

**Grade 3-6 - ISTE (International Society for Technology in Edu)
3-6 ISTE-Technology in the Classroom (2018-19) (170 - 180 Days)
Aug - May**

Last Updated: 6/5/2018

Overview

What transformative learning is possible in a digital world?

The ISTE Standards for students emphasize the skills and qualities we want for our students, enabling them to engage and thrive in a connected, digital world.

Students are inspired to amplify learning with technology and are challenged to be agents of their own learning.

Preparing our students for an unknown future, technology is a critical tool to bringing the 2020 vision to life in our classrooms.

Standards:

- Standard 1: Empowered Learner
 - GLE 1: Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.
 - EO a: Students develop learning goals in collaboration with an educator, select the technology tools to achieve them, and reflect on and revise the learning process as needed to achieve goals.
 - EO b: With the oversight and support of an educator Students build a network of experts and peers within school policy and customize their environments to enhance their learning.
 - EO c: Students seek from feedback from both people and features embedded in digital tools, and use age-appropriate technology to share learning.
 - EO d: Students explore age-appropriate technologies and begin to transfer their learning to different tools or learning environments.
- Standard 2: Digital Citizen
 - GLE 1: Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act in ways that are safe, legal and ethical.
 - EO a: Students demonstrate an understanding of the role an online identity plays in the digital world and learn the permanence of their decisions when interacting online.
 - EO b: Students practice and encourage others in safe, legal and ethical behavior when using technology and interacting online, with guidance from an educator.
 - EO c: Students learn about, demonstrate and encourage respect for intellectual property with both print and digital media when using and sharing the work of others.
 - EO d: Students demonstrate an understanding of what personal data is, how to keep it private and how it might be shared online.
- Standard 3: Knowledge Constructor
 - GLE 1: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.
 - EO a: Students collaborate with a teacher to employ appropriate research techniques to locate digital resources that will help them in their learning process.
 - EO b: Students learn how to evaluate sources for accuracy, perspective, credibility and relevance.
 - EO c: Using a variety of strategies, students organize information and make meaningful connections between resources.
 - EO d: Students explore real-world problems and issues and collaborate with others to find answers or solutions.
- Standard 4: Innovative Designer
 - GLE 1: Students use a variety of technologies within a design process to solve problems by creating new, useful or imaginative solutions.
 - EO a: Students explore and practice how a design process works to generate ideas, consider solutions, plan to solve a problem or create innovative products that are shared with others.
 - EO b: Students use digital and non-digital tools to plan and manage a design process.
 - EO c: Students engage in a cyclical design process to develop prototypes and reflect on the role that trial and error plays.
 - EO d: Students demonstrate perseverance when working with open-ended problems.
- Standard 5: Computational Thinker
 - GLE 1: Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.
 - EO a: Students explore or solve problems by selecting technology for data analysis, modeling and algorithmic thinking, with guidance from an educator.
 - EO b: Students select effective technology to represent data.
 - EO c: Students break down problems into smaller parts, identify key information and propose solutions.
 - EO d: Students understand and explore basic concepts related to automation, patterns and algorithmic thinking.
- Standard 6: Creative Communicator
 - GLE 1: 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.
 - EO a: Students recognize and utilize the features and functions of a variety of creation or communication tools.
 - EO b: Student create original works and learn strategies for remixing or repurposing to create new artifacts.
 - EO c: Students create digital artifacts to communicate ideas visually and graphically.
 - EO d: Students learn about audience and consider their expected audience when creating digital artifacts and presentations.
- Standard 7: Global Collaborator
 - GLE 1: Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.
 - EO a: Students use digital tools to work with friends and people from different backgrounds or cultures.
 - EO b: Students use collaborative technologies to connect with others, including peers, experts and community members, to explore different points of view on various topics.
 - EO c: Students perform a variety of roles within a team using age-appropriate technology to complete a project or solve a problem.
 - EO d: Students work with others using collaborative technologies to explore local and global issues.

