



John F. Kennedy International School

Information & Communication Technology (ICT) Curriculum

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Required Learning for Reception

The following are highlights of student learning for reception. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Introduction to the Computer: Students will learn to login in and out using user name and password. Knowledge of the keyboard (location of the main keys the function of space bar, return/enter key, numbers at the top.) They will start to use a typing program named 'Master Key'. Students will learn handling of the mouse, scrawling mouse and clicking down to function. Beginning to locate the letters of the alphabet on the keyboard (typing proficiency practice using typing speed games.) Learning to use Spotlight feature to locate work or programs. Learning to save, print and retrieve documents.

Modeling: Students will learn that a computer can be used to represent real or fantasy situations. They will understand that the representation is not an exact replica of the original. They discuss the main differences and similarities between a representation and the original. They create their own representations of real or fantasy situations. Students should be able to apply what they have learnt when exploring adventure programs or simulations.

Using a Word Bank: Students will learn to use a 'Pages' to assemble text held in a word bank and start to develop familiarity with the computer keyboard. Students will discuss the words they see around them and will understand that words convey information. They will use this knowledge to communicate ideas using ICT. Students will be able to apply what they have learnt in this unit when writing short reports, lists and recipes.

Information Around Us: Students will learn about some of the applications of ICT in everyday life. Learn about some of the ways in which the use of ICT affects people's lives. Students will learn that information exists in a variety of forms, including text, still and moving pictures, charts and sounds and that different media are used for different purposes. They will learn that ICT can be used to communicate and handle information in a variety of ways.

Labeling and Classifying: Students will be able to use ICT to organize and classify information. Be able to use ICT to present information. Be able to enter, save, retrieve and revise information in 'Pages'. Students will learn that key pieces of information can be used to describe objects. They also learn to use simple criteria to divide groups of objects into sub-sets, and to identify objects by key words. They will use a 'Pages' with a word bank to present information. Students will apply what they have learnt when sorting objects in mathematics and science.



Reception Continued

Representing Information Graphically - Pictograms: Students will learn how to use ICT to represent information graphically. They learn how to create pictograms and how to answer simple questions on the data shown in their pictograms. Students will use an on-line graphing package to create their work and will learn how to enter data correctly and how to use icons. Students will apply what they have learnt when classifying objects in science or mathematics; undertaking investigations in mathematics, science and geography. Be able to work with text, tables, images and sound. Beginning to create slide shows using Kid Pix.

Understand Instructions and Make Things Happen: In this unit students learn how to give and follow instructions to make things happen. They learn how to sequence instructions, so that others can follow them, and to predict what will happen. Students will learn that machines follow instructions and that they need to be switched on and off, and controlled. They will recognize the need for accuracy, definition, and common language. Students will apply what they have learnt when giving instructions both written and verbal. This will help them understand how everyday appliances operate. Be able to describe what they have done. Be able to use ICT to explore what happens in real and imaginary situations



Required Learning for Grade 1

The following are highlights of student learning for grade 1. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Introduction to Computer: Student will learn to touch type by using a typing program named 'Master Key'.

Writing Stories, Communicating Information Using Text: Students will recognize some of the features of word-processed text. Students will learn to enter and correct text in 'Pages'. They will understand that spaces need to be placed between words and press the spacebar once to create spaces and do not hold it down. Students will identify where the return/enter key has been used in text and why and use the return/enter key where appropriate. They will understand that words can be moved down the screen and create sentences using a word processor. Students will recognize that text can be edited to improve it and recognize that changes can be made at a later stage. Overall, they will develop their text on screen and use appropriate techniques to ensure that their writing is clear, well presented and error-free.

Creating Pictures: Students will recognize that ICT can be used to create pictures and they will learn to select and use appropriate tools. Students will control the pen and use the flood fill tool to create visual effects with 'Kid Pix' and 'Pages'. They will recognize that work can be saved using the 'save as' command. They will learn to use the straight line, geometric shapes and flood fill tools to match their purposes. Students will use the spray tool and choose colours and patterns to match their purposes. Overall, they will select the appropriate tools to create pictures that communicate ideas.

