

Kentucky Technology

# Grades 3-5

## Empowered Learner EL

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

- 1 Leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences. **EL1**
  - 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. **EL1.A**
    - 1 Set personal learning goals and self-select digital tools to support accomplishing the goals. **EL1.A.1**
    - 2 Reflect on and revise the learning process as needed to improve learning over time ex.: using digital writing portfolio and reflection log/journal . **EL1.A.2**
  - B Build networks and customize their learning environments in ways that support the learning process. **EL1.B**
    - 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. **EL1.B.1**
  - C Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways. **EL1.C**
    - 1 Seek feedback that informs and improves learning ex.: Students seek feedback from teachers and peers during the digital writing process . **EL1.C.1**
    - 2 Use feedback to improve products that demonstrate learning in a variety of ways. **EL1.C.2**
  - D Understanding the fundamental concepts of how to use technology technology operations . **EL1.D**
    - 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 . **EL1.D.1**
    - 2 Transfer conceptual knowledge of technology operations to multiple contexts. **EL1.D.2**
    - 3 Transfer knowledge of fundamental concepts of technology operations to troubleshoot basic technology operations. **EL1.D.3**
- 2 Apply the fundamental concepts of technology operations and demonstrate the ability to choose, use, and/or troubleshoot current technologies. **EL2**
  - A Demonstrate learning with the use of technology. **EL2.A**
    - 1 Identify age-appropriate digital tools to produce and publish information for an identified target audience. **EL2.A.1**
    - 2 Demonstrate efficient ability to communicate a message with digital input strategies ex.: typing/keyboarding, voice to text, video or audio . **EL2.A.2**
  - B Apply functions and concepts of technology operations; demonstrate the ability to choose, use and troubleshoot current technologies. **EL2.B**

- 1 Choose technology appropriate to their task and purpose. [EL2.B.1](#)
  - C Transfer knowledge to emerging technology. [EL2.C](#)
    - 1 Apply and adapt knowledge of existing technology to the augmentative use of new technologies. [EL2.C.1](#)
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**Students manage their digital identity in a safe, positive, and proactive way.**

- 1 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. DC1
    - A Cultivate and manage your digital identity and reputation, and be aware of the permanence of your actions in the digital world. DC1.A
      - 1 Model positive behaviors in online communications at school and understand how to apply those behaviors to online activities outside of school. DC1.A.1
      - 2 Show awareness and understand they are creating a digital footprint, and can identify positive and negative online activity. DC1.A.2
    - B Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices. DC1.B
      - 1 Collaborate online with peers and educators in a positive manner, and begin to recognize online behaviors can have positive or negative consequences. DC1.B.1
      - 2 Understand that decisions and behaviors online can affect others in both negative and positive and hurtful and helpful ways. DC1.B.2
    - C Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online. DC1.C
      - 1 Create and know usernames and passwords, and understand why these and other personal information are not shared with others online and offline. DC1.C.1
      - 2 Search websites understanding that some sites are not safe without adult permission. DC1.C.2
  - 2 Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property. DC2
    - A Use information, media and digital resources in a responsible manner. DC2.A
      - 1 Demonstrate acceptable use of the internet and identify acceptable use of social media and other digital media. DC2.A.1
    - B Respect intellectual property rights. DC2.B
      - 1 Value others intellectual property by encouraging others. DC2.B.1
      - 2 Give positive and constructive feedback on others intellectual property with respect. DC2.B.2
    - C Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property. DC2.C
      - 1 Use others creations intellectual property with permission public domain, creative commons, or copyright owner s permission . DC2.C.1
      - 2 Create their own intellectual property in digital projects. DC2.C.2
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**Knowledge  
Constructor** KC

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

- 1 Students critically curate a variety of resources using digital tools to construct knowledge. **KC1**
    - A Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits. **KC1.A**
      - 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" . **KC1.A.1**
      - 2 Use a variety of digital reference resources ex.: digital encyclopedia, digital atlas/maps to locate information related to a research topic. **KC1.A.2**
    - B Evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources. **KC1.B**
      - 1 Identify criteria to analyze information presented in a digital resource to determine its accuracy, perspective, credibility, and relevance. **KC1.B.1**
      - 2 Explore different media types ex.: infographics, videos, graphs, text and how they might influence an audience. **KC1.B.2**
      - 3 Compare information presented across different domain extensions ex.: .com, .net, .gov, .edu to help evaluate accuracy, perspective, credibility, and relevance of information. **KC1.B.3**
    - C Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions. **KC1.C**
      - 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. **KC1.C.1**
      - 2 Organize gathered artifacts into themed collections with subcategories ex.: Famous African-Americans: Scientists, Politicians, Athletes; Favorite Cartoon Characters: Disney, Nickelodeon, Looney Tunes . **KC1.C.2**
  - 2 Produce creative artifacts and make meaningful learning experiences from curated knowledge for themselves and others. **KC2**
    - A Produce creative artifacts. **KC2.A**
      - 1 Use digital tools to create artifacts that connect similar information found in various digital resources. **KC2.A.1**
    - B Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions. **KC2.B**
      - 1 **KC2.B.1**
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**Students use a variety of technologies to design and create.**

