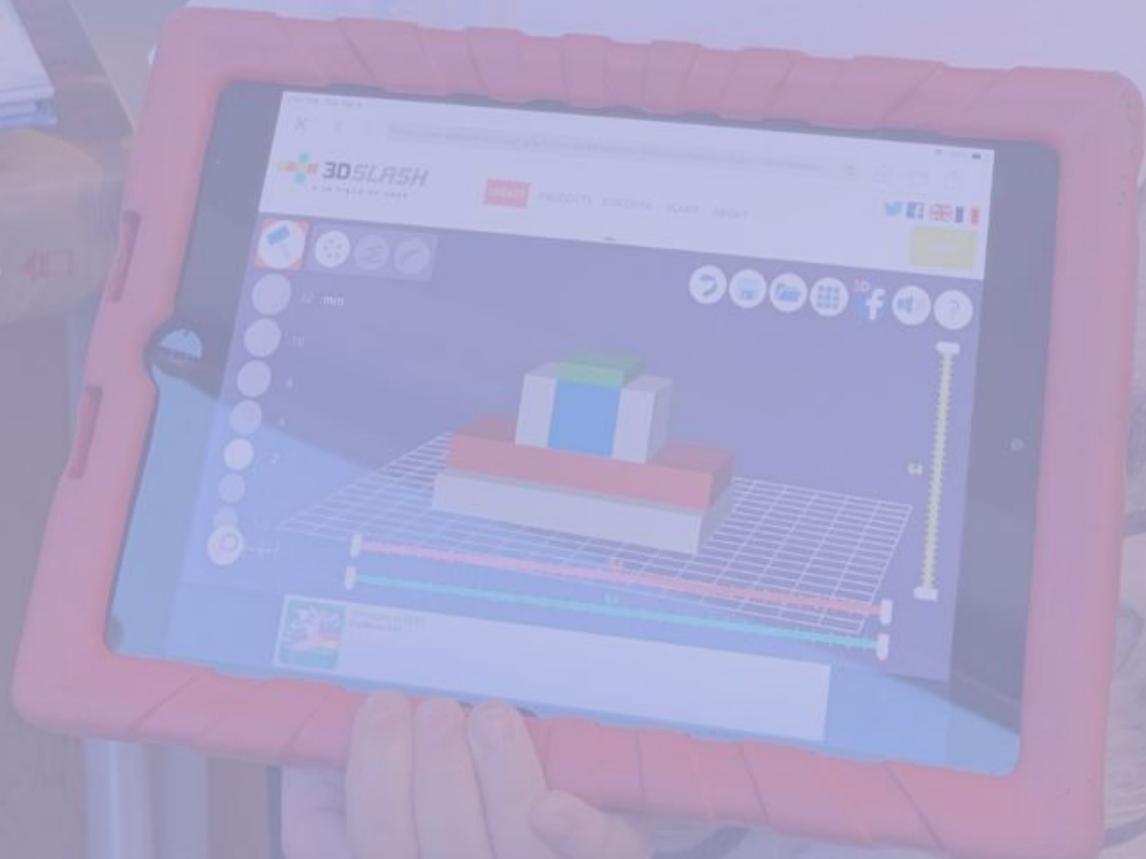


Grades K-2

Kentucky Academic Standards for Technology



Primary K-2 KAS for Technology

Overview for Primary K-2 :

The technology standards at the primary level provide an entry-point into 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 primary 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 K-2:

1. Set personal learning goals and use digital tools to achieve those goals, with guidance and support ex.: increase reading fluency by recording and reflecting upon student reading .
2. Reflect on the learning process to improve learning over time, with guidance and support 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 K-2:

1. Participate in teacher-led explorations utilizing digital tools to expand learning spaces beyond the classroom ex.: expert video channels, video conferencing with professionals, authors blogs .



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 K-2:

1. Recognize and use technology to seek feedback as a valued component of the learning process.
2. Use feedback to improve the demonstration of learning ex.: student uses interactive software with immediate feedback to guide their performance .

Learning Priority:

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

Indicator s for grades K-2:

1. Explore a variety of digital tools and discover how they work based on fundamental concepts of technology operations ex.: a student learns how to turn the audio up/down, how to open, save, close files .
2. Transfer conceptual knowledge of technology operations in multiple contexts, with guidance and support ex.: A student has learned to use a smartphone, and they use what they know about smartphones to use a different device .

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 K-2:

1. Use age-appropriate digital resources to produce and publish information.
2. Demonstrate basic ability to communicate a message with digital input strategies ex.: typing/keyboarding, voice to text, video or audio, images .

Learning Priority:

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

Indicators for grades K-2:

1. Choose technology appropriate to task and purpose, with guidance and support.

Learning Priority:

C. Transfer knowledge to emerging technology.

Indicators for grades K-2:

1. Apply and adapt knowledge of existing technology to the substitution-based 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 K-2:

1. Understand what it means to be a positive influence offline and how that could relate to being positive online.
2. Show awareness that when something is put on the internet websites, social media, apps it can leave a trail online digital footprint .

