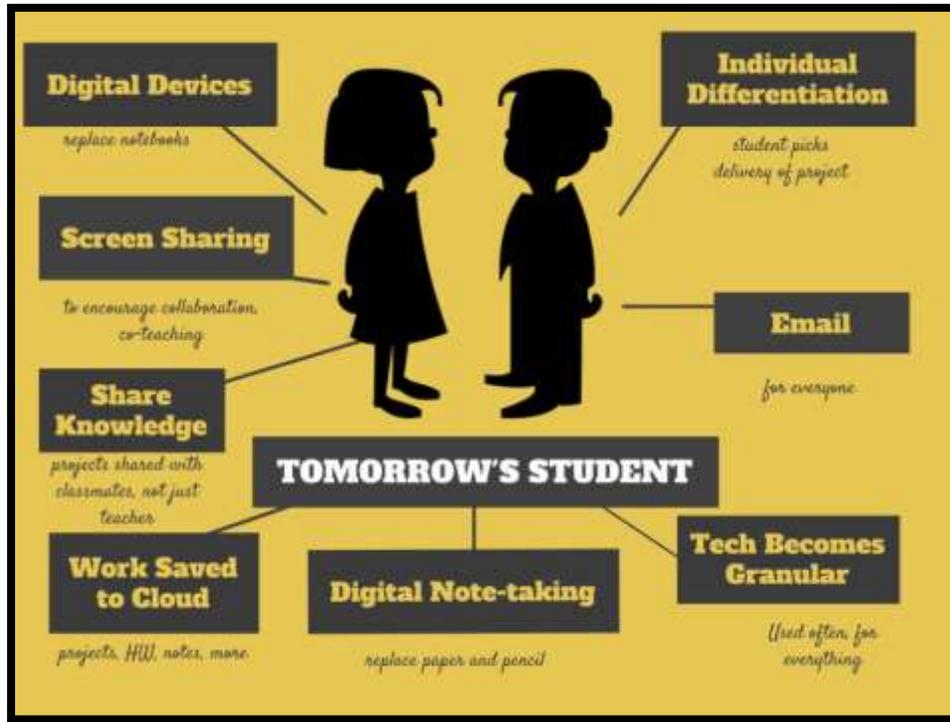
Figure 3—Curriculum Map—4th grade, month-to-month

	Sept Wk1-4	Oct Wk5-8	Nov Wk9-12	Dec Wk13-16	Jan Wk17-20	Feb Wk21-24	March Wk25-28	April Wk29-32
<i>Blogs</i>		X						
<i>Class mgmt tools</i>	X							
<i>Coding/Programming</i>		X						
<i>Collaboration</i>				X			X	
<i>Communication</i>	X	X		X	X	X		X
<i>Computer etiquette</i>	X							
<i>Critical thinking</i>	X		X	X	X			X
<i>DTP</i>				X	X	X		
<i>Digital Citizenship</i>	X	X	X	X	X	X		
<i>Google Earth</i>		X				X		
<i>Graphics</i>					X	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>Presentations</i>							X	X

<i>Problem solving</i>	X	X	X	X	X	X	X	X
<i>Publishing/sharing</i>				X		X		X
<i>Research</i>		X	X	X			X	
<i>Spreadsheets</i>						X		
<i>Visual learning</i>					X	X		
<i>Vocabulary</i>	X	X	X	X	X	X	X	X
<i>Webtools</i>		X	X	X	X			
<i>Word Processing</i>	X		X	X	X			

Here's where you're headed (Figure 4—zoom in if necessary):

Figure 4—Tomorrow's student



Here are a few hints on how this workbook will get you there:

- You can use this workbook on the following digital devices:

