المدرسة الأمريكية الدولية
American International School

MIDDLE SCHOOL

International Baccalaureate®
Baccalauréat International
Bachillerato Internacional

DESIGN TECHNOLOGY SCOPE AND SEQUENCE
AY 26–27

STRANDS	ISTE STANDARD / OFFICIAL INDICATOR		GRADE 5	GRADE 6	GRADE 7	GRADE 8
Empowered Learner	Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.	**ISTE 1.1a** **Learning Goals** Students connect their learning needs, strengths and interests to their goals and use technology to help achieve them and reflect on their progress.	Connect personal learning needs, strengths and interests to learning goals and use technology to work toward them and reflect on progress.	With guidance, explore personal learning goals, use different technology tools to work toward them, and reflect on progress, successes and areas for growth.	Set learning goals, evaluate and select appropriate technology tools, and reflect on strategies that worked well and areas requiring improvement.	Independently articulate personal learning goals, select and manage appropriate technologies, and reflect on successes and areas for improvement.
		ISTE 1.1c **Feedback to Improve Practice** Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.	Seek feedback from people and features embedded in digital tools and use age-appropriate technology to share learning.	With guidance, use feedback from people and embedded digital-tool features to improve learning and select tools to share learning in different ways.	Seek feedback from people and embedded digital tools to refine learning and make intentional choices about how technology demonstrates learning.	Independently seek performance feedback from people and digital-tool features to improve practice and demonstrate learning in a variety of ways.
		ISTE 1.1d **Technology Fundamentals** Students understand fundamental concepts of how technology works, demonstrate the ability to choose and use current technologies effectively, and are adept at thoughtfully exploring emerging technologies.	Use familiar technologies effectively and apply previously learned skills when exploring new digital tools or learning environments.	With guidance, navigate a variety of technologies and apply previously learned skills to new tools or learning environments.	Adapt to different technologies and transfer knowledge and skills to explore new tools, with educator support as needed.	Independently navigate a variety of technologies and transfer knowledge and skills to learn how to use new technologies.
Digital Citizen	Students recognize the responsibilities and opportunities for positively contributing to their digital communities.	**ISTE 1.2a** **Digital Footprint** Students manage their digital identity and understand the lasting impact of their online behaviors on themselves and others and make safe, legal and ethical decisions in the digital world.	Demonstrate an understanding of online identity and the permanence of decisions made when interacting online; practice safe, legal and ethical technology use.			
		ISTE 1.2b **Digital Footprint** Students demonstrate empathetic, inclusive interactions online and use technology to responsibly contribute to their communities.	Demonstrate empathetic and inclusive interactions online and use technology to contribute responsibly to digital communities.			

Knowledge Constructor	Students critically curate resources using digital tools to construct knowledge, produce creative artifacts, and create meaningful learning experiences.	**ISTE 1.3a** **Effective Research Strategies** Students use effective research strategies to find resources that support their learning needs, personal interests, and creative pursuits.	Use age-appropriate research strategies to find digital resources that support learning needs, interests and creative work.	With guidance, apply research strategies to find reliable digital resources and begin evaluating their credibility and relevance.	Use research strategies to locate and assess digital resources for credibility, accuracy and relevance, with educator input.	Independently uses effective research strategies to locate appropriate digital resources in support of learning.
		ISTE 1.3b **Evaluate Information** Students evaluate the accuracy, validity, bias, origin, and relevance of digital content.	Learn how to evaluate sources for accuracy, perspective, credibility, and relevance.	With guidance, evaluate digital resources for accuracy, perspective, credibility and relevance, identifying possible bias or misinformation.	Assess digital resources for accuracy, perspective, credibility and relevance and distinguish between reliable and unreliable sources.	Independently evaluate digital resources for accuracy, validity, perspective, credibility, relevance, and possible bias or misinformation.
		ISTE 1.3c **Curate Information** Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.	Use a variety of strategies to organize information and make meaningful connections between resources.	With guidance, locate and collect resources from different sources and organize them using appropriate digital tools.	Gather and categorize resources from multiple sources, using digital tools to organize assets effectively for different learning tasks.	Independently curate and organize resources from multiple sources using appropriate digital tools to demonstrate meaningful connections or conclusions.
		ISTE 1.3d **Explore Real-World Issues** Students build knowledge by exploring real-world issues and gain experience in applying their learning in authentic settings.	Explore real-world problems and issues and collaborate with others to find answers or solutions.	With guidance, explore real-world problems and investigate possible solutions while collaborating and using information from different sources.	Explore real-world issues, analyze possible solutions, and collaborate with others to deepen understanding and develop solutions.	Independently explore real-world issues and problems and actively pursue understanding and solutions.
Innovative Designer	Students use technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions.	**ISTE 1.4a** **Design Process** Students know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts, or solving authentic problems.	Explore and practice how a design process generates ideas, consider solutions and plans to solve problems, or create innovative products.	With guidance, use a design process to generate ideas, consider possible solutions, and plan innovative products or solutions through iteration.	Use a design process to generate ideas, analyze solutions, create innovative products and reflect on and refine the process.	Independently use a design process to generate ideas, create innovative products, or solve authentic problems.
		ISTE 1.4b **Design Constraints** Students select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.	Use digital and non-digital tools to plan and manage a design process.	With guidance, select digital tools for a design process and begin recognizing constraints, trade-offs and risks.		

