

International School of Kenya Technology Plan 2018-2021



Updated: May 2018

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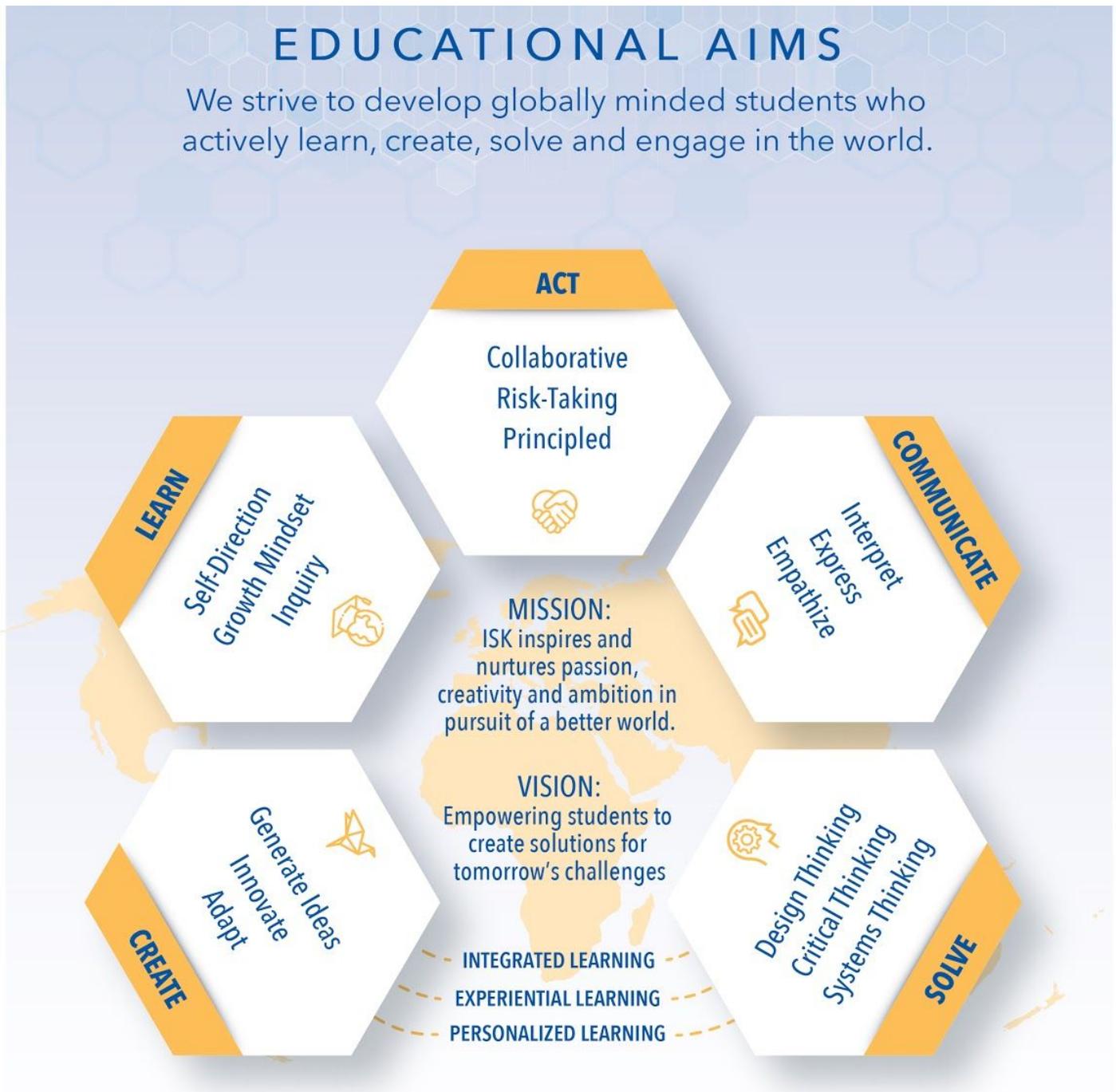
Vision, Mission, and AIMS

ISK Mission: ISK inspires and nurtures passion, creativity and ambition in pursuit of a better world.

ISK Vision: Empowering students to create solutions for tomorrow's challenges.

Technology Mission: To cultivate a culture of innovation amongst teachers, students and our community. ISK provides ICT resources, expertise, and learning opportunities needed to develop the robust ICT capability required for rich and vigorous participation as global citizens.

ISK AIMS



Each of the above Aims will be referenced throughout this document in abbreviated form:

- **L** - Learn
- **S** - Solve
- **A** - Act
- **CR** - Create
- **C** - Communicate

Information Communication Technology (ICT) Capability

Introduction

At ISK, students develop lifelong ICT capability as they learn to use ICT effectively and responsibly in their learning. Students use ICT to:

- competently access, communicate, remix, and create knowledge and concepts;
- investigate and solve relevant problems;
- work collaboratively in all learning areas at school and in their lives beyond school;
- explore and innovate using design and computational thinking;
- participate ethically and responsibly in a digital environment;
- understand ICT systems and contribute to new ways of doing things as technologies evolve.

Recognizing that technology is multidisciplinary by nature and has applications in any environment, ISK promotes lifelong success by integrating technology throughout the teaching and learning processes.

Standards for ICT Capability

ICT capability is based on the assumption that technologies and digital tools enable the student to create learning pathways to carry out tasks, solve problems, and generate new processes. Students perceive ICT systems as adaptive tools that they use and remix creatively to accomplish learning tasks, rather than systems that require following rigid, standard procedures.

ISK combines the strengths of International ICT Standards and the ISK AIMS to provide authentic contexts in which students build ICT capability. The five ICT Standards for ISK are stated in the language of a learner's ambitions and goals:

- **Creator and Innovator**
- **Investigator and Problem-Solver**
- **Communicator and Collaborator**
- **Computational Thinker**
- **Global Digital Citizen**

ICT Capability across the curriculum and within set Technology Curriculum

Learning areas across the curriculum provide the content and contexts within which students develop and apply the knowledge, skills, behaviors, and dispositions that comprise ICT capability. Students develop the ability to transfer these across environments and applications. They learn to use ICT with confidence, while understanding its possibilities, limitations, and impact on individuals and communities. They learn to innovate with ICT, creating new ideas and generating unique processes for the future.