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

Figure 5a-h—Digital Devices for workbooks



...at school or at home

Figure 6—Use workbooks at school or home



- Check with your teacher on which of these are available with your program license.
- At your grade level, you'll probably have help from a teacher, parent, or another adult as you work. When you see a section for 'Notes' at the end of some lessons, this is where you add your thoughts, ideas, comments, and suggestions.
- Each lesson starts with a *warm-up* to get you back into tech.
- Each class ends with an *Exit Ticket* to wrap up learning.
- Lessons include *Extensions*, in case you get done early.
- Zoom in or out of workbook pages to get exactly the size that works for your needs. Don't worry if the PDF reader is at 80% or 120%. Set it to fit your learning style.
- You can work at your own pace, try skills, and ask for help when you need it. There's a lot of detail in the book to explain how to complete projects and lessons.
- Follow lessons in the order presented (grades K-5). Lessons introduce, reinforce, and circle back on concepts. Certain skills scaffold others so don't change the lesson order (except where noted otherwise—like *Coding*).
- Use lesson vocabulary in class and out. You gain authentic understanding by doing so.
- This icon  means there's a video to watch. **Be aware: Video links change.** Your teacher may replace the workbook links with others.
- This icon  means you'll work with a partner. Collaboration and working in groups is an important part of learning.
- This icon  means there is an activity that requires you to write something in the workbook. Your teacher will explain more.
- Focus on problems listed in each lesson, but embrace all that come your way. Be a risk taker.
- Check off items you finish (on the _____ in front of each task) so you know what you've completed. It's fine if you don't get everything done. Return to it when you finish a lesson ahead of time. Use an annotator like [iAnnotate](#), [Evernote](#), [OneNote](#), [Notability](#), or Adobe Acrobat. You can also use these tools to add notes to the lessons.

- Your teacher will assess your work based on the weekly 'To Do' list. Be sure you've completed items and submitted in the manner required.
- Remember: It takes five times with a skill to get it—

- *First:* you hope it'll go away
- *Second:* you try it
- *Third:* you remember it
- *Fourth:* you use it outside of class
- *Fifth:* you teach a friend

- When you finish each lesson, transfer knowledge to projects at school, home, the library, a club—wherever you use digital devices.
- At the end of each tech session, leave your station as you found it—organized and neat.
- If you have an idea on how to complete a lesson using a different tool, suggest it. Your teacher will probably be happy to accommodate you.
- You'll find a lot of links in this ebook, but know this: **Links die**. If a link doesn't work, try a different one (if there are options). If that doesn't work, contact your teacher or ask us at Ask a Tech Teacher (with teacher permission). We'll help.

Figure 7—Tech use plan



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

Here's how a lesson will run in **the tech lab**:

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

Start with the warm-up when you arrive to class.

- Complete **Board presentations** (grades 3-8).
- Occasionally, review/introduce skills.
- If starting a **new project, your teacher will review it**. If in the middle of one, you'll get the balance of class to work towards completion.
- Before leaving, **complete the class exit ticket**.

Figure 8—Keep lessons in order



In your **grade-level classroom**, scatter the lesson pieces above throughout the week:

- **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

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About the Author

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 website articles help thousands of teachers, homeschoolers, and those serious about finding the best way to maneuver the minefields of technology in education. They have published hundreds of ebooks, workbooks, articles, and have materials shared throughout the world.

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LESSON #5 OUTLINE IN WORD PROCESSING

Vocabulary	Problem solving	Skills
<ul style="list-style-type: none"> • Alignment • Alt+F4 • Bullets • Ctrl+Z • Icons • Indent/exdent • Monitor • Mulligan Rule • Outline • Shortkey • Title 	<ul style="list-style-type: none"> • Outline numbers disappeared (backspace until into outline; push enter for next number) • I can't find tool (use Search) • Outline won't work (try shortcuts) • How do I indent (tab) • I can't find tool on ribbon (try shortcut) • I can't find the answer to my problem and my parents can't help • I was sick during last quiz (retake for full credit—Mulligan Rule) 	<p style="text-align: center;"><u>New</u> Outlining</p> <p style="text-align: center;"><u>Scaffolded</u> Word processing Keyboarding Speaking and listening</p>

HOW DO I USE TECH TO ORGANIZE IDEAS?