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 K-2:

1. Choose appropriate websites, and understand to seek help from a trusted adult when faced with problems online related to safety.
2. Understand that what is online has positive and negative consequences, and relate the understanding to behaviors offline.

Learning Priority:

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

Indicators for grades K-2:

1. Understand usernames and passwords, and understand why these are not shared with others.
2. Navigate to trusted websites and know how to search for websites in a safe manner with awareness that not all websites are safe.

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 K-2:

1. Identify acceptable use of the internet and other digital resources.

Learning Priority:

B. Respect intellectual property rights.

Indicators for grades K-2:



1. Recognize that everyone has different ideas in creating their own work intellectual property .
2. Show respect for others intellectual property with positive words.
3. Understand not to copy someone else s work intellectual property .
4. Understand that someone else s creations found on the internet or shared in person, cannot be used without permission, and the creator should be given credit.

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 K-2:

1. Use basic keyword searches to locate information to build deeper understanding of a subject.
2. Apply print reference knowledge and strategies to find and locate information in digital resources.
3. Satisfy curiosity by exploring answers to questions with digital resources.

Learning Priority:

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

Indicators for grades K-2:

1. Classify websites into general categories to guide relevance of search results ex.: entertainment/games, reference, learning .
2. Compare information on the same topic across multiple digital resources.

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.

Indicators for grades K-2:

1. Use digital organizers to create collections of artifacts ex.: bookmarks, hyperlinks, sites .
2. Organize gathered artifacts into general themed collections ex.: Famous African-Americans, favorite cartoon characters, pictures of bridges .

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 K-2:

1. Use digital tools to create artifacts from 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 K-2:

1. Use a variety of digital resources ex.: website, video clip, photos to explore and report 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 K-2:

1. Use technology to identify a problem in the school or home environment with guidance and support.
2. Describe the problem, using technology, and explain why it is problematic.

Learning Priority:

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

Indicators for grades K-2:

1. Demonstrate perseverance when working to complete a challenging task.

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 K-2:

1. Use a design process ex.: creative thinking spiral to ask questions, suggest



solutions, test ideas to solve problems, and share their learning, with guidance and support.

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 K-2:

1. Use a variety of age-appropriate digital tools to design something, with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Use a design process to develop ideas or creations, test their design, and redesign if necessary.

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 K-2:

1. Identify a problem and choose the appropriate digital tools to explore and find solutions to the problem through the use of a step-by-step plan, with guidance and support.

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 K-2:

1. Utilize an age-appropriate digital tool to collect, organize, and represent data ex.: online surveys, spreadsheets, graphs, charts, etc ; students will use this data to look for similarities and identify patterns and categories within the data set ex.: simple data mining , with guidance and support.

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 K-2:

1. Break a problem into smaller parts, identify key information, and use age-appropriate digital tools to help with problem solving ex.: online whiteboard, online mindmapping tools, digital outline , with guidance and support.

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 K-2:

1. Define and give examples of automation ex.: thermostat controls temperature, buttons pressed on toys make various sounds .
2. Complete a simple coding task with at least 3-5 coded actions ex.: html, block-based coding, python , with guidance and support.

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 K-2:

1. Use digital tools to ask questions and digitally collect data, with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Use digital tools to identify patterns in order to solve problems, with guidance and support.

Learning Priority:

C. Create and test automated solutions.

Indicators for grades K-2:

1. Use digital tools to identify and create algorithms, with guidance and support.

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 K-2:

1. Introduce and use age appropriate digital tools ex.: art creation programs, video production, photography, presentations, video media, green screen, stop motion animation for producing new creations or published communications using appropriate digital etiquette with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Use age appropriate digital tools to create original and remixed work, with respect to intellectual property with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Observe and participate in the communication of ideas using a variety of digital tools ex.: video reflections, interactive notebooks, audio recording, as well as visual representation with guidance and support.

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 K-2:

1. Explore a variety of digital tools ex.: drawing/ art programs, video production, green screen, digital art . to create and communicate an idea to a variety of audiences with guidance and support.
2. Discuss different audiences and how presentations can change based on 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 K-2:

1. Use digital tools and resources ex.: digital resources, virtual field trips, virtual reality, video media, and social media , to understand the similarities and differences of others in school, community, and beyond with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Use digital tools to collaborate with team members in a digital workspace with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Respect the interest of others by collaborating to share ideas, experiences, and opinions ex.: virtual collaboration, presentation, and discussion boards with guidance and support.

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 K-2:

1. Use digital tools to collaborate with others to examine problems from school, community, and beyond with guidance and support.

Learning Priority:

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

Indicators for grades K-2:

1. Use digital tools to collaborate with school, community, and beyond to solve problems with guidance and support.