Texas High School Computer Science 1 Class Objectives	Generation Y Unit Objectives										
Performance Indicators	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**notes**
Foundations											
The student demonstrates knowledge and appropriate use of hardware components, software programs and their connections. The student will:											
(A) demonstrate knowledge and appropriate use of operating systems, software applications, and communication and networking components	**1.1 2.2 3.3 3.5 3.6**		**2.1 2.2 2.3**		**1.1 1.2**	**All**	**All**	**All**	**All**		
(B) compare, contrast, and appropriately use the various input, processing, output, and primary/secondary storage devices	**1.1 2.2 3.3 3.5 3.6**		**2.1 2.2 2.3**		**1.1 1.2**	**All**	**All**	**All**	**All**		
(C) make decisions regarding the selection, acquisition, and use of software taking under consideration its quality, appropriateness, effectiveness, and efficiency	**1.1 2.2 3.3 3.5 3.6**		**2.1 2.2 2.3**		**1.1 1.2 1.3**	**1.1 1.2 1.3**	**1.2 2.1**	**All**	**All**		
(D) delineate and make necessary adjustments regarding compatibility issues including but not limited to digital file formats and cross platform connectivity.			**2.1 2.2 2.3**		**1.1 1.2 1.3**						

(E) differentiate current programming languages, discuss the use of the languages in other fields of study, and demonstrate knowledge of specific programming terminology and concepts;								**5.3 5.4 5.5**			**a**
(F) differentiate among the levels of programming languages including machine, assembly, high-level compiled and interpreted languages								**5.3 5.4 5.5**			**a**
(G) demonstrate coding proficiency in a contemporary programming language								**5.5**			**a**
Foundations											
The student uses data input skills appropriate to the task. The student is expected to:											
(A) demonstrate proficiency in the use of a variety of input devices such as keyboard, scanner, voice/sound recorder, mouse, touch screen, or digital video by appropriately incorporating such components into the product					**2.1 3.1 4.1**						**b**
(B) use digital keyboarding standards for the input of data											**b**
Foundations											
The student complies with the laws and examines the issues regarding the use of technology in society. The student is expected to:											

(A) discuss copyright laws/issues and model ethical acquisition and use of digital information, citing sources using established methods	**3.2 3.3 3.4 3.6**	**1.1 1.2**		**1.4 1.6 2.3 2.4 3.2**		**5.1 5.2 5.3 5.4 5.5**	**1.3**	**3.1**			
(B) demonstrate proper etiquette and knowledge of acceptable use while in an individual classroom, lab, or on the Internet and intranet	**3.2 3.3 3.4 3.6**	**1.1 1.2**		**1.4 1.6 2.3 2.4 3.2**		**5.1 5.2 5.3 5.4 5.5**	**1.3**	**3.1**			
(C) investigate measures, such as passwords or virus detection/prevention, to protect computer systems and databases from unauthorized use and tampering	**3.5**										
(D) discuss the impact of computer programming on the World Wide Web (WWW) community.	**1.3**		**2.1 2.2 2.3 2.4**					**1.2 1.3 1.4**			
Information Acquisition											
The student uses a variety of strategies to acquire information from electronic resources, with appropriate supervision. The student is expected to:											
(A) use local area networks (LANs) and wide area networks (WANs), including the Internet and intranet, in research and resource sharing						**ALL**	**1.1 1.2 1.3 3.1 3.2 3.3**				
(B) construct appropriate electronic search strategies in the acquisition of information including keyword and Boolean search strategies						**1.1 1.2 1.3 1.4 1.5 1.6 2.1 2.2 2.3**					

Information Acquisition											
The student acquires electronic information in a variety of formats, with appropriate supervision. The student is expected to:											
(A) acquire information in and knowledge about electronic formats including text, audio, video, and graphics					**ALL**						
(B) use a variety of resources, including foundation and enrichment curricula, together with various productivity tools to gather authentic data as a basis for individual and group programming projects					**ALL**						
(C) design and document sequential search algorithms for digital information storage and retrieval					**ALL**						
Information Acquisition											
The student evaluates the acquired electronic information. The student is expected to:											
(A) determine and employ methods to evaluate the design and functionality of the process using effective coding, design, and test data								**2.2 3.2**			**a**
(B) implement methods for the evaluation of the information using defined rubrics.								**4.1 4.2 4.3**			**a**
Solving Problems											