Questions and Answers: Know about some of the applications of ICT in everyday life. Know about some of the ways in which the use of ICT affects people's lives. Students will construct questions, suggest plausible answers and understand the difference between questions and answers. They will use a prepared file to identify objects and know that the program constructs a 'binary tree'. They will know that about the type of program called a database and it can be used to find out the answers to questions. They will collect information for a database and understand that questions cannot be answered if the relevant data has not been entered into the database. Students will ask questions that comply with the rule that it can only have a yes or no answer. They will use the search tool to find answers to simple questions and understand that if data has not been entered it cannot be used to provide the answers to questions. Students will use the search tool to find the answers to simple questions. They will be able to plan and give instructions to make things happen and be able to describe what they have done. They will be able to use ICT to explore what happens in real and imaginary situations.



Grade 1 Continued

Representing Information Graphically: Students will understand that a simple online graphing program has limitations in the features that it provides and it cannot answer some specific questions. They will understand what is meant by 'information'. Overall, they will be able to use ICT to organize and classify information and be able to use ICT to present information. Students will be able to enter, save, retrieve and revise information and be able to work with text, tables, images and sound.

Finding Information: Student will learn that an appropriate education program or CD-ROM contains as much information as several large books by using the buttons to navigate through pages. Discuss ways of finding information on an education program. Use appropriate techniques and straightforward enquiries to locate information on an education program or CD-ROM and use an encyclopedia to demonstrate how to locate information using menus. They will learn to use an index and key words to locate information. Students will become confident navigating an education program or CD-ROM and begin to search for information with some purpose. They will use hot links and hyperlinks.



Required Learning for Grade 2

The following are highlights of student learning for grade 2. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Introduction to Computer: Student will learn to touch type by using a typing program named 'Master Key'.

Exploring Simulations: Students will understand that computer simulations can represent real or imaginary situations, for example: training pilots, designing buildings, testing products. They will understand that computer simulations allow users to try things that would be difficult or impossible to do in practice. They will use on-line simulation to make and explore predictions and to identify patterns and evaluate simulations. Overall, students will use simulations to develop an understanding of what is being simulated and develop their ability to recognize patterns and make and test predictions.

Manipulating Sounds: Students will recognize that an electronic instruments can be used to select and control sounds. Students will locate and record sounds by using 'Garage Band'. They will understand how musical phrases can be organized and reorganized using icons and they will recognize some of the differences between live and computer-controlled sounds. Overall, they will learn to organize and reorganize sounds by manipulating appropriate icons.

Introduction to Databases: Student will understand the need to structure information. They will learn to use fields correctly to answer questions and identify appropriate information for specific fields within a textual or visual description in 'Address Book'. Add new records to a file and place information in the correct fields using the correct conventions. Students will recognize the similarities between the computer and paper-based systems and add records to a database. They will learn to translate questions into search criteria that can be used to find answers from a database. Use an on-line database to generate bar charts and interpret data. Collect appropriate information, enter it into a database and use the database to answer simple questions.

Combining Texts and Graphics: Students in groups will recognize key features of layout using 'iPhoto' to create greeting cards or 'Pages' to create a poster. They will alter the look of text to create an effect and amend text and save their work. They will combine graphics and texts and amend text using the correct key combinations.

Email: Student will understand that messages can be sent over distances and read and respond to e-mails using 'Mail'. They will send annotated replies to e-mails and attach files to e-mails.



Required Learning for Grade 3

The following are highlights of student learning for grade 3. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade. Grade 3 students will understand that ICT can be used responsibly and creatively to people's benefit.

Introduction to Computer: Students will become familiar with the operating system, the Mac OS, they will learn to use to the 'Finder', home folders, 'The Doc', tool bar, etc. Student will learn to touch type by using a typing program named 'Master Key'.

Writing for Different Audiences: Students will know about some applications of ICT in work situations and about some applications of ICT in daily life. They will know about some of the ways in which the use of ICT in work situations affects people's lives. Students will recognize that newspapers use a variety of written and visual effects including comic strips. Students will use 'Comic Life' and 'Pages' to use font sizes and effects appropriately. Children will use cut and paste to reorder text and produce a coherent sequence of events. They will edit their text and learn to use spellcheck and 'Dictionary', they will recognize that spellcheck is an aid, rather than a substitute for being able to spell. Students will recognize that ICT can automate manual processes and recognize some of the advantages and disadvantages of automating manual processes. Students will organize and reorganize text on screen and use appropriate techniques to ensure that their writing is clear, well presented and free of errors.

