Standards numbers: grade.concept.subconcept.#								
Concept	Subconcept	PK	Kindergarten	1st Grade	2nd Grade	Standards:	Practices:	Comments:
Computing Systems	Devices	PK.CS.D.01 With guidance, demonstrate how to operate a computing device.	K.CS.D.01 Demonstrate how to operate a variety of computing devices.	1.CS.D.01 With guidance, select and use a computing device to perform a variety of tasks for an intended outcome.	2.CS.D.01 Select and use a computing device to perform a variety of tasks for an intended outcome.	1A-CS-01	7. Communicating about computing	We changed wording to include devices considering in the CSTA Standards the subconcept includes devices.
	Hardware and Software	PK.CS.HS.01 With guidance, use appropriate terminology to locate and identify common computing devices and components in a variety of environments (e.g. turn on, navigate, open/close programs/apps).	K.CS.HS.01 Use appropriate terminology to locate and identify common computing devices and components in a variety of environments (e.g. turn on, navigate, open/close programs/apps).	1.CS.HS.01 Use appropriate terminology in identifying and describing the function of common computing devices and components. (e.g. use an app to draw on the screen, use software to write a story or control robots).	2.CS.HS.01 Model the use of components of a computing system, it's basic functions, peripherals (connected hardware), and storage features.	1A-CS-02	7. Communicating about computing	
	Hardware and Software	PK.CS.HS.02 With guidance, correctly use software that controls computing devices (e.g. desktop computer, laptop computer, tablet device, monitor, mouse).	K.CS.HS.02 Identify and use software that controls computing devices (e.g. desktop computer, laptop computer, tablet device, monitor, keyboard, mouse, printer).	1.CS.HS.02 With guidance select and use appropriate software/apps for an intended outcome. (e.g. desktop computer, laptop computer, tablet device, monitor, keyboard, mouse, printer).	2.CS.HS.02 Self select and use appropriate software/apps for an intended outcome. (e.g. using the hard drive, memory/storage, printers, scanners, wireless and cabled connections, and cloud storage).	1A-CS-01	1. Fostering an inclusive computing culture	
	Troubleshooting	PK.CS.T.01 Recognize that computing systems might not work as expected and with guidance can identify simple hardware or software problems (e.g. volume turned down on headphones, monitor turned off).	K.CS.T.01 Recognize that computing systems might not work as expected and use accurate terminology to identify simple hardware or software problems (e.g. volume turned down on headphones, monitor turned off).	1.CS.T.01 Identify and describe basic hardware and software problems using accurate terminology (app or program is not working as expected, no sound is coming from the device, caps lock turned on, WiFi not working).	2.CS.T.01 Using accurate terminology, identify and resolve simple hardware and software problems and strategies for solving these problems.	1A-CS-03	6. Testing and refining computational artifacts, 7. Communicating about computing	
Networks & the Internet	Network Communication & Organization	PK.NI.NCO.01 Recognize that computing devices are connected via wired or wireless networks so that they can communicate with each other.	K.NI.NCO.01 Recognize and use computing devices to connect with people or other devices using a network to communicate, access, and share information as a class (e.g. the internet, video conferencing, email, file transfer).	1.NI.NCO.01 Recognize that by connecting computing devices together they can share information using a network (e.g. wired or wireless network).	2.NI.NCO.01 Use computing devices to share information and communicate with others using a network.	1B-NI-04	7. Communicating about computing	We added this to show the foundational skills to what is to come in 3rd-5th grades. It is important for students to know that devices communicate with each other - they talk back and forth device to device.
	Cybersecurity	PK.NI.C.01 Recognize that passwords are private and should be kept secret.	K.NI.C.01 Use a form of secure access to protect private information and discuss the effects of password misuse (e.g. logging into a device, educational websites, authentication, thumbprint recognition).	1.NI.C.01 Identify what authentication methods (passwords) are; explain why they are not shared; and discuss what makes a password strong. Independently, use passwords to access technological devices, apps, etc.	2.NI.C.01 Demonstrate use of strong authentication methods to access and protect devices and data. Understand the effects of retaining password privacy.	1A-NI-04	7. Communicating about computing	<--
Data Analysis	Storage	PK.DA.S.01 Know that the computing device can save information as data that can be searched, modified, and saved or deleted (e.g. save photos, files, or videos).	K.DA.S.01 With guidance, demonstrate that computing devices can save information as data that can be searched, modified, and saved or deleted (e.g. save photos, files, or videos).	1.DA.S.01 With guidance locate, open, modify, delete and save an existing file, use appropriate file-naming conventions, and recognize that the file exists within an organizational structure (drive, folder, file).	2.DA.S.01 Manipulate existing files while use appropriate file-naming conventions. With guidance, develop and modify an organizational structure by creating, copying, moving, and deleting files and folders.	1A-DA-05	4. Developing and using abstractions	