- Completed Important Keys quiz
- Signed up for Board
- Brought class book to outline
- Followed directions
- Used good keyboarding habits
- Completed warm-up and exit ticket
- Successfully annotated workbook
- Decisions followed class rules
- Joined class conversations
- Left station as it was (neat and orderly)



STEP-BY-STEP

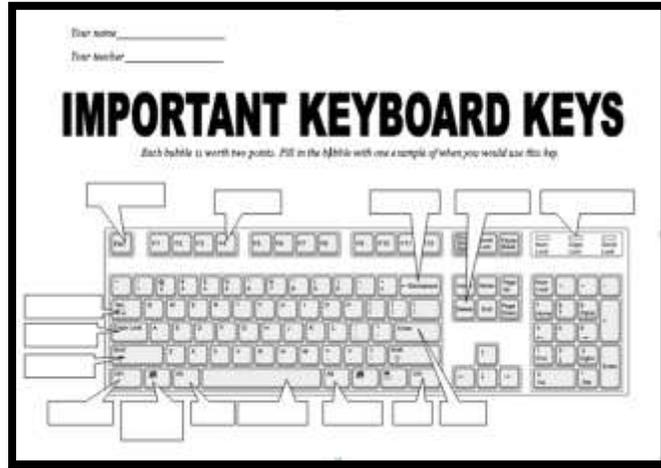
Class warm-up: Keyboard in class typing tool

- _____ Warm up with keyboarding practice using [Popcorn Typer](#) or another tool that **focuses on one row at a time**. You used this last year so should be able to begin independently. Maintain correct posture, keep elbows at sides, and use proper hand position with no flying hands.
- _____ This is the same website you will use for homework.
- _____ While keyboarding, if you haven't, sign up for the Problem-solving Board. It starts next week.
- _____ Your teacher will preview Problem-solving Board. You will teach classmates how to solve the problem and then take their questions. You can get solutions from family, friends, neighbors or even the teacher as a last resort. It takes about three minutes.



_____ Your teacher will review the Hardware Quiz. Remember: The Mulligan Rule applies.
 _____ **Important Keys** quiz today. *Figure 45* is a thumbnail—full size at end of lesson 2:

Figure 9—Important Keys quiz



_____ This includes fifteen non-letter keys you should know. You can work in groups or individually. You'll only get about seven minutes.

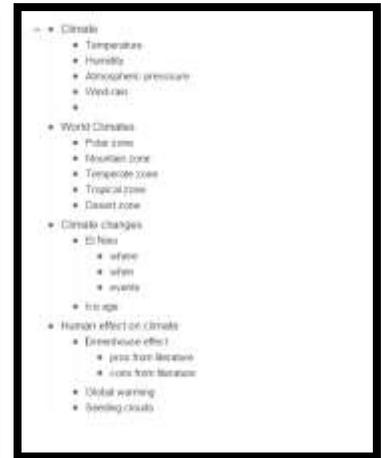
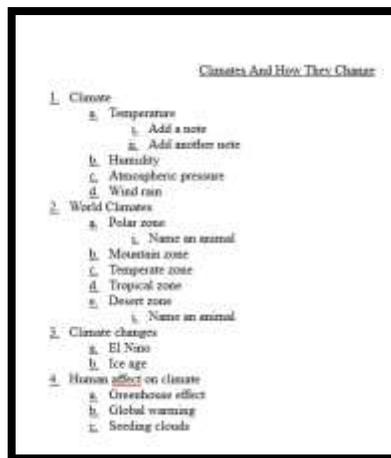


_____ Your teacher will review grading (which is the same as the keyboarding speed-accuracy quiz).

_____ Any evidence of learning for Evidence Board?

_____ Today, you'll outline one chapter in a book you've brought from class. You'll be expected to find the main topics and supporting points to be included in the outline. Your outline will look something like *Figures 46a-c*:

Figure 10a—Outline in Word; 46b—in Google Docs; 46c—in Workflowy



_____ Why outline? How does it benefit your understanding of a topic? How does it assist in organizing information? Consider:

- to encourage a better understanding of a topic
- to organize ideas

- to promote reflection on a topic
- to assist analysis of a topic

_____ How you access an outline tool will be slightly different if you use a computer (PC, Mac), a Chromebook, or an iPad.