HS STEM Courses and MS Elective Courses provide specialized instructional opportunities for students who desire exploration and mastery of more advanced technological proficiencies required for future careers.

ICT opportunities will be reviewed and revised regularly to ensure that there is alignment and consistency in opportunities for all students, and to respond to the demands for increased involvement with emerging technologies.

Year at a Glance: 2018-2019 Information and Communication Technology

ICT opportunities will be:

- integrated through the use of Digital Strategies connected to the ISK Technology Standards being developed for teacher and student use;
- supported through Professional Learning opportunities by and for teachers;
- facilitated through planning and co-teaching with divisional Technology Integrators;
- focused on integration of technology by all teachers across disciplines through Global Digital Citizenship, use of the Design Cycle, Computational Thinking, and Innovation;
- offered in MS electives and HS STEM classes as programs develop;
- encouraged for students to design and implement personal learning paths;
- provided in co-curricular activities at all levels;

ICT capability will be:

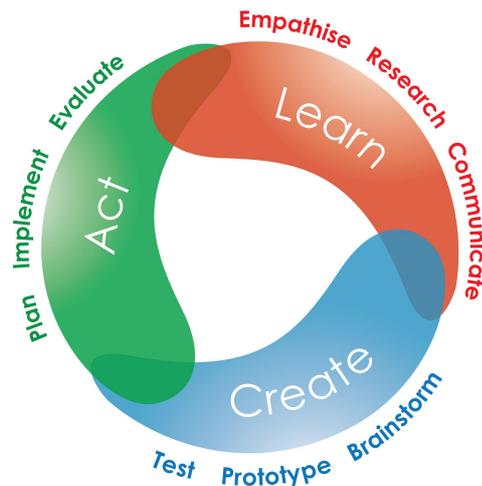
- assessed through processes such as ePortfolios and project rubrics;
- celebrated by highlighting and displaying student-generated work throughout the school, on the new digital displays, on our Website, and at assemblies to cultivate an exciting culture of innovation.

ICT learning will be supported through:

- 1:1 iPad program in Grades 3-6, 1:1 Chromebooks in Grades 7-8; and 1:1 BYOD in High School;
- class and individual student use of Computer Labs, the HS Design/Fabrication Lab, MS MakerSpace, K-12 Multimedia Lab, and ES MakerSpaces;
- class sets of iPads in Pre-K - Grade 2;
- Chromebook carts in Grades 3, 4, 5 and three carts available in MS;
- equipment, Software, and Network upgrades.

Information and Communication Technology Standards for Students

The ISK Design Cycle is the foundational process used to achieve ICT Standards.



Five interrelated standards that are linked to the ISK Educational Aims guide learning with ICT:

- Creator and Innovator **(CR) (A)**
- Investigator and Problem-Solver **(L) (S)**
- Communicator and Collaborator **(C) (S)**
- Computational Thinker **(L) (S)**
- Global Digital citizen **(L) (A)**

Creator and Innovator

Students use a variety of technologies within a design process to create and innovate. Students:

- CR-1: Generate original ideas, designs, processes and solutions;
- CR-2: Evaluate and use a variety of devices, software, and online tools;
- CR-3: Prototype and present alternative solutions;
- CR-4: Implement solutions innovatively across various disciplines.

Investigator and Problem-Solver

Students use technology to identify authentic problems, research responsibly, synthesize learning, and develop possible solutions. Students:

- PR-1: Empathize and communicate with various stakeholders
- PR-2: Plan and execute focused information/data searches for investigations;
- PR-3: Generate, organize, analyze and evaluate validity of research and data;
- PR-4: Explain and implement solutions in tasks and challenges.

Communicator and Collaborator

Students use digital tools to broaden their perspectives, increase empathy, and work effectively in teams. Students:

- CC-1: Select, plan, and participate in technology-facilitated communications;
- CC-2: Exchange ideas and solve problems in collaborative learning communities;
- CC-3: Learn, explain thinking, and/or teach through communications technologies;
- CC-4: Participate in collaborative online ventures that create and share group learning.

Computational Thinker

Students employ algorithmic thinking to propose and automate solutions to authentic problems and systems. Students:

Students employ algorithmic thinking to propose and automate solutions to authentic problems and systems. Students:

- CT-1: Recognize patterns and break down complex problems into steps (decomposition);
- CT-2: Apply fundamental principles and concepts of computer science, including synthesis, abstraction, logic, algorithms, and data representation;
- CT-3: Analyze problems in computational terms, and have repeated experience of designing and writing computer programs to solve and automate them;
- CT-4: Use technology to create models and simulations to investigate and/or explain systems.

Global Digital Citizen

Students act in ways that are safe, legal, and ethical while learning and working in an interconnected digital world. Students:

- DC-1: Use systems, such as Copyright and Creative Commons, to acknowledge intellectual property rights for all media and to share own work;
- DC-2: Apply personal and digital information security protocols routinely;
- DC-3: Create and monitor a personal digital footprint responsibly;
- DC-4: Identify the impacts of current and emerging ICT in society.

Integration Planning Technology References

ACARA | The Australian Curriculum. Australian Curriculum, Assessment and Reporting Authority (ACARA)
<https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/> The Australian Curriculum is licensed under Creative Commons

Gov. UK. Department of Education (2013). *National curriculum in England: design and technology programmes of study*:

<https://www.gov.uk/government/publications/national-curriculum-in-england-design-and-technology-programmes-of-study/national-curriculum-in-england-design-and-technology-programmes-of-study> (accessed 4 October 2013)

International Society for Technology in Education (2016). *National Educational Technology Standards (NETS) and Performance Indicators for Students*: <http://www.iste.org/standards/standards/for-students> (accessed 2016)

Link Landscape pages here.

