Grades 3-5

Kentucky Academic Standards for Technology

Intermediate 3-5 KAS for Technology

Overview for Intermediate 3-5 :

The technology standards at the intermediate level continue to lay the foundation of necessary knowledge, skills, and competencies that equip students for a successful future. This goal requires the understanding of content that helps: empower learners, create responsible digital citizens, facilitate knowledge construction, design and innovate for learning, think computationally, communicate creatively, and collaborate with a global mindset.

Application of the technology standards at the intermediate level should focus on active learning and integrating the identified skills into other disciplines. These standards provide a clear progression of skills, and students develop a broad conceptual understanding of technology. All content teachers should provide opportunities for students to apply the skills and knowledge identified.

Concept: **Empowered Learner (EL)**

Competency: Students use technology to take an active role in their learning.

Standard: EL1. Leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.
Learning Priority: A. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
Indicators for grades 3-5: 1. Set personal learning goals and self-select digital tools to support accomplishing the goals. 2. Reflect on and revise the learning process as needed to improve learning over time ex.: using digital writing portfolio and reflection log/journal .
Learning Priority: B. Build networks and customize their learning environments in ways that support the learning process.
Indicators for grades 3-5: 1. Participate in explorations that support identifying and building a network ex.: expert video channels, video conferencing with professionals, authors blogs unique to one s own interests/needs to support the learning process.

Learning Priority:
C. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

Indicators for grades 3-5:
1. Seek feedback that informs and improves learning ex.: Students seek feedback from teachers and peers during the digital writing process .
2. Use feedback to improve products that demonstrate learning in a variety of ways.

Learning Priority:
D. Understanding the fundamental concepts of how to use technology technology operations .

Indicators for grades 3-5:
1. Explore and select digital tools that support learning in different contexts ex.: a student chooses a tool to collect data and then creates a graphical display of the data using a digital tool of their choice .
2. Transfer conceptual knowledge of technology operations to multiple contexts.
3. Transfer knowledge of fundamental concepts of technology operations to troubleshoot basic technology operations.

Standard:
EL2. Apply the fundamental concepts of technology operations and demonstrate the ability to choose, use, and/or troubleshoot current technologies.

Learning Priority:
A. Demonstrate learning with the use of technology.

Indicators for grades 3-5:
1. Identify age-appropriate digital tools to produce and publish information for an identified target audience.
2. Demonstrate efficient ability to communicate a message with digital input strategies ex.: typing/keyboarding, voice to text, video or audio .

Learning Priority:
B. Apply functions and concepts of technology operations; demonstrate the ability to choose, use and troubleshoot current technologies.

Indicators for grades 3-5:
1. Choose technology appropriate to their task and purpose.

Learning Priority:
C. Transfer knowledge to emerging technology.

Indicators for grades 3-5:
1. Apply and adapt knowledge of existing technology to the augmentative use of new technologies.

Concept: **Digital Citizen (DC)**

Competency: Students manage their digital identity in a safe, positive, and proactive way.

Standard:
DC1. Recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world; act and model in ways that are safe, legal and ethical.

Learning Priority:
A. Cultivate and manage your digital identity and reputation, and be aware of the permanence of your actions in the digital world.

Indicators for grades 3-5:
1. Model positive behaviors in online communications at school and understand how to apply those behaviors to online activities outside of school.
2. Show awareness and understand they are creating a digital footprint, and can identify positive and negative online activity.

Learning Priority:
B. Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

Indicators for grades 3-5:
1. Collaborate online with peers and educators in a positive manner, and begin to recognize online behaviors can have positive or negative consequences.
2. Understand that decisions and behaviors online can affect others in both negative and positive and hurtful and helpful ways.

Learning Priority:
C. Manage personal data to maintain digital privacy and security and are aware of data-collection technology used to track navigation online.

Indicators for grades 3-5:
1. Create and know usernames and passwords, and understand why these and other personal information are not shared with others online and offline.
2. Search websites understanding that some sites are not safe without adult permission.

Standard:
DC2. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

Learning Priority:
A. Use information, media, and digital resources in a responsible manner.

Indicators for grades 3-5:
1. Demonstrate acceptable use of the internet and identify acceptable use of social media and other digital media.