_____ Open a word processing program like MS Word or Google Docs as your teacher opens it on the class screen.

_____ If you don't use MS Word or Google Docs on your digital device, try:

- *OneNote* – software as part of the MS Office suite; also a web app or an iPad app
- [Oak](#) – a plain text online outliner stored on your local drive
- [Workflowy](#) – online outliner (Figure 46c)

_____ If these don't work on your Chromebook, try:

- [Outliner of Giants](#)

_____ If you're an iPad school, try one of these:

- *The Google Docs or MS Word app*
- [Quicklyst](#) – quick notes and list on iPads
- [OmniOutliner](#) – for iPads and online

_____ Any time you go online, remember to do so safely.

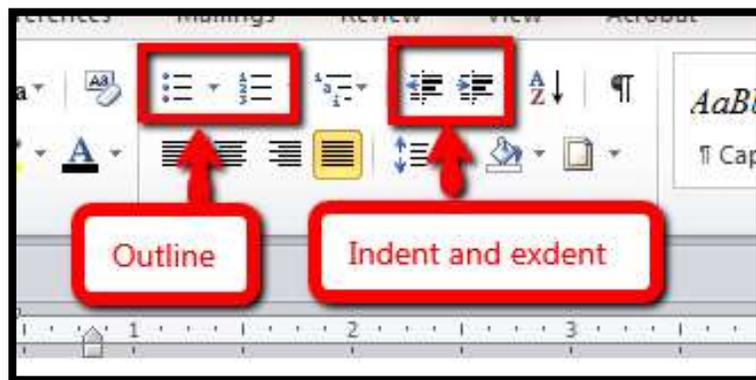
_____ Put heading at top (name, teacher, date). What's the purpose of the heading? Add date with shortcut (if available).



_____ Center title beneath heading. What's the purpose of a 'title'?

_____ Use three ribbon tools—or adapt for the toolbar in the word processing program you use: 1) bullet or numbered list, 2) indent—push text to right (subpoint), and 3) exdent—push text to left (more important point). See *Figure 47* (in MS Word):

Figure 11—Outline tools



_____ Or, use tab to indent and Shift+tab to exdent—I like this better.

_____ Outline chapter headings, subheadings in the book you brought to class. Summarize and/or paraphrase relevant points in text.

_____ Work individually or in small groups.



- _____ Done? Now edit. As a group, suggest information on this topic learned from other resources (library books, videos, personal experience) and integrate it into the right spot by adding points and subpoints, even images. How does this contribute to overall understanding of topic? How does this enable you to more knowledgeably discuss the subject?
- _____ Remember: Every time you use computers, practice keyboarding skills.
- _____ Remember: Save early save often. Why? How often?
- _____ If printing, preview to be sure outline takes only one page. Save or save-as? Which is right for this situation?
- _____ Review how to save (*Figure 48*):

Figure 12—How to save your file



- _____ Why is it important to put your name in the file name? Your teacher will demonstrate a search of student name. See how a file shows up even if they didn't save it right—as long as they saved it 1) with their last name in the file name, and 2) to school network (if using that approach).
- _____ Print/save/share/publish—you decide.
- _____ Remember: The Blank Keyboard quiz is next week.

Class exit ticket: Tack a post-it on a virtual or physical Vocabulary Wall with a tech word you don't know.

Extension:

- Volunteer to add the start of the Problem-solving Board to the class calendar.
- Volunteer to add next week's Blank Keyboard quiz to the calendar.
- Visit class internet start page for websites connected to inquiry.

LESSON #6 DIGITAL CITIZENSHIP

Vocabulary	Problem solving	Skills
<ul style="list-style-type: none"> • Blog • Cyberbully • Digital footprint • Fair use • Format • Forums • Netiquette • Online presence • Texting • Virus 	<ul style="list-style-type: none"> • Aren't all images on Google free (no—they're to view, not steal) • I'm anonymous. Why worry about my actions (your true measure is how you act when no one is looking) • Why doesn't 'fair use' cover everything when I'm a student (it only covers academic stuff) • I can't find the copyright (try the bottom of the page) 	<p>New</p> <p>Digital footprint Digital rights and responsibilities</p> <p>Scaffolded</p> <p>Digital citizenship Cyberbullying Digital privacy Plagiarism</p>

HOW DO I GO ONLINE SAFELY?