- [Information & Communication Technology \(ICT\) Horizontal Learner Profiles by Grade Span](#)
- [Information & Communication Technology \(ICT\) Program Implementation Timeline Information](#)
- [Technology Plan Implementation Timeline](#)
- [Tech Plan Estimated Budget Summary](#)

ICT Horizontal Learner Profiles by Standards and Grade Spans

- These Grade Span Level Profiles are updated to reflect alignment with the 2016 ISTE Student Technology Standards Profiles, and will be linked to Digital Strategies being developed for the Foundation Module of the Learning Board (LB)
- Skills will also be suggested by grade level digital strategies to support ES teachers in designing age-appropriate learning activities.

Strand (Elements)	Capability by end of Grade 2 (LES)	Capability by end of Grade 5 (UES)	Capability by end of Grade 8 (MS)	Capability by end of Grade 12 (HS)
<p>Creator and Innovator</p> <p><i>Students use a variety of technologies within a design process to create and innovate.</i></p>	Set personal learning goals that stretch current creative talents and open pathways to develop others.	Set learning goals to create, reuse, and repurpose digital and non-digital artifacts to solve a problem, seeking and using feedback.	Articulate personal learning goals that include using a cyclic design process to investigate, design, prototype, test, reflect, and improve innovations.	Design personal learning goals that stretch current talents and open pathways and transfer ICT learning across disciplines for innovation.
<p><u>Students:</u></p> <p>CR-1: Generate original ideas, designs, processes and solutions;</p> <p>CR-2: Evaluate and use a variety of devices, software, and online tools;</p> <p>CR-3: Prototype and present alternative solutions;</p> <p>CR-4: Implement solutions innovatively across various disciplines</p>	Select digital and non-digital tools to learn by taking things apart, creating or remixing, tinkering, and using the design cycle.	Select digital and non-digital tools to learn by taking things apart, creating or remixing, tinkering, and innovating using the design cycle.	Create, reuse, revise and re-purpose digital and non-digital artifacts for a given audience, seeking and using feedback to improve work.	Design and create digital artifacts or processes for a given audience, with attention to successfully serving a client's purposes and needs.
	Prepare simple plans, design, and test prototypes of solutions or answers to questions. Use feedback to revise plans.	Learn how a design process works to generate ideas, consider solutions, plan to solve a problem or create innovative products.	Document the use of an iterative design cycle that begins with a thorough investigation of the users' needs to produce a prototype for testing.	Produce and publish creative works and projects using a range of devices to add value to the world or to achieve new solutions. Seek and use feedback.

<p>Investigator and Problem-Solver</p> <p><i>Students use technology to identify authentic problems, research responsibly, synthesize learning, and develop possible systems and solutions.,</i></p> <p><u>Students:</u></p> <p>PR-1: Empathize and communicate with various stakeholders</p> <p>PR-2: Plan and execute focused information/data searches for investigations;</p> <p>PR-3: Generate, organize, analyze and evaluate validity of research and data;</p> <p>PR-4: Explain and implement solutions in tasks and challenges</p>	<p>Locate and record information from a given set of digital sources. Discuss ways to determine truth, value and reliability of digital information.</p>	<p>Select digital tools to collect, organize and analyze data to evaluate theories or test hypotheses.</p>	<p>Evaluate, select, and utilize information/media sources and digital tools based on the appropriateness for specific tasks.</p>	<p>Demonstrate analytical problem-solving, design thinking, and computational thinking in relevant problem-solving activities.</p>
	<p>Choose tools that help with the research process to find, record and analyze data and graphics that help solve problems.</p>	<p>Choose tools for the research process to gather, classify and display information in meaningful ways.</p>	<p>Use the research process to collect and analyze information/data and evaluate resources for accuracy, perspective, credibility and relevance.</p>	<p>Use advanced search tools and techniques, simulations, and digital models to locate or generate precise data and information that supports the development of new understandings.</p>
	<p>Choose tools to represent, explain, and reflect on results of investigations.</p>	<p>Learn searching techniques and practice how to evaluate sources for accuracy, perspective, credibility and relevance.</p>	<p>Create and use databases and structures efficiently to organize, analyze, extract, and represent data to solve problems across disciplines.</p>	<p>Design, modify and manage complex digital solutions for a range of audiences and purposes.</p>
	<p>Practice strategies to persevere in solving problems</p>	<p>Demonstrate strategies to persevere in solving complex problems</p>	<p>Share strategies to persevere in solving increasingly complex problems.</p>	<p>Persevere in investigating, solving, and presenting solutions to complex authentic problems.</p>

<p>Communicator and Collaborator</p> <p><i>Students use digital tools to broaden their perspectives, increase empathy, and work effectively in teams.</i></p> <p><u>Students:</u></p> <p>CC-1: Select, plan, and participate in technology-facilitated communications;</p> <p>CC-2: Exchange ideas and solve problems in collaborative learning communities;</p> <p>CC-3: Learn, explain thinking, and/or teach through communications technologies;</p> <p>CC-4: Participate in collaborative online ventures that create and share group learning.</p>	<p>Choose ICT tools to safely share and exchange information and perspectives with age-appropriate audiences.</p>	<p>Choose digital tools to safely share, exchange information, and collaborate with other learners with different backgrounds.</p>	<p>Use electronic communication tools to explore and guide inquiry through multicultural perspectives with other learners.</p>	<p>Routinely interact, collaborate, and publish with peers and experts, employing a variety of digital environments and media formats.</p>
	<p>Collaborate with others to develop solutions and safely publish them in a variety of ways (visual, audio, written).</p>	<p>Build a network of experts and peers within school policy and customize digital environments to enhance learning.</p>	<p>Build and utilize a network of experts and peers from different communities (within school policy) and customize digital environments to enhance learning.</p>	<p>Participate in collaborative online ventures, individually and in teams, communicating effectively with multicultural audiences.</p>
	<p>Identify and try different team roles in collaborative work.</p>	<p>Organize teams so that members' roles are defined. Try different team roles in collaborative work.</p>	<p>Participate in teams by assuming different roles and taking on different responsibilities that ensure team success. Reflect on participation.</p>	<p>Participate in teams that may include members collaborating online to gain expertise and perspectives in solving problems. Reflect on the process.</p>