District Unit of Study Updates:

Date	Comments
5/15/2017 1:03:29 AM	This Unit of Study has been updated to reflect the changes to the 2016 ISTE Student Standards. Revisions were made to: Grade Level Expectations Overarching Understandings Overarching Essential Questions Big Ideas Organizing Concepts Essential Questions KUD's Resources
6/9/2017 7:12:59 PM	Added Unit Overview

Desired Results

Big Ideas:

- Empowered Learner, Digital Citizen, Knowledge Constructor, Innovative Designer, Computational Thinker, Creative Communicator, Global Collaborator,

Overarching Understandings:

- Learners are empowered to build collections of tools and resources which help them learn.
- Citizens participate productively in physical and digital societies.
- Research demands curating information in order to come to meaningful conclusions.
- Innovative thinking develops solutions around changing needs.
- The art of blending human ideas and digital tools gives us the power to solve real-world problems.
- Complex ideas can be shared through creative design and clear communication.
- Collaboration expands thinking by enabling us to consider diverse perspectives.

Overarching Essential Questions:

- How do people harness the power of technology to take ownership of their learning?
- What are the rights and responsibilities of being a digital citizen?
- How do I actively pursue constructing knowledge versus passively ingesting information?
- How does the design process support problem-solving?
- How can we solve human problems with computer enabled solutions?
- How can I impact the ways in which a message is received by the audience?
- How might technology connect me to people to broaden my perspective?

Empowered Learner

Students will understand that...

- Technology may be selected to help manage goals and continue the learning process. (1a)
- Reflection is an important part of monitoring learning. (1a)
- Technology enables individuals to connect and support each other in learning networks. (1b)
- Feedback from tools and peers can be growth producing. (1c)
- A variety of digital tools may be used, but it's important to choose the one that will be the most productive. (1d)
- Background knowledge of digital tools will help learn new ones. (1d)
- Technology problems have solutions. (1d)

Students will know...

- Goal identification and revision strategies (1a)
- Approved tools to support goal setting, progress monitoring, and feedback (eg practice apps, videos to learn from others, commenting features, graphs/charts, calendars) (1a)
- Progress monitoring plans (1a)
- Where to go to get district approved tools (1b)
- Curation methods of tools/people which meet their learning needs (1b)
- Approved apps, extensions/add-ons which personalize online platforms (1b)
- Strategies for identifying feedback within a tool (stars, graphs, fractional data, sounds, comments) (1c)
- Methods for seeking feedback sources (1c)
- Actionable next steps based on constructive feedback (1c)
- Transferable tool operations/functions (toolbars, shortcuts, icons, gestures) (1d)
- Strategies for troubleshooting basic hardware, software, and web-based problems (1d)

- Vocabulary: Learning network (1b)

Essential Questions

- How does technology help me adjust my learning in order to meet goals? (1a)
- How can I customize my learning environment? (1b)
- Where can I go to find what I need to make progress? (1c)
- Why is it important to use prior knowledge when exploring a new digital tool? (1d)

Students will be able to...

- 1A Develop learning goals in collaboration with an educator, select the technology tools to achieve them, and reflect on and revise the learning process as needed to achieve goals.
- 1B With the oversight and support of an educator, build a network of experts and peers within school policy and customize their environments to enhance their learning.
- 1C Seek feedback from both people and features embedded in digital tools, and use age-appropriate technology to share learning.
- 1D Explore age-appropriate technologies and begin to transfer their learning to different tools or learning environments.

Digital Citizen

Students will understand that...

- Technology is a valuable tool when used correctly. (2a)
- Online actions have permanence. (2a)
- Technology requires safe and responsible behavior. (2a, 2b)
- There are consequences for both positive and poor online behavior. (2b)
- Positive online interactions promote safe digital communities. (2b)
- Giving credit to words/works/ideas/pictures shows respect to the owner/author. (2c)
- Unique login credentials help protect privacy. (2d)
- Online accounts store data. (2d)
- Protecting private information promotes safety. (2d)

Students will know...