- Completed presentation
- Shared evidence of learning
- Completed blank keyboard quiz
- Used good keyboarding habits while typing
- Completed warm-up and exit ticket
- Successfully annotated workbook
- Decisions followed class rules
- Joined class conversations
- Left station as it was (neat and orderly)



STEP-BY-STEP

Class warm-up: Keyboard homerow

_____ Warm up with keyboarding using [Popcorn Typer](#) or another tool that **focuses on one row at a time**. At this point, you are on Home or QWERTY row. Pay attention to your posture, hand position, and other good keyboarding habits.

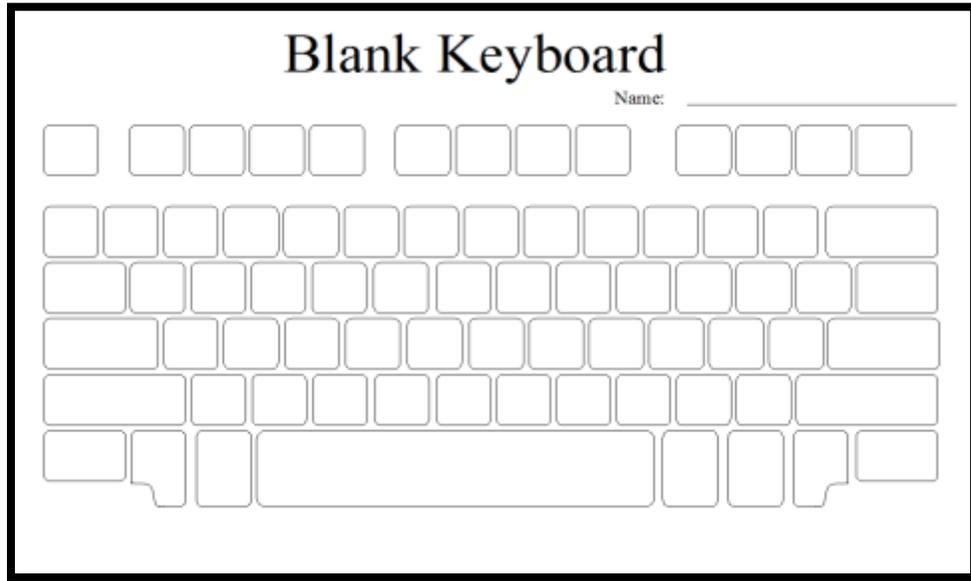
_____ Your teacher will review last week's quiz.

_____ Did you use tech knowledge to help at home or other classes? If so, share and then post a badge on the Evidence Board.

_____ Today is the **blank keyboard quiz** (Figure 49 is a thumbnail— full-size *Assessment* at the end of keyboarding lesson). You can work in groups or pairs—or individually.  You get **ONLY** five-ten minutes for this quiz. You should know key placement by now.



Figure 13—Blank keyboard



- _____ Remember: Homework due end of each month. The entire years' worth of assignments is at the end of this workbook.
- _____ Start Problem-solving Board. Your teacher will review how it works.



Digital Citizenship

- _____ Discuss **digital citizenship**. You'll cover it in depth throughout the year.
- _____ As a group, throughout the school year, you'll discuss the topics listed under '4th grade' (Figure 50—zoom in if needed).



Figure 14—DigCit topics

Digital Citizenship Topics	K	1	2	3	4	5	6
Cyberbullying	x	x	x	x	x	x	x
Digital citizenship	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
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
Passwords	x	x	x		x	x	
Social media						x	x
Stranger Danger	x	x	x				

Figure 51 is posted in your classroom. Every time you discuss a topic, volunteer to mark it off:

Figure 15a—Digit topic pyramid; 51b—Netiquette guidelines



General discussion of Digital Citizenship

- Volunteer to review last year's digital citizenship discussion.
- Discuss Twitter and hashtags. Watch <https://youtu.be/abgRCmkm6No>.
- Discuss blogs. Discuss texting. Watch this video on [Texting](#).



Cyberbullying

- What is **cyberbullying**? What does 'cyber' mean? What is the same/different about bullying and cyberbullying?
- Use tools employed to deal with neighborhood bullies on cyberbullies.
- Watch these videos:
 - [Common Sense—cyberbullying](#)
 - [These six videos from kids like you](#)



Digital footprint

- Discuss your digital footprint. Why is it important?
- Watch this video on your [Digital Footprint](#).