Developing Images using Repeating Patterns: Students will recognize that ICT can be used to develop images. They will create repeating patterns using the copy tool and create pictures using a variety of brush sizes and effects. Students will select appropriate areas, copy and re-size pictures and recognize that a screen image can be a finished product. They will save drafts which show the development of their design and learn to export their work to other packages and import images from sources such as clip art, scanner or digital camera. Students will use a variety of materials, created on and away from the computer, and use them to make a final image.

Information with Widgits: Dashboard: Students will learn to use Dashboard for fast access from the desktop to mini-applications called widgits. They will learn that widgits are mini-applications that can be used to locate information and perform other tasks. Students will learn to: check the meaning of a word and find a synonym, translate a word to or from another language, convert a unit of measurement, use a calculator, and check the weather around the world. Students will learn to customize what widgits appear on their dashboard.

Using an Electric Calendar: iCal: Students will learn to use 'iCal'. They will create and manage their calendar, keeping it up to date with school events, class assignments, tests, holidays, field trips, etc. Students will print their calendars for them to keep in their desks or to take home. Students will create To Do lists and add notes to an event. They will



Grade 3 Continued

create different calendars for different purposes and switch between viewing calendars and viewing them by day, week, or month.

Collecting and Presenting Information: Questionnaires and Pie Charts: Students will understand that different graphs are used for different purposes. They will design questionnaires which match the structure of the on-line database. Students will produce pie charts using ICT and recognize that the larger the segment, the larger the proportion and use pie charts to make comparisons between populations. They will understand that line graphs are used to represent continuously changing data. They will use bar charts, pie charts and line graphs appropriately.

Branching Databases: Students will create a series of 'yes/no' questions to identify objects for an on-line database. They will produce a tree diagram to identify objects and search a branching database to identify objects.



Required Learning for Grade 4

The following are highlights of student learning for grade 4. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade. Grade 4 students will understand that ICT can be used responsibly and creatively to people's benefit.

Introduction to Computer: Students will become familiar with the operating system of the Mac OS, they will learn to use the 'Finder', home folders, 'The Doc', tool bar, etc. Student will learn to touch type by using a typing program named 'Master Key'.

Introduction to Spreadsheets: Numbers: Students will understand that costing models may need to be changed. They will enter data and formulae into cells, modify the data, make predictions of changes and check results. They will use 'sum'. Create and use a spreadsheet to produce costings which are within budget.

Graphical Modeling: Students will understand the limitations of paint packages for modeling. They will use the 'Kid Pix Deluxe 3x' and on-line graphics programs to manipulate shapes and create objects. Use a graphical model to identify patterns and relationships. To inform decisions about improving the school site. Students will produce images, maps, charts and diagrams.

Monitoring Environmental Conditions and Change: Students will learn that devices can be connected to a computer to monitor and measure changes in environmental conditions. Children gain an understanding of computer monitoring of external conditions, i.e. monitoring events such as changes in temperature. They will develop awareness of some of the problems faced by scientists in collecting data and learn that a line graph may be more illustrative of gradual change over time than either tables or bar charts.

Using an Electric Calendar: iCal: Students will learn to use 'iCal'. They will create and manage their calendar, keeping it up to date with school events, class assignments, tests, holidays, field trips, etc. Students will print their calendars for them to keep in their desks or to take home. Students will create To Do lists and add notes to an event. They will create different calendars for different purposes and switch between viewing calendars and viewing them by day, week, or month. Set an alarm so students receive either a message or hear a sound at a specified date and time before the due date.

Finding Files: Spotlight: Students will quickly find anything on their computer from one search field. They will access 'Spotlight' from the icon at the right of the menu bar or by choosing File>Find in the Finder. Students will learn that 'Spotlight' looks at all types of items, including email messages, images, folders, System Preferences, music files, calendars, applications and documents. They will learn that 'Spotlight' doesn't just search for the titles of those items, but actually looks at the contents of files or documents. Students will learn to organize the results of a search, in a list, by author, date or by the



Grade 4 Continued

kind of item. They will save items in a 'Smart Folder,' which 'Spotlight' then updates as files matching those criteria are added or deleted.

Evaluating Information, Checking Accuracy and Questioning Plausibility: Students will learn that information held on a database may contain errors and this could affect results. They will identify some of the implications of incorrect data and identify incorrect and implausible data. Students will identify an incorrect point on a line graph.