Learning Priority:
B. Respect intellectual property rights.

Indicators for grades 3-5:
1. Value others intellectual property by encouraging others.
2. Give positive and constructive feedback on others intellectual property with respect.

Learning Priority:
C. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

Indicators for grades 3-5:
1. Use others creations intellectual property with permission public domain, creative commons, or copyright owner s permission .
2. Create their own intellectual property in digital projects.

Concept: **Knowledge Constructor (KC)**

Competency: Students use various digital tools to find information and make meaning.

Standard:
KC1. Students critically curate a variety of resources using digital tools to construct knowledge.

Learning Priority:
A. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.

Indicators for grades 3-5:
1. Filter searches to gather specific information on a subject or research topic ex.: searching "food sources for Beluga whales" instead of searching "whales" or "Beluga whales" .
2. Use a variety of digital reference resources ex.: digital encyclopedia, digital atlas/maps to locate information related to a research topic.

Learning Priority:
B. Evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.

Indicators for grades 3-5:
1. Identify criteria to analyze information presented in a digital resource to determine its accuracy, perspective, credibility, and relevance.
2. Explore different media types ex.: infographics, videos, graphs, text and how they might influence an audience.
3. Compare information presented across different domain extensions ex.: .com, .net, .gov, .edu to help evaluate accuracy, perspective, credibility, and relevance of information.

Learning Priority:
C. Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.

Indicator s for grades 3-5:
1. Collect information ex.: images, diagrams, maps, graphs, infographics, videos, animations using digital tools from resources to clarify and add to knowledge of a topic.
2. Organize gathered artifacts into themed collections with subcategories ex.: Famous African-Americans: Scientists, Politicians, Athletes; Favorite Cartoon Characters: Disney, Nickelodeon, Looney Tunes .

Standard:
KC2. Produce creative artifacts and make meaningful learning experiences from curated knowledge for themselves and others.

Learning Priority:
A. Produce creative artifacts.

Indicators for grades 3-5:
1. Use digital tools to create artifacts that connect similar information found in various digital resources.

Learning Priority:
B. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Indicators for grades 3-5:
1. Use a variety of digital resources ex.: website, video clip, photos to explore and collaborate with others on real-world issues.

Concept: **Innovative Designer (ID)**

Competency: Students use a variety of technologies to design and create.

Standard:
ID1. Use a variety of technologies to identify and solve authentic real-world problems.

Learning Priority:
A. Find authentic real-world problems in local and global contexts.

Indicators for grades 3-5:
1. Identify and describe problems or challenges present in their community then analyze the conditions that make it a problem.

Learning Priority:
B. Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.

Indicators for grades 3-5:
1. Demonstrate perseverance when working with authentic, open-ended problems.

Standard:
ID2. Use a variety of technologies within a design process to create new, useful and imaginative solutions.

Learning Priority:
A. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.

Indicators for grades 3-5:
1. Explore and practice how a deliberate design process ex.: design thinking works to generate ideas, consider solutions, test theories, plan to solve a problem, or create innovative products to share with others.

Learning Priority:
B. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.

Indicators for grades 3-5:
1. Use a variety of digital tools to plan and manage a design process, with consideration to design constraints and risks.

Learning Priority:
C. Develop, test and refine prototypes as part of a cyclical design process.

Indicators for grades 3-5:
1. Engage in a cyclical design process to develop and test prototypes; reflect on the role that trial and error plays in the process.

Concept: **Computational Thinker (CT)**

Competency: Students understand sequences and use them to develop solutions to problems.

Standard:
CT1. Develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.

Learning Priority:
A. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.

Indicators for grades 3-5:
1. Plan and implement a design process in which they explore solutions to a problem and use digital tools to analyze data, create models, and represent collected data ex.: spreadsheets, graphs, charts, tables, presentations, infographics in a way that can be shared with others, with guidance.

Learning Priority:
B. Collect data or identify relevant data sets, use digital tools to analyze them, and represent

data in various ways to facilitate problem-solving and decision-making.