<p>Computational Thinker</p> <p><i>Students employ algorithmic thinking to propose and automate solutions to authentic problems and systems.</i></p> <p>Students:</p> <p>CT-1: Recognize patterns and break down complex problems into steps (decomposition);</p> <p>CT-2: Apply fundamental principles and concepts of computer science, including synthesis, abstraction, logic, algorithms, and data representation;</p> <p>CT-3: Analyze problems in computational terms, and have repeated experience of designing and writing computer programs to solve and automate them;</p> <p>CT-4: Use technology to create models and simulations to investigate and/or explain systems.</p>	<p>Break down problems into smaller steps and record them.</p>	<p>Break down complex problems into steps to create and modify directions for finding digital solutions more easily.</p>	<p>Practice defining and breaking down problems to solve through patterning, data analysis, modeling, and algorithmic thinking.</p>	<p>Design, use, and evaluate computational abstractions that model the state and behavior of real-world problems, and document client interactions.</p>
	<p>Use small steps to draw or write instructions on how a problem can be solved more easily using repeated patterns.</p>	<p>Explore concepts related to repeated patterns and algorithmic thinking through practical experience in writing and debugging computer programs that accomplish a task.</p>	<p>Use programming languages to design debug, and demonstrate possible solutions to a variety of problems or learning game experiences.</p>	<p>Use two or more programming languages, at least one of which is textual, to solve a variety of computational problems.</p>
	<p>Recognize patterns and understand basic coding concepts to create and debug simple programs.</p>	<p>Learn how to use computer programming to create models, tell stories, show how something works, or make learning games.</p>	<p>Transfer programming skills to use new languages and systems that can solve and automate solutions to problems.</p>	<p>Document innovative use of an design cycle, evaluating and explaining the strengths and weaknesses of alternative designs to meet a client's needs. Reflect on the importance of empathy and feedback.</p>

<p>Global Digital Citizen</p> <p><i>Students act in ways that are safe, legal, and ethical while learning and working in an interconnected digital world.</i></p> <p><u>Students:</u></p> <p>DC-1: Use systems, such as Copyright and Creative Commons, to acknowledge intellectual property rights for all media and to share own work;</p> <p>DC-2: Apply personal and digital information security protocols routinely;</p> <p>DC-3: Create and monitor a personal digital footprint responsibly;</p> <p>DC-4: Identify and evaluate the impacts of current and emerging ICT in society.</p>	<p>Understand the concept of digital ownership and how to respect the ideas and work of others</p>	<p>Practice digital security strategies for protecting digital information and for being safe, respectful and legal online.</p>	<p>Practice and advocate for a range of ways to use technology safely, respectfully, responsibly, and securely, including protecting personal online identity and privacy.</p>	<p>Independently apply and advocate for appropriate strategies to protect rights, identity, privacy and emotional safety of self and others online.</p>
	<p>Practice safe, respectful, and cooperative use of online tools and materials.</p>	<p>Recognize the importance of digital ownership and practice citing intellectual property in work.</p>	<p>Learn and apply practices that comply with legal obligations regarding ownership and use of digital products, resources, and services.</p>	<p>Demonstrate compliance with legal obligations regarding the ownership and use of digital products, resources, and services.</p>
	<p>Understand the concepts of public Internet, privacy, and digital footprints.</p>	<p>Learn to manage and safely move data as digital technology changes.</p>	<p>Experience current and emerging ICT systems, learning how to manage data and safely move it between systems.</p>	<p>Manage digital data and processes comfortably between desktop, mobile, cloud environments, and other emerging ICT systems.</p>
	<p>Recognize that technology can affect societies positively and negatively.</p>	<p>Discuss the impacts of current and emerging technology, including how digital waste affects societies.</p>	<p>Identify impacts of current and emerging technology on societies; discuss ways to create equitable access and manage digital waste.</p>	<p>Understand responsibilities in creating and utilizing emerging technologies, their effects on societies, and equitable access.</p>

ICT Program Implementation Timeline Information

	2018-2019	2019-2020	2020-2021
Program Development and Tech Integration	<ul style="list-style-type: none"> ● Digital Teaching/Learning Strategies will be inserted into the LearningBoard (LB) Unit Planner; <ul style="list-style-type: none"> ○ Digital Teaching/Learning Strategies currently being developed will be included in the Unit Planner of the LB. ○ Train teachers and staff to identify and implement digital strategies as they enter their unit plans into LB. ○ Train students to tag a portfolio artifact with a digital strategy connected to the AIMS ● Technology Integrators assist teachers in implementing digital strategies included in Unit Planners and help collect evidence of students digital learning; ● Technology Integrators document support of teachers through planning and co-teaching, with close attention to progress in Global Digital Citizenship, Computational Thinking, and Innovation through the Design Cycle; ● Tech Integrators collaborate on teachers' innovative use of new software and expand the Tech Toolkit; ● Assist teachers who are helping students with the LB Portfolio Pilot. 	<ul style="list-style-type: none"> ● Assess and expand upon current uses of the Digital Teaching / Learning Strategies within the LearningBoard (LB) Unit Planner; ● Technology Integrators assist teachers in implementing digital strategies included in Unit Planners and help collect evidence of student learning; ● Tech Integrators plan and implement appropriate stages of student portfolios in LB ● Explore the Vertical alignment of K-12 Digital Citizenship and Coding/computational thinking programs; ● Review evidence of student learning to improve effective use of MakerSpace, Design/Fab Lab for Learning Paths. ● Audit of the K-12 tech integration program with emphasis on: <ul style="list-style-type: none"> ○ Digital Citizenship; ○ Computational Thinking and coding; ○ Use of Design Cycle; ○ Innovative learning in Design Labs and MakerSpaces; 	<ul style="list-style-type: none"> ● Audit of the K-12 tech integration program with emphasis on: <ul style="list-style-type: none"> ○ Tech in transdisciplinary learning; ○ 1:1 programs; ○ use and assessment of ISK Digital Strategies ○ Shared devices programs; ○ Levels of Integration ○ Use of tech to promote independent learning ● Set goals based on results of Audit.