Required Learning for Grade 5

Apple MacBooks are now compulsory for students in grades 5 to 8 at the John F. Kennedy International School. The aim of our new computer policy is to enhance and improve student learning by harnessing the power of the computer in a safe and reliable way.

The following are highlights of student learning for grade 5. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Introduction to Computer: Students will become familiar with the operating system of the Mac OS. Student will learn to touch type by using a typing program named 'Master Key'.

Using the Internet to Search Large Databases and Interpret Information: Student will learn about an increasing number of applications of ICT for leisure, communication and work. Students will use 'Safari' to obtain information and learn that it is important to interpret information and to understand it. They will recognize that information must be read before it can be understood and interpreted for others and they will work with others to interpret information. Students will use a favorites list to find information, add to their knowledge and understanding of the subject researched and print pages from the internet. They will use a search engine to find information, use 'and' searches and understand how to use them to become effective in using search engines. Students will skim and select information, checking for bias. They will use hyperlinks to find information on the internet and use bookmarks. They will enter a URL to find a web site, copy and paste from the internet into 'Pages' for publication and understand issues of copyright. Students will use a range of sources to check validity and recognize different viewpoints and the impact of incorrect data. They will present their ideas of information in a style that is appropriate to the audience and use e-mail.

Spreadsheet Modeling: Numbers: Students will learn to use a spreadsheet to explore a mathematical model. Identify and enter the correct formulae into cells, modify the data, make predictions of changes and check them. Students will copy formulae to create tables of results and create graphs.

Crunching Numbers with Calculator: Students will learn to use 'Calculator' and the three different types of calculator faces in the one application. They will use the basic calculator that handles the mathematical operations, addition, subtraction, multiplication and division. They will learn to use 'Calculator' for doing conversion, from miles to kilometers, or ounces to grams. They will learn to choose commands from the Speech menu, and hear the value or function of each button they press as well as the result of each calculation.

Finding Files: Spotlight: Students will learn to quickly find anything on their computer from one search field. They will access 'Spotlight' from the icon at the right of the menu bar or



Grade 5 Continued

by choosing File>Find in the Finder. Students will learn that 'Spotlight' looks at all types of items, including email messages, images, folders, System Preferences, music files, calendars, applications and documents. Students will learn to perform different kinds of searches. They will learn that 'Spotlight' doesn't just search for the titles of those items, but actually looks at the contents of files or documents. Students will learn to organize the results of a search, in a list, by author, date or by the kind of item. They will save items in a 'Smart Folder,' which 'Spotlight' then updates as files matching those criteria are added or deleted.

Digital Stories with iMovie: Students will know that the study of ICT is concerned with applying technology to gather, use and exchange information. Students will learn to produce engaging, high-quality movies with iMovie. They will learn to plan, research, write, project manage, collaborate, and communicate visually as well as with text and audio. Students will start with a storyboard and script of their movie project. They will include in their movie video they capture with a digital camcorder, video clips saved from the Internet or other sources, digital photographs, and artwork they scan. 'iMovie' will organize the student's video clips into one library, organized by Events which are based on the day the video was shot. They will learn to play and skim a clip and add the clips they want into the project. They will learn to edit their video clips and add photos, narration, a musical soundtrack, titles, transitions, and other effects. They will export their final project to 'QuickTime' to burn on a CD. The students will learn to show sensitivity to the needs of their audience and understand the importance of considering audience and purpose when presenting information.



Required Learning for Grade 6

The following are highlights of student learning for grade 6. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Introduction to Computer: Students will become familiar with the operating system of the Mac OS. Student will learn to touch type by using a typing program named 'Master Key'.

Information and Presentation: Student will use different methods for searching within sources to find information using contents, indexes and key words and use the results to modify a search strategy. They will use a range of search mechanisms associated with sources and identify some of the advantages and disadvantages of the facilities. Use AND or OR in their Boolean searches and modify searches after checking the relevance of material found. Students will skim through information to check its relevance and recognize that material held on ICT systems comes from a variety of sources and that they should identify the originator and evaluate the validity of the material. They will be critical of information selected and use techniques to search, identify and organize appropriate material. Students will understand and interpret the relationship between pictures, print, etc and use organizational features to locate texts and information. Students will use 'Keynote' to prepare a presentation to address the specified audience and to focus on the purpose of the presentation. Use images, clip art and graphs to enhance a message or be more effective than text. Properly use the facilities of 'Keynote' to produce an effective presentation.