Indicators for grades 3-5:
1. Select and utilize an age-appropriate digital tool to represent data ex.: spreadsheets, digital graphs/charts , with guidance and support from adults.
2. Use data to discuss findings and share conclusions with others ex.: presentation apps/website .

Learning Priority:
C. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

Indicators for grades 3-5:
1. Break a problem into smaller parts, identify patterns and key information, and use age-appropriate digital tools to brainstorm a problem solving plan ex.: online whiteboard, online mindmapping tools, digital outline either collaboratively or independently.

Learning Priority:
D. Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Indicators for grades 3-5:
1. Complete a coding task with coded actions ex.: html, block-based coding, python either collaboratively or independently.

Standard:
CT2. Apply strategies for understanding and solving problems by using technological methods to develop and test solutions.

Learning Priority:
A. Use resources to collect, analyze, and represent data.

Indicators for grades 3-5:
1. Use digital tools to ask questions and digitally collect data.

Learning Priority:
B. Deconstruct components to understand systems and facilitate problem-solving.

Indicators for grades 3-5:
1. Use digital tools to find patterns in order to solve complex problems.

Learning Priority:
C. Create and test automated solutions.

Indicators for grades 3-5:
1. Use digital tools to identify and create algorithms.

Concept: **Creative Communicator (CC)**

Competency: Students communicate clearly and express themselves with a variety of digital tools.

Standard:
CC1. Communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goals, audience and task.

Learning Priority:
A. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.

Indicators for grades 3-5:
1. Evaluate and utilize the features of a variety of digital tools ex.: including, but not limited to: adding video/audio, digital collaboration tools, tools affecting the aesthetics of the piece, as well as methods for sharing/publishing for producing new creations or communications with teacher support, following appropriate digital etiquette.

Learning Priority:
B. Create original works or responsibly repurpose and/or remix digital resources into new creations.

Indicators for grades 3-5:
1. Learn and apply strategies to responsibly remix creative work, respecting digital citizenship copyright , both collaboratively and independently.

Learning Priority:
C. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.

Indicator s for grades 3-5:
1. Create digital artifacts ex.: presentations, data collection, models, audio/video, websites, and digital art to display knowledge and communicate ideas clearly to a variety of audiences, both collaboratively and independently.

Standard:
CC2. Publish and present content customized for their audience s , purpose, and task.

Learning Priority:
A. Publish and present content that customizes the message and medium for their intended audiences.

Indicators for grades 3-5:
1. Utilize digital tools to create, share, communicate, and publish work effectively ex.: video/ audio creation, social media, spreadsheets, blogs, presentation platforms, word processing, and digital art platforms .
2. Identify the intended audience and select appropriate platform medium when creating digital pieces, presenting, and collaborating to communicate ideas to the audience.

Concept: **Global Collaborator (GC)**

Competency: Students use digital tools to connect with learners inside and outside of their classroom.

Standard:
GC1. Use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally.

Learning Priority:
A. 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.

Indicators for grades 3-5:
1. Use digital tools and resources ex.: presentations, videos, or various digital media platforms to connect and collaborate with authentic audiences from a variety of backgrounds and cultures to enrich learning experiences.

Learning Priority:
B. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.

Indicators for grades 3-5:
1. Use digital tools to learn how to collaborate with team members in a digital workspace ex.: sharing and respecting digital work within a team workspace, assuming team roles and working together to create video/ green screen production, stop-motion animation, and various other forms of digital creations . Use digital tools and take on a variety of roles to contribute to team projects with guidance and support.

Learning Priority:
C. Contribute to the exchange of ideas within and beyond the learning community.

Indicators for grades 3-5:
1. Use a variety of digital resources to collaborate with mutual respect ex.: video conferencing, commenting tools, slide decks, and documents .

Standard:
GC2. Use digital tools to connect with a global network of learners and engage with issues that impact local and global communities.

Learning Priority:
A. Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.

Indicators for grades 3-5:
1. Use digital tools to collaborate with peers, experts, and community members to examine problems from multiple viewpoints ex.: video/voice conferencing .

Learning Priority:

B. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.

Indicators for grades 3-5:

1. Collaborate digitally with others to understand multiple perspectives while exploring both local and global issues to solve problems with guidance and support ex.: project-based learning and community problem solving .