		ISTE 1.4c **Prototypes** Students develop, test and refine prototypes as part of a cyclical design process.	Engage in a cyclical design process to develop prototypes and reflect on the role of trial and error.	With guidance, develop, test and refine prototypes and recognize how trial and error leads to improvement.	Develop, test and revise prototypes, analyzing failures as opportunities for refinement and improvement.	Independently develop, test and refine prototypes through an iterative design process, using failure and feedback to improve solutions.
		ISTE 1.4d **Open-Ended Problems** Students exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.	Demonstrate perseverance when working with open-ended problems.			
Computational Thinker	Students develop and employ strategies for understanding and solving problems using technological methods to develop and test solutions.	**ISTE 1.5a** **Problem Definitions** Students formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.		With guidance, define problems and use technology to analyze data, create models, and apply algorithmic thinking to explore solutions.		
		ISTE 1.5c **Decompose Problems** Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.	Break problems into smaller parts, identify key information and create simple models to support problem-solving.	With guidance, break problems into component parts, analyze key information, and explore possible solutions.	Deconstruct problems, assess key information, and apply logical reasoning to develop and refine solutions.	Independently breaks problems into component parts, identify key information, and use it to solve problems.
		ISTE 1.5d **Algorithmic Thinking** Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.		With guidance, apply algorithmic thinking to recognize patterns and begin designing simple automated solutions.		
Creative Communicator	Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals.	**ISTE 1.6a** **Choose Platforms or Tools** Students choose the appropriate platforms and digital tools for meeting the desired objectives of their creation or communication.		Compare digital tools, begin independently selecting appropriate tools for tasks, and collaborating using digital platforms.	Evaluate and justify digital-tool choices based on purpose and audience and integrate multiple tools for effective communication.	Strategically select, combine, and refine digital tools to enhance communication while considering impact, audience, and feedback.
		ISTE 1.6b **Original and Remixed Works** Students create original works or responsibly repurpose or remix digital resources into new creations.	Create original digital works and responsibly modify existing resources with teacher guidance.	Combine and modify digital resources to create original works while applying basic copyright and attribution principles.		
		ISTE 1.6c **Communicate Complex Ideas** Students use digital tools to visually communicate complex ideas to others.	Use basic digital tools to create visual representations of ideas, such as charts, drawings, or slideshows.	Select digital tools to organize and present information visually, enhancing clarity and audience understanding.	Design visually engaging digital presentations using multiple elements to communicate complex ideas effectively.	Integrate advanced visual tools and design principles to create polished digital communications tailored to specific audiences.

		ISTE 1.6d **Customize the Message** Students publish or present content that customizes the message and medium for their intended audiences.		Choose appropriate digital formats and adjust content to suit different audiences.	Refine messages by tailoring language, visuals, and digital platforms to engage specific audiences.	Strategically customize messages and medium to ensure clarity, impact, and audience engagement.
Global Collaborator	Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.	**ISTE 1.7a** **Global Connections** Students use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.		With guidance, use digital tools to connect with people from different backgrounds and cultures and recognize diverse perspectives.	Use digital tools to collaborate with people from different backgrounds and cultures, comparing perspectives to broaden understanding.	Independently use digital tools to build connections across cultures and perspectives and deepen mutual understanding.
		ISTE 1.7c **Constructive Contribution and Collaboration** Students contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.	Contribute constructively to a project team by taking on different roles and responsibilities to work toward a shared goal.	With guidance, contribute constructively to project teams, assume different roles, and fulfill responsibilities toward a common goal.	Contribute effectively to project teams by selecting appropriate roles, meeting responsibilities, and supporting a common goal.	Independently contribute to project teams, adapt roles and responsibilities, and help the team work effectively toward a common goal.
		ISTE 1.7d **Local and Global Issues** Students explore local and global issues and use collaborative technologies to work with others to investigate solutions.	Explore local and global issues and use digital tools to collaborate with others when investigating possible solutions.	With guidance, investigating local and global issues, and using collaborative technologies to develop possible solutions with others.	Investigate local and global issues and collaborate digitally to analyze and develop possible solutions.	Independently investigate local and global issues and use collaborative technologies to evaluate and develop solutions with others.