Processing Texts and Images: Students will work in small groups to prepare a printed newspaper. The content of the newspaper could be produced through coordinated working with English and other subject areas. The newspaper theme will be chosen in advance by the teacher. Students will describe a variety of newspaper 'styles' based on a few key elements of design and layout and identify the key information contained in newspaper text. In groups, students will demonstrate collaborative working and a systematic approach and contribute usefully to group activity, showing understanding of the task. Students will give reasons why reliability of content should be checked. They will demonstrate that they can save and load files from shared areas across the JFK network. Groups will break down a complex task into smaller subtasks, to make it more manageable. They will show through actions that they know files must be compatible and which type to use. Students should produce appropriate image files using digital imaging and image capture and demonstrate the process of image editing and manipulation. Use some of the different file types used for images and create suitable page-ready images from a variety of sources. Create a layout which takes the audience into account and know that desktop publishing layout in 'Pages' use frames or layers to hold individual pieces of information, whether text or graphics. Finally, the students will analyze their work and reflect on its effectiveness.



Grade 6 Continued

Models - Rules and Investigations: Students will learn how simple models are built by first investigating rules, then by seeing how rules can govern the behaviour of simple models. This section concentrates on setting up a model of the operation of a successful small business. Students identify the objectives for the retailer, outcomes from a consumer perspective, the constraints under which the business has to operate and the likely effects on the retailers' objectives. Students will learn to revise calculation and graphing techniques in a spreadsheet and the basic structure of spreadsheet formulae. They will carry out calculations and graphing techniques and create correct formulae. They will describe the rules governing systems and present the rules describing a system in a structured manner before constructing a computer-based model. Students will use spreadsheets in 'Numbers' and save and reload data files. They will enter formulae using cell references and build a spreadsheet model saving each iteration. They will translate rules into formulae and use formatting features of 'Numbers' to clarify the screen view of the model. Students will enter test data into a model and record outputs and apply suitable test data to a spreadsheet model and evaluate the outcomes in relation to the objectives.

Using iChat AV to Communicate and Collaborate with Video, Audio, and Text: Students will learn to connect with others using videoconferencing, audioconferencing, and instant messages. Students will learn how to take a virtual field trip to another locale. They will have a videoconference using their built in iSight cameras, which will allow people to see and hear each other at the same time. Students will learn to use Photo Booth software that allows them to take quick snapshots of the students for the class newspaper. Students will learn to use audioconferencing with the children speaking to one another, through the computers internal microphone and speakers, from different locations. Students will also learn to chat with others by sending text in real time. Sending instant messages, taking part in a video- or audio conference, the students will also be taught to send photos or other files that are displayed on the message window.

Creating Digital Music and Recording Audio with GarageBand: Students will learn to perform, create, and record music and other audio. They will create their own virtual onstage band and play along with your favorite instrument. Students will record, edit, and mix a song exactly as they want it, in pristine CD quality. Students will become composers by producing pieces using the program's loops, which are prerecorded music segments played in many different moods and genres on different instruments. Students may also plug in a guitar, keyboard, or microphone and record their own music. GarageBand displays full musical notation while recording. Students will be taught to make corrections to their music after recording and add effects to their music. They will then be taught to export their song to 'iTunes.'



Required Learning for Grade 7

The following are highlights of student learning for grade 7. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Introduction to Computer: Students will become familiar with the operating system of the Mac OS. Student will learn to touch type by using a typing program named 'Master Key'.

Public Information Systems: Student will collate data from a variety of sources to develop a daily information service about weather. They will be able to use ICT to sense physical data and be able to use ICT-based models and simulations. They will use a range of sources, i.e. a school weather station, measurements, satellite (remote sensing), the internet, other file. They will investigate a range of electronic and print sources and understand that information can be presented in different forms for different audiences and purposes. They will consider the usefulness and appropriateness of information and texts and understand that weather data can come from a wide range of sources. They will analyze the form and structure of data from specific sources to inform future planning. They will understand the needs of an audience and the constraints of "Keynote" as a software presentation package. They will learn to appreciate a range of methods of presenting information and select appropriate methods of display with respect to the needs of an audience. Students will present results of analysis in ways that inform the specification of future working. They will collect, download or save appropriate data from data logging or other sources. Students will make critical selections from the available data, complete an analysis of the selected data and choose appropriate methods of graphical, diagrammatic, map and textual presentation so the information is suitable for the intended purpose and audience. They will synthesis information and ideas from different sources. Students will develop a presentation suitable for a specific audience and combine a variety of media in a presentation. They will make critical evaluations of the public information system and identify the criteria that are independent of the project and understand that user requirements are vital for all ICT systems. Students will be able to manipulate and combine different forms of information from different sources.