- Jeffco's Acceptable Use Policy- JS (2a, 2b)
- Acceptable and unacceptable uses of technology at home and school. (2a, 2b)
- District approved digital spaces (2a)
- Legal restrictions for some online tools (13+ age restrictions) (2b)
- Strategies for positive online interactions and dealing with cyberbullying (2b)
- Basic copyright laws and fair use policy awareness (2c)
- Strategies to paraphrase, summarize, and quote others' ideas to prevent plagiarism (2c)
- Strategies for identifying basic information for citation (2c)
- Tools for citation creation (2c)
- Appropriate logins and passwords (2d)
- Vocabulary: digital footprint (2a), cyber bullying (2b) digital safety, trolling (2b), plagiarism (2c) works cited (2c) login, password, username, privacy (2d)

Essential Questions

- How does what I say and do online matter now and in the future? (2a)
- How can I keep myself and others safe when using technology? (2b, 2d)
- How and why do I need to give credit to others for their work? (2c)
- How do I keep my information private and safe? (2d)

Students will be able to...

- 2A Demonstrate an understanding of the role an online identity plays in the digital world and learn the permanence of their decisions when interacting online.
- 2B Practice and encourage others in safe, legal and ethical behavior when using technology and interacting online, with guidance from an educator.
- 2C Learn about, demonstrate and encourage respect for intellectual property with both print and digital media when using and sharing the work of others.
- 2D Demonstrate an understanding of what personal data is, how to keep it private and how it might be shared online.

Knowledge Constructor

Students will understand that...

- Questions guide the research process. (3a)
- Research requires organization and planning. (3a)
- Sources must be evaluated. (3b)
- It's important to consider multiple perspectives before drawing conclusions on a topic. (3b)
- Gathering multiple sources helps to determine accuracy. (3b)
- Organizing information from multiple resources allows for stronger connections between them and greater understanding. (3c)
- The value of collaboration in finding solutions through research. (3d)

Students will know...

- Appropriate tools for research, organization, and/or sharing ideas (3a-3d)
- Inquiry/research process (3a-3d)
- Possible reasons or purposes for research (3a, 3d)
- A variety of digital informational sources (3a)
- Strategies to utilize keywords/phrases to locate information (3a)
- Digital text features to locate, interpret and use information (3a)
- Criteria to evaluate a source (3b)
- Skills to cross-check information (3b)
- Strategies for organizing information (e.g. taking brief notes, sorting into given or self-chosen categories, using graphic organizers or Thinking Maps) (3c)
- Strategies for synthesizing information (3c)
- Strategies to generate questions to guide problem solving (3d)
- Vocabulary: databases, keywords, search terms, (3a); accurate, relevant, perspective, credible (3b);

Essential Questions

- How do I find answers to my questions? (3a)
- How do I determine which information to use when researching? (3b)
- How might I organize information and resources to make meaningful connections? (3c)
- How can I collaborate with others to share discoveries? (3d)

Students will be able to...

- 3A Collaborate with a teacher to employ appropriate research techniques to locate digital resources that will help them in their learning process.
- 3B Learn how to evaluate sources for accuracy, perspective, credibility and relevance.
- 3C Using a variety of strategies, organize information and make meaningful connections between resources.
- 3D Explore real-world problems and issues and collaborate with others to find answers or solutions.

Innovative Designer

Students will understand that...

- Creating a plan helps solve problems and aids in identifying solutions.(4a)
- Tools can be used in different ways throughout the design process. (4b)
- Patterns can help predict possible outcomes. (4c)
- Feedback is necessary to evaluate a design. (4c)
- Perseverance is necessary to solve difficult problems. (4d)
- There may be many solutions to a problem. (4d)

Students will know...

- Arelevant design process (4a)
- Reasoning skills and logic to develop a solution (4a)
- Strategies for questioning and inquiry (4a)
- A variety of age-appropriate digital tools for creativity and innovation (4b)
- Cause/effect using patterns and trends (4c)
- Strategies for working through challenges (4d)
- Vocabulary: prototype (4c)

Essential Questions

- What questions do I need to ask when exploring problems or creating products? (4a)
- What strategies might guide my design process? (4a)
- What is a good tool for "the job" or my purpose? (4b)
- How do I improve my idea or project? (4c)
- How do I keep going when challenges arise? (4d)

Students will be able to...

- 4A Explore and practice how a design process works to generate ideas, consider solutions, plan to solve a problem or create innovative products that are shared with others.
- 4B Use digital and non-digital tools to plan and manage a design process.
- 4C Engage in a cyclical design process to develop prototypes and reflect on the role that trial and error plays.
- 4D Demonstrate perseverance when working with open-ended problems.

Computational Thinker

Students will understand that...