- 1 Use a variety of technologies to identify and solve authentic real-world problems. ID1
    - A Find authentic real-world problems in local and global contexts. ID1.A
      - 1 Identify and describe problems or challenges present in their community then analyze the conditions that make it a problem. ID1.A.1
    - B Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems. ID1.B
      - 1 Demonstrate perseverance when working with authentic, open-ended problems. ID1.B.1
  - 2 Use a variety of technologies within a design process to create new, useful and imaginative solutions. ID2
    - A Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems. ID2.A
      - 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. ID2.A.1
    - B Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks. ID2.B
      - 1 Use a variety of digital tools to plan and manage a design process, with consideration to design constraints and risks. ID2.B.1
    - C Develop, test and refine prototypes as part of a cyclical design process. ID2.C
      - 1 Engage in a cyclical design process to develop and test prototypes; reflect on the role that trial and error plays in the process. ID2.C.1
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**Computational  
Thinker CT**

**Students understand sequences and use them to develop solutions to problems.**

- 1 Develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions. **CT1**
    - A Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions. **CT1.A**
      - 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. **CT1.A.1**
    - 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. **CT1.B**
      - 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 . **CT1.B.1**
    - C Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving. **CT1.C**
      - 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. **CT1.C.1**
    - D Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions. **CT1.D**
      - 1 Complete a coding task with coded actions ex.: html, block-based coding, python either collaboratively or independently. **CT1.D.1**
  - 2 Apply strategies for understanding and solving problems by using technological methods to develop and test solutions. **CT2**
    - A Use resources to collect, analyze, and represent data. **CT2.A**
      - 1 Use digital tools to ask questions and digitally collect data. **CT2.A.1**
    - B Deconstruct components to understand systems and facilitate problem-solving. **CT2.B**
      - 1 Use digital tools to find patterns in order to solve complex problems. **CT2.B.1**
    - C Create and test automated solutions. **CT2.C**
      - 1 Use digital tools to identify and create algorithms. **CT2.C.1**
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**Students communicate clearly and express themselves with a variety of digital tools.**

- 1 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. **CC1**
    - A Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication. **CC1.A**
      - 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. **CC1.A.1**
    - B Create original works or responsibly repurpose and/or remix digital resources into new creations. **CC1.B**
      - 1 Learn and apply strategies to responsibly remix creative work, respecting digital citizenship copyright , both collaboratively and independently. **CC1.B.1**
    - C Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations. **CC1.C**
      - 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. **CC1.C.1**
  - 2 Publish and present content customized for their audience s , purpose, and task. **CC2**
    - A Publish and present content that customizes the message and medium for their intended audiences. **CC2.A**
      - 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 . **CC2.A.1**
      - 2 Identify the intended audience and select appropriate platform medium when creating digital pieces, presenting, and collaborating to communicate ideas to the audience. **CC2.A.2**
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**Students use digital tools to connect with learners inside and outside of their classroom.**

- 1 Use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. GC1
  - 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. GC1.A
    - 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. GC1.A.1
  - B Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal. GC1.B
    - 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. GC1.B.1
  - C Contribute to the exchange of ideas within and beyond the learning community. GC1.C
    - 1 Use a variety of digital resources to collaborate with mutual respect ex.: video conferencing, commenting tools, slide decks, and documents . GC1.C.1
- 2 Use digital tools to connect with a global network of learners and engage with issues that impact local and global communities. GC2
  - A Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints. GC2.A
    - 1 Use digital tools to collaborate with peers, experts, and community members to examine problems from multiple viewpoints ex.: video/voice conferencing . GC2.A.1
  - B Explore local and global issues and use collaborative technologies to work with others to investigate solutions. GC2.B
    - 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 . GC2.B.1