	Collection	PK.DA.C.01 Students understand that data about themselves and the world around them is collected, used, and organized in a meaningful way.	K.DA.C.01 Students will learn how data about themselves and the world around them is collected, used, and organized in a meaningful way.	1.DA.C.01 With guidance, collect data and present it two different ways (chart or graph).	2.DA.C.01 With guidance, collect and present the same data in various visual formats.	1A-DA-06	4. Developing and using abstractions, 7. Communicating about Computing	
	Visualization & Transformation	PK.DA.CVT.01 Students represent collected data in a visual way. (e.g. charts, graphs, tables).	K.DA.CVT.01 Students represent collected data in a visual way through a computing device (e.g. charts, graphs, tables).	1.DA.CVT.01 With guidance, identify and interpret data from a chart or graph (visualization) in order to make a prediction, with or without a computing device.	2.DA.CVT.01 Collect data over time and organize it on a chart or graph in order to make a prediction	1A-DA-06	7. Communicating about computing	

	Inference and Models	PK.DA.IM.01 Students look for patterns in data, make predictions, and make a model (e.g. make predictions on weather data, butterfly life cycle, etc.) and present in a picture graph or pattern.	K.DA.IM.01 Students look for patterns in data, make predictions, make a model, and draw conclusions (e.g. make predictions on weather data, butterfly life cycle, etc.) and present in a picture graph or pattern.	1.DA.IM.01 Create a model of an object or process in order to identify patterns and essential elements. (e.g. water table, butterfly life cycle, seasonal weather patterns).	2.DA.IM.01 Use patterns in data to make inferences or predictions based on data collected from users or simulations.	1A-DA-07	4. Developing and using abstractions	
Algorithms and Programming	Algorithms	PK.AP.A.01 With guidance, construct and execute algorithms (set of step-by-step instructions) that includes sequencing and simple loops to accomplish a task, with or without a computing device (e.g. verbally, kinesthetically, with robot devices or a programming language, block coding).	K.AP.A.01 Construct and execute algorithms (set of step-by-step instructions) that includes sequencing and simple loops to accomplish a task, both independently, collaboratively, with or without a computing device (e.g. verbally, kinesthetically, with robot devices or a programming language, block coding).	1.AP.A.01 With guidance, model daily processes and follow algorithms (sets of step-by-step instructions) for complete tasks verbally, kinesthetically, with robot devices, or a programing language.	2.AP.A.01 Both independently and collaboratively construct and follow algorithms that include sequencing and simple loops to accomplish a task verbally, kinesthetically, with robot devices, or a programing language.	1A-AP-08	4. Developing and using abstractions	
	Variables	PK.AP.V.01 With guidance, understand that numbers represent different types of data using numbers or other symbols (e.g. thumbs up/thumbs down for yes/no color by number, arrows for direction, encoding/decoding a word using numbers or pictographs).	K.AP.V.01 With guidance, recognize that numbers represent different types of data using numbers or other symbols (e.g. thumbs up/thumbs down for yes/no color by number, arrows for direction, encoding/decoding a word using numbers or pictographs).	1.AP.V.01 With guidance, model the way that programs store and manipulate data by using numbers or other symbols to represent information (e.g. thumbs up/thumbs down for yes/no, use arrows when writing algorithms to represent direction, or encode and decode words using numbers, pictographs, or other symbols to represent letters or words).	2.AP.V.01 Use and model the way a computer program stores, accesses, and manipulates data that is represented as a variable.	1A-AP-09	4. Developing and using abstractions	
	Control	PK.AP.C.01 With guidance, create programs to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing events and simple loops (e.g. emphasizing beginning, middle, and end; collaborative programming).	K.AP.C.01 With guidance, independently or collaboratively create programs to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing events and simple loops (e.g. emphasizing beginning, middle, and end; collaborative programming).	1.AP.C.01 With guidance, independently, or collaboratively construct algorithms (sets of step-by-step instructions) to accomplish tasks using a programming language, robot device, or unplugged activity that includes sequencing and repetition, to express ideas or address a problem.	2.AP.C.01 Independently and collaboratively create programs to accomplish tasks using a programming language such as block based programming using a robot device, or unplugged activity that includes simple loops, sequencing, and repetition.	1A-AP-10	5. Creating computational artifacts	<--
	Modularity	PK.AP.M.01 With guidance, decompose (break down) a larger problem into smaller subproblems.	K.AP.M.01 With guidance, decompose (break down) a larger problem into smaller subproblems or combine simple tasks to make something more complex.	1.AP.M.01 With guidance, decompose (break down) the steps needed to solve a problem into a precise sequence of instructions.	2.AP.M.01. Independently decompose (break down) a larger problem into smaller subproblems and steps needed to solve those problems.	1A-AP-11	3. Recognizing and defining computational problems	
	Program Development	PK.AP.PD.01 Create a design document to illustrate thoughts, ideas, and stories in a sequential manner.	K.AP.PD.01 Create a design document to illustrate thoughts, ideas and stories in a sequential manner (e.g. storyboard, mindmap, sequential graphic organizer).	1.AP.PD.01 Independently or with guidance, create a grade-level appropriate artifact to illustrate thoughts, ideas, or stories in a sequential (step-by-step) manner (e.g. story map, storyboard, and sequential graphic organizer).	2.AP.PD.01 Independently create a grade-level appropriate artifact to illustrate thoughts, ideas, or stories in a sequential (step-by- step) manner (e.g., story map, storyboard, and sequential graphic organizer).	1A-AP-12	5. Creating computational artifacts, 7. Communicating about computing	The artifact would be the goal or outcome