	<ul style="list-style-type: none"> Support the success of the Makeology Conference in Feb 2019; <ul style="list-style-type: none"> Decide on repeat of ES Maker Day (Mkutano Wa Maker), introduction of one for MS, or an ISK Maker Faire. 		
Assessment / Tracking System	<ul style="list-style-type: none"> Design and implement MS ePortfolio pilot program in LB Implementation of the IDP LB Foundations and Feedback modules; Share successful ICT assessment strategies in toolkit or Padlet; Begin to examine use of Digital Strategies entered into LB. HS will use Managebac for CASL reflections; MS will use LB for CASL reflections ES may pilot Phase 2 of the Portfolio process as soon as the capture app and an ES interface is ready. 	<ul style="list-style-type: none"> Learning Board implementation: all teachers enter units in Foundations Module, and test Feedback and Reporting modules. Expand use of the portfolio module as capability increases. 	<ul style="list-style-type: none"> Full Learning Board implementation Evaluate early stage effectiveness of the IDP LearningBoard;
Materials / Resources Needed	<ul style="list-style-type: none"> Maintenance of site, database, and/or assessment system Kathleen to manage integration in the HS 	<ul style="list-style-type: none"> Committee of interested people to perform and evaluate Audit Time for audit and other initiatives 	<ul style="list-style-type: none"> Committee of interested people to perform and evaluate Audit Time for audit and other initiatives
Co Curricular Options	<p>ES:</p> <ul style="list-style-type: none"> Previous year's offerings reviewed and new to be determined by ES. <p>MS:</p> <ul style="list-style-type: none"> STEM Robotics Programming MS Lego League/Botball 3D design and printing <p>HS:</p>	<p>ES:</p> <ul style="list-style-type: none"> Previous year's offerings reviewed and new to be determined by ES. <p>MS:</p> <ul style="list-style-type: none"> STEM Robotics Programming MS Lego League/Botball 3D design and printing <p>HS:</p>	<p>ES:</p> <ul style="list-style-type: none"> Previous year's offerings reviewed and new to be determined by ES. <p>MS:</p> <ul style="list-style-type: none"> STEM Robotics Programming MS Lego League/Botball 3D design and printing <p>HS:</p>

	<ul style="list-style-type: none"> ● Robotics-Botball ● Studio: Fabrication Lab Projects ● Independent projects 	<ul style="list-style-type: none"> ● Robotics-Botball ● 3D design and printing ● Independent projects 	<ul style="list-style-type: none"> ● Robotics-Botball ● 3D design and printing ● Independent projects
Materials / Resources Needed for Co-curricular	<ul style="list-style-type: none"> ● Funding for supplies to develop rich tech co-curricular experiences. 	<ul style="list-style-type: none"> ● Funding for supplies to develop rich tech co-curricular experiences. 	<ul style="list-style-type: none"> ● Funding for supplies to develop rich tech co-curricular experiences.
Integration Training / Professional Learning (PL)	<ul style="list-style-type: none"> ● Training on LearningBoard for Foundations and Feedback; ● Training to pilot the LB portfolio module ● Training for new software pilots and implementation to include: WeVideo, SoundTrap, Easel.ly, Explain Everything, Book Creator ● Sharing and development of teachers' PLN by and for teachers; ● Continued support for pedagogical uses of Hapara or Classroom; ● Update and improve Teachers' Tech Toolkit; 	<ul style="list-style-type: none"> ● Training on LearningBoard for all modules that we are going to use; ● Training to implement the LB portfolio module ● Sharing and development of students' and teachers' PLNs to include appropriate global connections; ● Examine inclusion and use of the ICT Digital Strategies in curricula and transdisciplinary units. 	<ul style="list-style-type: none"> ● Training on LearningBoard so that it is fully functional. ● Sharing and development of students' and teachers' PLNs to include appropriate global connections; ● Evaluate the inclusion and use of the ICT Digital Strategies in curricula and transdisciplinary units.
Materials/ Resources Needed	<ul style="list-style-type: none"> ● Ample scheduled time so that teachers can implement the Foundations Module in Learning Board, and have important discussions about its use. ● Time during divisional meetings to share 	<ul style="list-style-type: none"> ● Scheduled time for training with LearningBoard ● Time during divisional meetings to share 	<ul style="list-style-type: none"> ● Scheduled time for training with LearningBoard ● Time during divisional meetings to share