Information - Reliability, Validity and Bias: Students will use the internet to gather information on a particular topic, collate it and present it from a particular viewpoint. Students will search the internet systematically to find information and understand that a URL can give information about a source. They will make decisions about the information required to complete a project and learn to identify information that may be biased. Student will review the progress of their project and adjust its direction accordingly. They will make informed judgements about the validity of information and collect data for use in presentation. Students will produce a presentation of subject matter from a chosen perspective and make informed judgements about the software tools they use for their presentation. Students will understand the value of success criteria in determining the success of a project and apply criteria and make judgements about their project. Students



Grade 7 Continued

will be able to frame questions appropriately when gathering and interrogating information and understand that the quality of information affects the results of any enquiry. Be able to interpret their findings and identify whether their findings are valid

Using iChat AV to Communicate and Collaborate with Video, Audio, and Text: Students will learn to connect with others using videoconferencing, audioconferencing, and instant messages. Students will learn how to take a virtual field trip to another locale. They will have a videoconference using their built in 'iSight' cameras, which will allow people to see and hear each other at the same time. Students will learn to use Photo Booth software that allows them to take quick snapshots of the students for the class newspaper. Students will learn to use audioconferencing with the children speaking to one another, through the computers internal microphone and speakers, from different locations. Students will also learn to chat with others by sending text in real time. Sending instant messages, taking part in a video- or audio conference, the students will also be taught to send photos or other files that are displayed on the message window.

Organizing and Playing Music and Audio with iTunes: Students will learn to locate, import, organize, store, play and share music, audiobooks, and other types of audio files, such as speeches and podcasts. They will access music and other audio to their 'iTunes' library by importing tracks from CD's, importing 'GarageBand' files and other audio files saved or downloaded files from the Internet. They will also learn to organize files in 'iTunes' into playlists so students can have separate groups of audio files for each of their projects. They can share their 'iTunes' library with others. Students will learn to use items in their 'iTunes' library in digital media projects created with 'iLife' applications, such as 'iMovie' or 'iPhoto' slideshows. They will learn how to burn CD's and listen to audio files. They will also learn how to sync iPod players to the contents of their 'iTunes' library.

Data - Use and Misuse: Students will investigate the large-scale use of data by commercial organizations. The unit is based around the use of ICT in the retail industry and pupils find out about electronic stock control systems, including the use of bar codes and electronic point of sale (EPOS) systems, and loyalty cards. The social implications of loyalty cards and EPOS cards are emphasized. Students will understand that information can be readily gathered about people and used to help in decision making by large organizations and describe how the bar coding system operates and its links to data handling. They will describe the process of scanning bar codes into an EPOS terminal and the output of those results and understand that information about customers can be easily collected through the linking of loyalty cards and the input at the EPOS terminal. Students will understand that private information can be used in different ways and understand that there are laws that protect people from misuse of information about them. They will understand that there are risks involved in data collection and that there are ways to reduce these risks. They will apply the facts learnt from this scenario to a different situation.



Required Learning for Grade 8

The following are highlights of student learning for grade 8. They are provided to give teachers and parents a quick overview of the information technology knowledge and skills that students are expected to acquire in this grade. The expectations on the pages that follow outline the required knowledge and skills in detail and provide information about the ways in which students are expected to demonstrate their learning, how deeply they will explore concepts and at what level of complexity they will perform procedures, and the technology they will learn and apply throughout the grade.

Publishing on the Web: Students will learn how to design and build an interactive web page with 'iWeb', on a subject of their choice, that can be published on the worldwide web. They will understand that the design of pages can influence the data that is accessed by users and understand that web pages can be designed for different audiences. Use 'iWeb' to create web pages and use software tools to create features unique to interactive documents. Students will have to include blogs, other text, movies, podcasts, and photos on their website. Use text edit to produce web pages and create a web page made up of a series of objects to carry out a range of actions. The text will be added by typing to replace placeholder text or by copying and pasting text from another application. Students will add appropriate links to pages. They will evaluate their work and use this to improve it and present arguments about publishing responsibly. Students will instantly publish their completed web page on the net via .Mac account. They will receive their own URL or web address for the sight. Students will learn to password protect the sites before they are published to limit access. Students will be able to use ICT to present information in a variety of forms.