Digital privacy

- Discuss **Digital Privacy**. Discuss how **passwords** protect privacy. Remember you never share passwords, even with friends.
- Discuss password guidelines and rules.
- Watch this video on [passwords](#).



Digital rights and responsibilities

- What are the **digital rights and responsibilities** of a fourth grader? Watch this [YouTube video](#). Discuss these concepts:
 - *Act the same online as you'd act in your neighborhood.*
 - *Don't share personal information. Don't ask others for theirs.*
 - *Be aware of your surroundings. Know where you are in cyberspace.*
 - *Always show your best side online.*
 - *Anonymity doesn't protect the individual.*
 - *Share knowledge online.*
 - *If someone is 'flaming', stop it if possible or walk away.*



Netiquette

- What is '**netiquette**' to a fourth grader? Review *Figure 51b* (zoom in if necessary).

Online search/research

- This is covered in other lessons

Plagiarism

- What does '**plagiarism**' mean? Why give credit to original authors/artists?
- Watch this [plagiarism video](#).
- Discuss plagiarism concepts like image copyrights, fair use, and public domain.



Class exit ticket: Send an email to the teacher listing the top three digital tools you're excited to use.

Extension:

- *Volunteer to add homework due date to the class online calendar each month.*
- *Check email (if you have student email).*
- *Visit class internet start page for websites that tie into inquiry.*

"A printer consists of three main parts: the case, the jammed paper tray and the blinking red light"

LESSON #12 WORD PROCESSING TABLES I

Vocabulary	Problem solving	Skills
<ul style="list-style-type: none"> 4x5 Categories Cells Columns Handles Rows Shift-tab Table 	<ul style="list-style-type: none"> I deleted my work (Ctrl+Z) What's today's date (Shift+Alt+D) I ran out of rows! (click in the last cell of table and push tab) There's not enough room (keep typing; cell increases in size) Column is too narrow (drag margin to resize) 	<p>New</p> <p>Scaffolded</p> <p>Table skills</p> <p>Keyboarding skills</p> <p>Digital citizenship</p> <p>Problem-solving strategies</p>

HOW DO TABLES PRESENT INFO CLEARLY?

- Developed and organized a table appropriate to task, audience, and purpose
- Used good keyboarding habits
- Completed warm-up and exit ticket
- Decisions followed class rules
- Joined class conversations
- Left station as it was (neat and orderly)