Technology Plan Implementation Timeline

	2018-2019	2019-2020	2020-2021
School-wide Equipment and Infrastructure	<ul style="list-style-type: none"> • Improve WIFI coverage and bandwidth to the ES and CAD areas • Continue the upgrade of the node switches • Implement WIFI security solution • Evaluate and weed/upgrade servers as needed • Continue Classroom/MPR minimum tech equipment (mounting projectors/speakers) • Equipment is added in Design lab to support integration of the Design Model • Scheduled Equipment Replacement • 3-D Printer for Makerspace Lab • Equip and support two camera live streaming of events 	<ul style="list-style-type: none"> • Improve WIFI coverage and bandwidth to the remaining areas • Upgrade node switches • Evaluate and weed / upgrade servers as needed • Continue Classroom/MPR minimum tech equipment (mounting projectors/speakers) • Equipment is added in Design lab to support integration of the Design Model • Scheduled Equipment Replacement 	<ul style="list-style-type: none"> • Evaluate and weed / upgrade servers as needed • Continue Classroom/MPR minimum tech equipment (mounting projectors/speakers) • Scheduled Equipment Replacement
School-wide Technology support	<ul style="list-style-type: none"> • No Change in ISK contracted employees • Ensure externally contracted Service Level Agreements are in place 	<ul style="list-style-type: none"> • No Change in ISK contracted employees 	<ul style="list-style-type: none"> • No Change in ISK contracted employees
School-wide Instructional Staffing	<ul style="list-style-type: none"> • K-12 Educational Technology Coordinator to assist with the integration of Technology in the High School • New MS MakerSpace Teaching Assistant. 	<ul style="list-style-type: none"> • No Change 	<ul style="list-style-type: none"> • No Change
School-wide technology software and resources	<ul style="list-style-type: none"> • Whole School Software Licensing renewals • Classroom / Department Resources (software, online resources, & texts) 	<ul style="list-style-type: none"> • Whole School Software Licensing renewals • Classroom / Department Resources (software, online resources, & texts) 	<ul style="list-style-type: none"> • Whole School Software Licensing renewals • Classroom / Department Resources (software, online resources, & texts)

	<p>as per Classroom / Departmental Budgets</p> <ul style="list-style-type: none"> ● iPad / Chromebook Apps support for whole school ● Resources to support Design Lab learning 	<p>as per Classroom / Departmental Budgets</p> <ul style="list-style-type: none"> ● iPad / Chromebook Apps support for whole school ● Resources to support Design Lab learning 	<p>as per Classroom / Departmental Budgets</p> <ul style="list-style-type: none"> ● iPad / Chromebook Apps support for whole school ● Resources to support Design Lab learning
Design Lab Initiatives	<ul style="list-style-type: none"> ● Design Labs Phase 3: <ul style="list-style-type: none"> ○ Equip MS Makerspace area ○ Finish equipping the HS Design and Fabrication areas ○ Ensure budget for materials in 3 design spaces ○ Promote use and integration of spaces within curriculums 	<ul style="list-style-type: none"> ● Design Labs Phase 4: Evaluation of how Design Lab is being used for learning. 	
Library	<ul style="list-style-type: none"> ● Implement proposed changes for Library lab 		
Training / Professional Learning	<ul style="list-style-type: none"> ● Hosting an African Makeology Conference ● Support faculty's "Personal Learning Network" model ● New Staff training ● 1 to 1 Teaching Strategies ● Online PL implementation and support 	<ul style="list-style-type: none"> ● Continue support channels from previous years ● Consider new ways of supporting teachers and students. 	

Tech Plan Estimated Budget Summary

	2018-2019	2019-2020	2020-2021
Human Resources	<p>Instructional Staff:</p> <ul style="list-style-type: none"> • Director of Technology • K-12 Educational Technology Coordinator - assisting with HS Integration • ES ICT Teacher/ Specialist with TA • MS ICT Teacher / Integration Specialist • HS ICT Teacher • HS Part-time IT Teacher • Design / Fab Lab Technician / TA • Makerspace TA <p>Support Staff:</p> <ul style="list-style-type: none"> • Network Systems Manager • 2 Technicians Level 1- (Systems, ISK Database Management and Servers) • 3 Technicians Level 2 – Support, Ipad Management) • 2 AV Technicians – Events, Peripherals, Multimedia 	<p>Instructional Staff:</p> <ul style="list-style-type: none"> • Director of Technology • Educational Technology Coordinator - assisting with HS Integration • ES ICT Teacher/ Specialist with TA • MS ICT Teacher / Integration Specialist • HS ICT Teacher • HS Part-time IT Teacher • Design / Fab Lab Technician / TA • Makerspace TA <p>Support Staff:</p> <ul style="list-style-type: none"> • Network Systems Manager • 2 Technicians Level 1- (Systems, ISK Database Management and Servers) • 3 Technicians Level 2 – Support, Ipad Management) • 2 AV Technicians – Events, Peripherals, Multimedia 	<p>Instructional Staff:</p> <ul style="list-style-type: none"> • Director of Technology • Educational Technology Coordinator - assisting with HS Integration • ES ICT Teacher/ Specialist with TA • MS ICT Teacher / Integration Specialist • HS ICT Teacher • HS Part-time IT Teacher • Design / Fab Lab Technician / TA • Makerspace TA <p>Support Staff:</p> <ul style="list-style-type: none"> • Network Systems Manager • 2 Technicians Level 1- (Systems, ISK Database Management and Servers) • 3 Technicians Level 2 – Support, Ipad Management) • 2 AV Technicians – Events, Peripherals, Multimedia
Costs			
Operational Summary	<ul style="list-style-type: none"> • Communications (Internet) • Licenses and Software • Spares/ Tools • Consumables • Freight • Maintenance • Maintenance contracts 	<ul style="list-style-type: none"> • Communications (Internet) • Licenses and Software • Renewal of 3 year Internet Filter license (\$53,250) • Spares/ Tools • Consumables • Freight • Maintenance / Maint. contracts 	<ul style="list-style-type: none"> • Communications (Internet) • Licenses and Software • Spares/ Tools • Consumables • Freight • Maintenance • Maintenance contracts

Costs	\$379,000	\$453,250	\$410,000
Capital	<ul style="list-style-type: none"> • Computer equipment • Network upgrades • Server upgrades • Classroom technology 	<ul style="list-style-type: none"> • Computer equipment • Network upgrades • Completion of Wireless upgrade • Server upgrades • Classroom technology 	<ul style="list-style-type: none"> • Computer equipment • Server upgrades • Classroom technology
Costs	\$280,000	\$311,000	\$300,000
Budget Totals			

ISK One to One Program

Vision

A 1-to-1 program is an essential element for success of our technology visions of how students learn in the 21st century. The opportunities for our students to increase access to information, collaborate through social interaction, and create and share digital content exponentially increase in a 1-to-1 environment.