Crunching Numbers with Calculator and Grapher: Students will learn to use 'Calculator' and the three different types of calculator faces in the one application. They will use the basic calculator that handles the mathematical operations, addition, subtraction, multiplication and division. They will learn to use 'Calculator' for doing conversion, from miles to kilometers, or ounces to grams. They will learn to choose commands from the Speech menu, and hear the value or function of each button they press as well as the result of each calculation. Students will learn to use the scientific calculator and how it works with advanced computations, including trigonometric and logarithmic functions. Students will learn to use the programmer's calculator which performs logical operations (such as AND, OR, XOR, and NOR) and handles calculations in hexadecimal, octal, or decimal systems. Students will learn to check and edit their basic and scientific calculations - they will display their calculations in a 'paper tape' list as they enter them and then print out and save the list. Students will learn how to use 'Grapher' and create many different types of two- and three- dimensional graphs and then analyze their results. They will then create an equation by entering it from scratch or speed the process by choosing a template and making selections from an equation palette. Completed graphs will then be exported as images or PDF files.

Blog Pages: Students will learn to create blog pages with placeholder text that gets replaced. Students will be able to present writing projects, such as daily reading logs or documentation of a science experiment. They will learn to use 'iWeb' to include a summary page, an entry panel, and an archive, so students can keep their text organized. Students



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can then add items such as photos, artwork, video, and audio podcasts to their blogs. Students will be able to exchange information and ideas in a number of different ways.

Digital Stories with iMovie: Students will learn to produce engaging, high-quality movies with iMovie. They will learn to plan, research, write, project manage, collaborate, and communicate visually as well as with text and audio. Students will start with a storyboard and script of their movie project. They will include in their movie video they capture with a digital camcorder, video clips saved from the Internet or other sources, digital photographs, and artwork they scan. 'iMovie' will organize the student's video clips into one library, organized by Events which are based on the day the video was shot. They will learn to play and skim a clip and add the clips they want into the project. They will learn to edit their video clips and add photos, narration, a musical soundtrack, titles, transitions, and other effects. They will export their final project to 'QuickTime' to burn on a CD. The students will learn to show sensitivity to the needs of their audience and understand the importance of considering audience and purpose when presenting information.

Integrating Applications to Find Solutions: Students will work as a team to set up, organize and run a fundraising event that must make a profit (this is the constraint) for the John F. Kennedy International School Foundation. They use a wide range of ICT to solve the problems associated with planning such an event. This provides them with the opportunity to develop further their expertise in the use of spreadsheets and databases, together with word-processing, presentation and desktop publishing software, vector and bitmap-based graphics software and e-mail. This is a controlled, integrated project involving whole-class decisions and combined data to establish the requirements of a system. Students will learn to split an overall problem into component tasks. They will justify the application of ICT solutions to identified problems and use more speculative types of questions which show engagement with subject concepts. The class will identify rules governing a model, enter formulae and parameters into a spreadsheet in 'Pages' and use a spreadsheet model. They will produce a simple design using a graphics program, manipulate an image for a variety of purposes and combine different types of images for use in different situations. They will understand the importance of file types and how file structures relate to the requirements of a system. Students will enter data into a database, insert fields into a standard letter and incorporate graphic designs into the letter. They will incorporate graphic designs into word-processed documents and undertake conditional merging of data into standard letters. They will have meetings and contribute to sustained group work to carry out and report on a task. The class will produce a range of documents for different purposes and explain the process of the work using subject terminology and concepts. Students will update and amend a database and produce reports from a database. They will use an e-mail address book and use a presentation program for a short, automated presentation. The event will then take place - not fictional but a real fund raising event - with the assistance of the Foundation Office. After the event, the class will produce a report on the overall effectiveness of a system and understand the advantages and limitations of a variety of ICT-based solutions. They will be responsible for writing a coherent, continuous text and link ideas into sentences showing more complex connections. Student will learn to be able to use ICT to control events.