The student uses appropriate computer-based productivity tools to create and modify solutions to problems. The student is expected to:											
(A) apply problem-solving strategies such as design specifications, modular top-down design, step-wise refinement, or algorithm development								**5.1 5.2 5.3 5.4 5.5**			**a**
(B) use visual organizers to design solutions such as flowcharts or schematic drawings								**5.1 5.2 5.3 5.4 5.5**			**a**
(C) develop sequential and iterative algorithms and codes programs in prevailing computer languages to solve practical problems modeled from school and community								**5.1 5.2 5.3 5.4 5.5**			**a**
(D) code using various data types;								**5.1 5.2 5.3 5.4 5.5**			**a**
(E) demonstrate effective use of predefined input and output procedures for lists of computer instructions including procedures to protect from invalid input								**5.1 5.2 5.3 5.4 5.5**			**a**

(F) develop coding with correct and efficient use of expressions and assignment statements including the use of standard/user-defined functions, data structures, operators/proper operator precedence, and sequential/conditional/repetitive control structures								**5.1 5.2 5.3 5.4 5.5**			**a**
(G) create and use libraries of generic modular code to be used for efficient programming								**5.1 5.2 5.3 5.4 5.5**			**a**
(H) identify actual and formal parameters and use value and reference parameters;								**5.1 5.2 5.3 5.4 5.5**			**a**
(I) use control structures such as conditional statements and iterated, pretest, and posttest loops								**5.5**			**a**
(J) use sequential, conditional, selection, and repetition execution control structures such as menu-driven programs that branch and allow user input								**5.5**			**a**
(K) identify and use structured data types of one-dimensional arrays, records, and text files.								**5.5**			**a**
Solving Problems											
The student uses research skills and electronic communication, with appropriate supervision, to create new knowledge. The student is expected to:											

(A) participate with electronic communities as a learner, initiator, contributor, and teacher/mentor				**ALL**			**ALL**			**ALL**	
(B) demonstrate proficiency in, appropriate use of, and navigation of LANs and WANs for research and for sharing of resources				**ALL**			**ALL**			**ALL**	
(C) extend the learning environment beyond the school walls with digital products created to increase teaching and learning in the foundation and enrichment curricula				**ALL**			**ALL**			**ALL**	
(D) participate in relevant, meaningful activities in the larger community and society to create electronic projects				**ALL**			**ALL**			**ALL**	
Solving Problems											
The student uses technology applications to facilitate evaluation of work, both process and product. The student is expected to:											
(A) design and implement procedures to track trends, set timelines, and review/evaluate progress for continual improvement in process and product			**ALL**								

(B) use correct programming style to enhance the readability and functionality of the code such as spacing, descriptive identifiers, comments, or documentation									**2.3 3.3**		**a**
(C) seek and respond to advice from peers and professionals in delineating technological tasks		**4.1 4.2**	**ALL**	**1.1 to 1.7**							
(D) resolve information conflicts and validate information through accessing, researching, and comparing data			**3.1 3.2 3.3 3.4**								
(E) create technology specifications for tasks/evaluation rubrics and demonstrate that products/product quality can be evaluated against established criteria			**ALL**							**1.1**	
Communication											
The student formats digital information for appropriate and effective communication. The student is expected to:											
(A) annotate coding properly with comments, indentation, and formatting;									**2.3 3.3**		**a**
(B) create interactive documents using modeling, simulation, and hypertext.									**5.1 5.2 5.3 5.4 5.5**		**a**
Communication											

The student delivers the product electronically in a variety of media, with appropriate supervision. The student is expected to:											
(A) publish information in a variety of ways including, but not limited to, printed copy and monitor displays									**4.1**		
(B) publish information in a variety of ways including, but not limited to, software, Internet documents, and video		**3.1 3.5 4.1**	**5.2**	**ALL**	**ALL**			**ALL**	**2.3 3.3**		
Communication											
The student uses technology applications to facilitate evaluation of communication, both process and product. The student is expected to:											
(A) write technology specifications for planning/evaluation rubrics documenting variables, prompts, and programming code internally and externally			**5.1 5.2**							**1.1**	
(B) seek and respond to advice from peers and professionals in evaluating the product									**4.3**	**4.2**	
(C) debug and solve problems using reference materials and effective strategies							**ALL**	**ALL**	**ALL**	**ALL**	

Note a - Although the Gen www.Y class does not contain a multitude of programming languages, there is a considerable emphasis on webpage construction including linking a webpage to a database, incorporating Java, direct HTML coding and use of XML and other advanced programming codes. The Gen www.Y instructor could substitute or add other programming languages as necessary.

Note b - The Generation Y course does not cover keyboarding directly. This topic is well covered in Texas middle and elementary school standards. Gen www.Y does require keyboarding skills throughout.
Note c - The Generation Y course in general covers these objectives. All Gen Y objectives would basically meet this standard.