The High School Device

The ISK technology team recommends the adoption of the MacBook Pro or Macbook Air as the recommended model for our HS 1-to-1 program. Basis for this decision is as follows:

Rationale:

- ISK is a “Mac” school
- Technology support is already trained in supporting Macs
- Teachers all are issued MacBooks and are familiar with the operating system and applications
- A uniform device will facilitate ease in planning lessons and supporting students during classes

Requirements and procedures for student laptop:

- A minimal required package of software will be required.
- Families will purchase devices, giving the students an added incentive to be responsible and accountable for their laptop.
- Provisions will be put in place for students transferring in during the school year, such that we will have some loaners available or a student may use a PC computer while a Mac is sourced.
- During school hours and whenever connected to the ISK network students will be required to adhere to the all ISK related student policies and the ISK Responsible Use Agreement.

Required Software:

- MS Office (we are transitioning to Google Apps, but MS Office is still required for certain courses)
- Standard [package that comes with MacBooks](#)
- Adobe reader
- Safari, Firefox and Chrome Browsers
- Java
- Adobe Flash
- Additional software may be required for specific courses

The MS & ES Device

Rationale

The ISK Technology Integration Specialists have recommended iPads as a 1-to-1 device, since iPads are an ideal tool for ES and MS students to be creative. iPads are easy for students to manage, they have a built in camera for video and still pictures, microphone, and tools that allow for rapid remixing. iPads also allow the user to freehand draw, print / write directly into applications. They are compact durable and have long battery life. iPad apps also offer a wide variety of educational software suitable to MS and ES levels.

After evaluation of the Grade 7 and 8 program by teachers and students, it was decided to provide a 1:1 Chromebook program for Grade 7 and 8 students. The main reasons for this change are:

- The Grade 8 Capstone Project requires more access to a keyboard;
- Some of the G Suite applications work better on a Chromebook than on an iPad;
- Many of the apps available on the iPad are becoming available on the Chromebook;

Device Ownership

ISK provides ES and MS students access to iPads or Chromebooks and a suite of educational apps.

Software (Apps)

A complete list of current Apps can found in the software section of this document.

Library Planning Summary

Definition of the Library Spaces:

For the purpose of this document, the Library is considered those spaces which the librarians are currently responsible for supervising and maintaining: the main space (Secondary Library), the Group Study rooms, the Library Lab, the ES Library and Picture Book Room, the Library Office and Workroom.

Current Hardware Status (also included in full hardware summary):

- Library software: Alexandria
- Desktop Computers: iMacs
 - 2 Circulation desk computers
 - 16 ES student computers in the ES teaching area:
 - 8 MS Student Computers in the Lobby:
 - 11 HS Student Computers in the Lobby:
 - 21 Library Lab computers:
- Laptops:
 - 26 Laptops (in cart) MacBook Pro
 - 3 Laptops for Alexandria access
 - 2 Librarians MacBook Pro
 - 84 Kindles
- Printers (3)
 - ES Printer at ES Circulation desk [HP LaserJet P2015dn]
 - LibraryKyocera at Main Circulation Desk [FS-6525MFP-Kyocera]
 - LibraryColor - Kyocera TASKalfa 3050ci KPD L at the Library Lab
- Scanner (1 in library lab)
- Headphones
- Speakers
- 4 Projectors (ES, Reference, Study Room 1 and Library Lab)

Technology Use Forms and Agreements

All forms and agreements for staff and students are available online at the ISK Website. Links to these agreements are provided below.

Staff Agreements and Forms

[Responsible Use Agreement](#)

[Admin Rights to Assigned Computer](#)

[ISK Code of Ethics](#)

[Social Media Guideline](#)

[Equipment Checkout](#)

[Summer use of Laptop](#)

[Wireless Access for Personal Devices](#)

Student Agreements and Forms

[Student and Parent iPad Agreement](#)

[Responsible Use Agreement](#)

[Wireless Access For Personal Devices](#)

IT Staff Agreements and Forms

[System Administrator Acceptable Use](#)

[Technicians Acceptable Use](#)

[Confidentiality Protocol](#)

Planned Classroom Standard Tech Equipment

Classrooms Standard

- **LCD projector** – ceiling mounted, power required in ceiling. Each projector must have ports for HDMI, VGA, S-video/Component Video, and PS2. VGA cord is required from ceiling mounted location to computer position.
- **Projection Screen**
- **Document Camera**
- **Speakers** - currently desktop speakers but moving to portable bluetooth speakers appropriate for the classroom environment
- **Computer or Laptop**
- **Wireless Access** (Campus Wide)
- Convenient Access to a **Printer** – one network printer within each pod/block of classrooms
- Ability to Control and Annotate Projected Desktop (This may be done through Smartboard, Apple TV, AirServer software, iPad app or other emerging technologies)
- Multiple Connection Points (in classrooms)