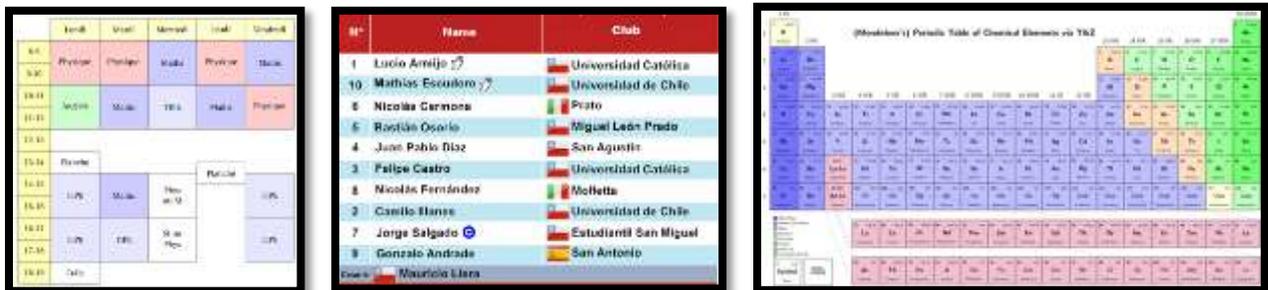


STEP-BY-STEP

Class warm-up: Keyboard lower row

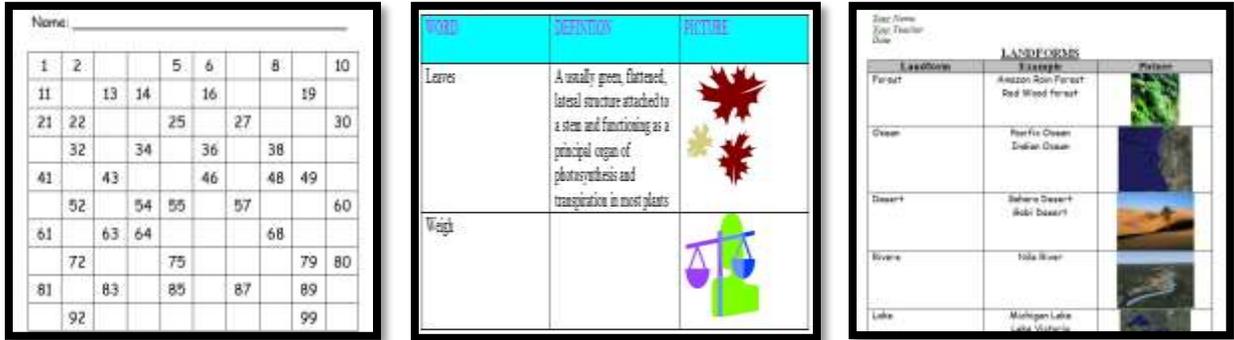
- Continue Problem-solving Board presentations. If your turn is next week, be sure you come to class prepared. You can use notes if your teacher allows it.
- Any evidence of learning to post on Evidence Board? Did you share tech skills with family?
- Today starts a two-week project on organizing information with tables.
- Discuss the meaning of 'table'. Why choose a table instead of a narrative paragraph (Hint: Its rows and columns cleanly group related information; it organizes facts and details that support the theme).
- Where have you seen tables outside of school (i.e., class schedule—*Figure 72a*, sports roster—*Figure 72b*, Periodic Table of Elements—*Figure 72c*—ask your parents about this one)?

Figure 16a-c—Examples of tables



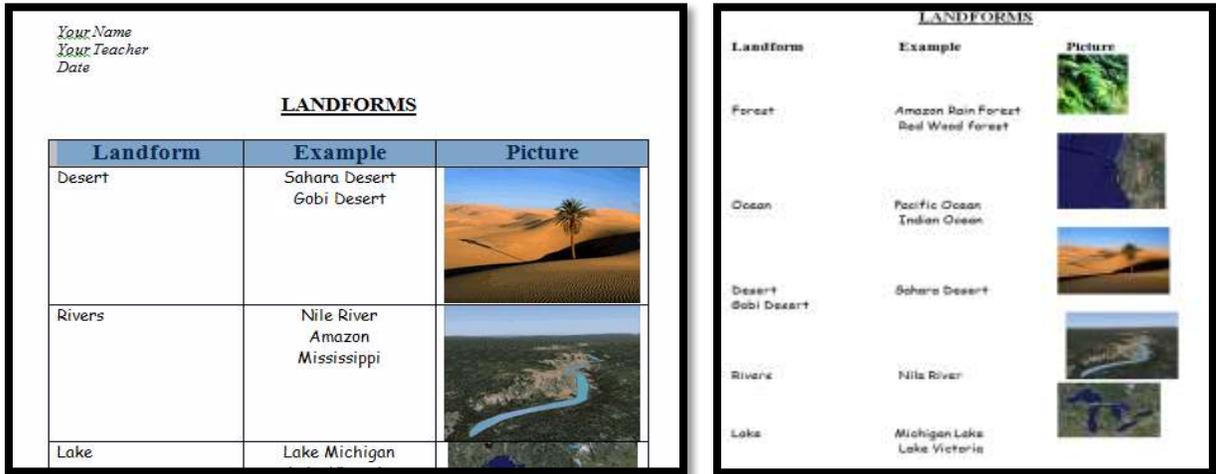
Do you remember tables in 2nd grade (*Figure 73a*—the Number Square)? 3rd grade (*Figure 73b*—vocabulary or *Figure 73c*—Landforms)—if you’ve been using the SL tech curriculum:

Figure 17a—Table in 2nd grade; 73b—3rd grade; 73c—3rd grade



Notice the difference between information arranged in a table (*Figure 74a*) and arranged with tabs, columns, and/or returns (*Figure 74b*). Which is easier to understand? Which takes longer to create? Your teacher may model both for you on the class screen:

Figure 18a—Organize data in table; 74b—in columns



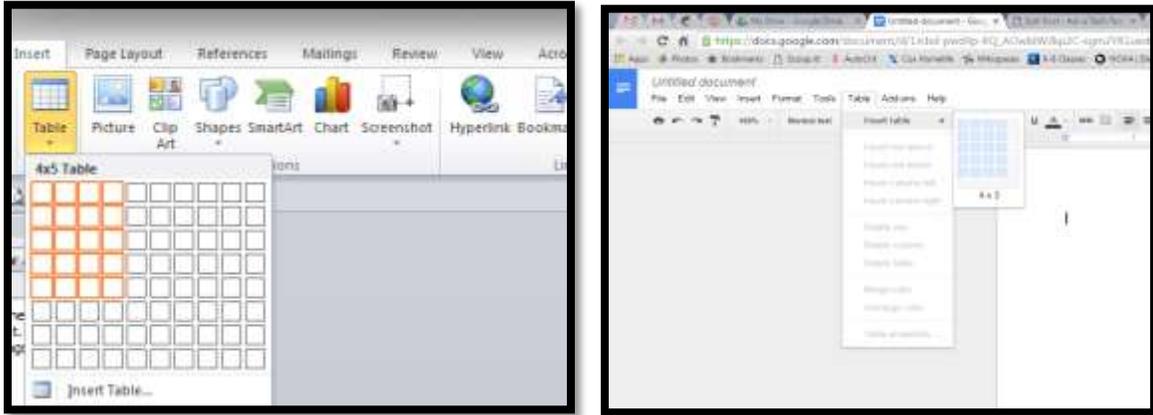
Your teacher will open a word processing program on the class screen (MS Word, Notes, Google Docs, or another) while you open it on your digital device. S/he’ll model table creation as you work along.

Moving around a table is NOT about clicking the mouse in the cell in which you want to enter data. Instead, use these basic shortcuts to move around your table:

- *tab* moves right
- *shift+tab* moves left
- *enter* adds another line in the cell
- *tabbing in last cell* adds a new row

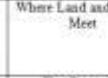
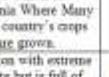
Add a 4x5 table with column headings (such as *Ecosystems, Example, Definition, Picture*) and row categories (such as *Mountains, Coast, Desert*). *Figure 75a* is an example of adding a table in MS Word, *75b* in Google Docs:

Figure 19a—Table tool in MS Word; 75b—in Google Docs



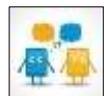
- _____ Ooops. You added five columns. How do you delete a column?
 - _____ Discuss meaning and purpose of column 'headings' and row 'categories'.
 - _____ Center column headings; use #22 font, caps lock, bold.
 - _____ Discuss each ecosystem included in the row categories. Fill cells based on the class input.
 - _____ Notice how cell enlarges to accommodate more information.
 - _____ Finish table by filling in the rest of columns one-three (skip 'Picture' column until next week).
- It may look like *Figure 76*:

Figure 20—4th-grade table

Ecosystems	Example	Definition	Picture
Mountains	Himalayas, Mount Everest, Mount St. Helens, Suwanville, Placerville, Ridgecrest, South Lake Tahoe	Earth's Highest Landforms	
Coast	L.A, San Francisco, Laguna Beach, San Francisco, Oakland	Where Land and Water Meet	
Central Valley	San Joaquin Valley, Imperial Valley, Sacramento, Fresno, Stockton, Modesto	The Center of California Where Many of the country's crops are grown.	
Desert	Palm springs, Lancaster, El Centro, Indio	A Region with extreme climate but is full of life.	

- _____ Check grammar and spelling with red and green squiggly lines.
- _____ Save to digital portfolio. What's the difference between 'save' and 'save as'?

Class exit ticket: **Check your neighbor's digital portfolio to be sure their table is saved correctly. It will be used next week.**



Extension:

- *Instead of tables, use a spreadsheet to organize information.*
- *Visit class internet start page for websites that tie into topic (such as 'ecosystems').*
- *Volunteer to add table project to class calendar.*
- *Shade heading row so it stands out.*

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