- Computers assist human problem-solving.(5a)
- Data can be represented in multiple ways. (5b)
- Additional information may be needed to solve complex problems. (5c)
- Humans program computers (code) to make a task repeatable and/or easier. (5d)
- Algorithms are sequences of instructions to achieve goals. (5d)

Students will know...

- District-approved tools (5a-d)
- Strategies to identify and explore problems for computer enabled solutions (5a)
- Skills to manipulate/analyze data that has been collected (sort, average, chart, graph) (5b)
- Strategies to organize simple data to reveal patterns (5b)
- Decision making skills for appropriate data representation (5b)
- Strategies to identify and organize components of a complex problem(5c)
- Pattern identification in predetermined algorithms (5d)
- Basic program/algorithm construction and execution (eg block-based visual programming) (5d)
- Vocabulary: debug (5c) algorithm, automation (5d)

Essential Questions

- How do tools help me solve problems? (5a)
- What is the best way to represent this data? (5b)
- What do I need to know in order to help me get started solving this problem? (5c)
- What effects does automation have on society? (5d)

Students will be able to...

- 5A Explore or solve problems by selecting technology for data analysis, modeling and algorithmic thinking, with guidance from an educator.
- 5B Select effective technology to represent data.
- 5C Break down problems into smaller parts, identify key information and propose solutions.
- 5D Understand and explore basic concepts related to automation, patterns and algorithmic thinking.

Creative Communicator

Students will understand that...

- Digital tools can be used in a variety of ways to create and communicate ideas. (6a)
- Background knowledge of digital tools will help us learn new ones. (6a)
- Creating original products is a way to express one's thinking. (6b)
- Considering and reimagining others' works ethically is a form of expression. (6b)
- Visual literacy is a form of communication. (6c)
- Identification of the intended audience informs how and why we communicate. (6d)
- Using technology allows for communication with others both locally and globally. (6d)

Students will know...

- A variety of district approved tools for creativity and expression (6a)
- Strategies to transfer knowledge of basic features/functions to new tools (6a)
- Responsible methods for creating original and remixed works (6b)
- Methods for creating multimedia works (6c)
- Considerations for matching media and tools to audience and purpose (6d)
- Vocabulary: visual literacy (6c)

Essential Questions

- Which tools best help me create and share my ideas with others? (6a)
- How can I use something created by others to make something new? (6b)
- How do original works spark new ideas? (6b)
- How might my message be communicated beyond text? (6c)
- Does my tool fit my purpose and audience? (6d)

Students will be able to...

- 6A Recognize and utilize the features and functions of a variety of creation or communication tools.
- 6B Create original works and learn strategies for remixing or repurposing to create new artifacts.
- 6C Create digital artifacts to communicate ideas visually and graphically.
- 6D Learn about audience and consider their expected audience when creating digital artifacts and presentations.

Global Collaborator

Students will understand that...

- Technology allows us to communicate and collaborate with others both locally and globally. (7a)
- Cultural perspectives influence different points of view. (7a)
- People have a variety of perspectives about topics/issues. (7a, 7b)
- Working collaboratively allows for greater problem solving. (7c)
- Contributions to local and global issues impact the lives of others. (7d)

Students will know...

- District approved digital spaces for expanded collaboration (7a, 7b)
- Cultural perspectives (7a)
- Respectful digital interaction strategies (7a)
- Identification skills of safe online community members (7a, 7b)
- Strategies for gathering diverse viewpoints (7b)
- Roles and responsibilities within a group (7c)
- Strategies for working collaboratively (7c)
- Strategies for identifying local and global issues (7d)

Essential Questions

- How might I use technology to work with people different than myself? (7a)
- Do others think the same way I do? (7b)
- How might my strengths be useful to reaching our team goal? (7c)
- What does efficient collaboration look and sound like? (7c)
- How can I develop cultural and global awareness? (7a, 7d)

Students will be able to...

- 7A Use digital tools to work with friends and people from different backgrounds or cultures.
- 7B Use collaborative technologies to connect with others, including peers, experts and community members, to explore different points of view on various topics.
- 7C Perform a variety of roles within a team using age-appropriate technology to complete a project or solve a problem.
- 7D Work with others using collaborative technologies to explore local and global issues.