	Program Development	PK.AP.PD.02 Recognize that digital items can be owned and that proper credit needs to be given (e.g. using code, music, pictures).	K.AP.PD.02 With guidance, give credit to ideas, creations, and solutions of others while developing algorithms (e.g. using code, music, pictures).	1.AP.PD.02 Independently or with guidance give credit to ideas, creations and solutions of others while writing and/or developing programs.	2.AP.PD.02. Give credit to ideas, creation (such as code, music, or pictures) and solutions of others while writing and developing programs.	1A-AP-13	7. Communicating about computing	
	Program Development	PK.AP.PD.03 With guidance, construct, execute, and debug (identify and fix) algorithms using a programming language and or an unplugged activity that includes sequencing (e.g. use block based programming).	K.AP.PD.03 With guidance,independently or collaboratively construct, execute, and debug (identify and fix) algorithms using a programming language and or an unplugged activity that includes sequencing (e.g. use block based programming).	1.AP.PD.03 With guidance, independently, or collaboratively construct, execute, and debug (identify and fix) programs using a programming language and/or unplugged activity that includes sequencing and repetition.	2.AP.PD.03. Independently and collaboratively construct, execute, analyze and debug (fix) an algorithm using a programming language and/or unplugged activity that includes sequencing and simple loops.	1A-AP-14	6. Testing and refining computational artifacts	

	Program Development	PK.AP.PD.04 With guidance, use correct terminology in the development of an algorithm to solve a simple problem (e.g. beginning, middle, end).	K.AP.PD.04 Use correct terminology in the development of an algorithm to solve a simple problem (e.g. beginning, middle, end).	1.AP.PD.04 Use correct terminology (first, second, third) and explain the choices made in the development or an algorithm to solve a simple problem.	2.AP.PD.04. Use correct terminology (debug, program input/output, code) to explain the development of an algorithm to solve a problem in an unplugged activity, hands on manipulatives, or a programming language.	1A-AP-15	7. Communicating about computing	
Impacts of Computing	Culture	PK.IC.C.01 Understand different ways in which types of technologies are used in your daily life.	K.IC.C.01 Understand different ways in which types of technologies are used in your daily life.	1.IC.C.01 Identify how people use different types of technologies in their daily work and personal lives.	2.IC.C.01 Recognize and describe how different technologies used daily in work and at home are used to solve problems or make work and life easier.	1A-IC-16	7. Communicating about computing	This ties in with the history standard, but emphasizes how technology is used present day.
	Social Interactions	PK.IC.SI.01 With guidance understand what would be appropriate while participating in an online environment.	K.IC.SI.01 With guidance identify appropriate manners while participating in an online environment.	1.IC.SI.01 With guidance, identify appropriate and inappropriate behavior. Act responsibly while participating in an online community and know how to report concerns.	2.IC.SI.01 Aid in developing an appropriate code of conduct, explain and practice grade-level appropriate behavior and responsibilities while participating in an online community. Identify and report inappropriate behavior.	1A-IC-17	2. Collaborating around computing	
	History	PK.IC.H.01 Understand that computing technology has changed and improved the way people live, work, and interact.	K.IC.H.01 Discuss examples of how computing technology has changed and improved the way people live, work, and interact.	1.IC.H.01 Compare how people live and work before and after the implementation or adoption of new computing technology.	2.IC.H.0. Recognize how technologies have changed the world, and explore how the needs of society have impacted the changes in technology.	1A-IC-16	7. Communicating about computing	
	Safety, Law, & Ethics	PK.IC.SLE.01 With guidance understand responsible digital citizenship (legal and ethical behaviors) in the use of technology systems and software.	K.IC.SLE.01 Practice responsible digital citizenship (legal and ethical behaviors) in the use of technology systems and software.	1.IC.SLE.01 Practice responsible digital citizenship (legal and ethical behaviors) in the use of technology systems and software. Keep login information private, and log off of devices appropriately.	2.IC.SLE.01 Practice responsible digital citizenship in all technology use. Understand digital data has intellectual property rights (belongs to others) and it can not be claimed as your own.	1A-IC-17	2. Collaborating around computing	This ties in with interacting respectfully and responsibly, but we wanted to emphasize all areas of digital citizenship.
	Community Partnerships	PK.IC.CP.01 Discuss the fact that a wide range of jobs require knowledge or use of computer science.	K.IC.CP.01 Understand that a wide range of jobs require knowledge or use of computer science.	1.IC.CP.01 Compare and contrast examples of how computing technology has changed and improved the way people live, work, and interact.	2.IC.CP.01. Investigate how computer science has impacted your daily life and the jobs in your community and the world around you.	1A-IC-16	7. Communicating about computing	This standard ties to Kansas communities and jobs that our local students can relate to.