Current Software

School-Wide		
Adobe	Audicity	Keynote
Adobe Acrobat 9 Pro	Automator	Maps
Adobe Bridge CS5	Burn	Microsoft Office 2011
Adobe Device Central CS5	Chess	Notes
Adobe Dreamweaver CS5	GarageBand	Numbers
Adobe Fireworks CS5	Google Chrome	Pages
Adobe Flash Catalyst CS5	Google Drive	Photo Booth
Adobe Flash CS5	iBooks	QuickTime Player
Adobe Illustrator CS5	iDVD	Safari
Adobe InDesign CS5	Image Capture	TextEdit
Adobe Photoshop CS5	iMovie	VLC
Adobe Reader	iPhoto	
ICT Labs Software Installed		
<u>ES Lab</u>	<u>MS Lab / Library Cart</u>	<u>HS Lab / Library Lab / Design Lab</u>
Algodoo	Algodoo	123D Design
Animation-ish Classroom Edition	Animation-ish Classroom Edition	Algodoo
Anime Studio Debut	Anime Studio Debut (10 licenses)	Animation-ish Classroom Edition
Aperture	Aperture	Anime Studio Debut
AppInventor	AppInventor	Aperture
AudioScore Lite	AudioScore Lite	AppInventor
Autodesk	Autodesk	Arduino
Blender	BryteWaveK12	AudioScore Lite
BryteWaveK12	ChemAxon	Autodesk
Comic Life	Comic Life 2	Blender
Comic Life 2	Dropbox	BlenderPlayer
Dropbox	EV3 Curriculum	BryteWaveK12
Enlight	EV3 Education (Updated)	ChemAxon
Evernote	Evernote	Comic Life
FaceTime	FaceTime	Comic Life 2
FileMaker Pro 14	FileMaker Pro 14	Dropbox
Firefox	Firefox	Enlight
Flv Crunch	Flip Player	EV3 Curriculum
Follet Shelf App	Flip4Mac	EV3 Education (Updated)
Font Book	Flv Crunch	Evernote
GCompris	Follet Shelf App	FaceTime
Gimp	Font Book	FileMaker Pro 14
Google Earth	GCompris	Final Cut Pro
Google SketchUp 8	Gimp	Firefox
GSP5	Google Earth	Flip Player
HandBrake	Google SketchUp 8	Flv Crunch
iBooks Author	GSP5	Follet Shelf App
Inspiration 9 IE	HandBrake	Flip4Mac
Internet Everywhere	iBooks Author	

<p>Internet Everywhere 3G+ Kid Pix Deluxe 3D Kidspiration 3 IE Kindle LEGO MINDSTORMS Education EV3 LEGO MINDSTORMS EV3 minecraftedu NWEA Lockdown Browser OpenOffice Pages Paintbrush Paragon NTFS for Mac OS X PCClient PhotoScore Lite ProScope HR Prezi Safe Exam Browser Scratch 1.4 Scratch 2 Screencast-O-Matic SketchBook Snapshot SketchUp Skype SMART Technologies Stickies Sunburst TextWrangler Timeline 3D TIPP10 Tux Paint UnRarX Xcode</p>	<p>Inspiration 9 IE Introduction to Programming EV3 Internet Everywhere Internet Everywhere 3G+ Introduction to Programming Jing Kidspiration 3 IE Kindle LEGO MINDSTORMS Education LEGO MINDSTORMS EV3 Home Edition EV3 Updated minecraftedu NWEA Lockdown Browser OpenOffice PhotoScore Lite ProScope HR Safe Exam Browser Scratch 1.4 Scratch 2 Screen Recorder Launcher Send Anywhere SketchUp SketchUp Viewer Skype Stickies TextWrangler Timeline 3D Tux Paint UnRarX Xcode</p>	<p>Font Book GameSalad GCompris Gimp Google Earth Google SketchUp 8 Greenfoot 2.4.2 Greenfoot 2.4.2 2 GSP5 HandBrake iBooks Author Inspiration 9 IE Introduction to Programming EV3 Internet Everywhere Internet Everywhere 3G+ iStopMotion Pro (Mac App Store) iStopMotion Pro (Mac App Store) 2 Jing Kidspiration 3 IE Kindle KISS LEGO MINDSTORMS Education LEGO MINDSTORMS EV3 Home Edition EV3 minecraftedu NWEA Lockdown Browser OpenOffice PhotoScore Lite ProScope HR Safe Exam Browser Scratch Screencast-O-Matic 2 SingleFramer folder SketchUp SketchUp Viewer Skype Stickies TextWrangler Timeline 3D Tux Paint Unity UnRarX Xcode</p>
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Subscriptions/Licensing

<p>Tech Office Netgear WC License (150 AP) Ruckus SmartZone (80 AP) Mojo Helpdesk Paragon NTFS for Mac OS X PaperCut Web Hosting Service - Finalsity PowerSchool</p>	<p>School-Wide Turnitin Moodle HS Naviance</p>	<p>SSS (managed through SSS Department) BrainPop ESL Headsprouts Spelling City RazKids Reading A to Z</p>
<p>Library Alexandria NoodleTools BrainPop</p>	<p>MS IXL Hapara TeacherDashboard</p>	

Selection of Educational iPad Apps

Current Hardware Summary

Equipment Summary

All Classrooms

Projector, Document Camera, Speakers, Computer or Laptop

Commons Level 0

- 2 Computer Labs with Projectors
- 1 MS MakerSpace with Projector
- 1 Robotics Lab with Projector
- 35 Computers in General Area
- 3 OPAC Stations (MacBooks)
- 3 Projectors in Common Area
- 1 Projector in Study Room
- Laptop Cart (26 units)
- Kindles - Inventory by Library (84)

iPads

- ES, ES-SSS and ES Teachers (336 total)
- HS - 5
- MS, including distributed units to students and carts - (285 total for 2017-18)
- Check Out - 2
- Storage / replacement 25 units

Laptop Carts

- 3 ES Chromebook Carts for - 67 units
- 3 MS Chromebook Carts for - 66 units
- Loaner Cart - 42 Units

Laptops / Chromebooks

- Student Use – 68 MacBooks,
- Student Use – 93 Chromebooks,
- Staff Assigned - 167 Macbooks,
- Staff Assigned - 10 Chromebooks
- Other loaners / spares - 33 Macbooks >5 years old

Desktop iMacs

- Student Use, in labs and common areas 205
- Staff Assigned 93
- Other loaners / spares - 7 iMacs >8 years old

Mac Minis

- Support Staff - 2

Servers

- MAC Servers - 7
- MAC Minis (as servers) - 7
- Windows based servers - 4

Printer and Copiers

- Networked Printers - 55 (B/W - 50, Color - 5)
- Networked Copier/Printer (Leased) - 14 (B/W - 12, Color - 2)
- Small Office Printers - 9 (B/W - 9, Color - 0)

Digital Cameras Recorders

- Digital Cameras - 36
- Video Cameras - 6
- Audio Recorders - 6
- Document Cameras - 70
- LCD Projectors - 142