**Diocese of Sioux City**

**21st Century Skills Standards and Benchmarks**

**Technology Literacy**

**Grade Level K-2**

**Standard 1:** Technology Literacy: Each Iowa student will be empowered with the technological knowledge and skills to learn effectively and live productively.

**A. Grade Level Benchmark:** Use technology to create projects, identify patterns, and make predictions.

**Objective(s):**

* 1. Use a variety of digital tools and media-rich resources to create projects.

a. Knows ways that technology is used at home and at school to help humans do work and solve problems

b. Knows that people are always inventing new ways to solve problems and accomplish work

c. Knows that most things are made of parts and they may not work if some parts are missing

d. Knows that when parts are put together, they can do things that they couldn’t do by themselves

* 1. Use technology to illustrate and communicate original ideas related to curriculum content.

a. Knows that because there may be multiple solutions to a design problem, each appropriate to different situations, many creative ideas can be useful.

* 1. Create multimedia products with support from teachers, family members, and/or student partners for the purpose of display, publication and/or performance.

a. Knows that because there may be multiple solutions to a design problem, each appropriate to different situations, many creative ideas can be useful

* 1. Use technology resources to identify problems, help recognize and describe patterns, make predictions and/or propose solutions.

**B. Grade Level Benchmark:** Use a variety of technology tools and media-rich resources to work collaboratively with others.

**Objective(s):**

* 1. In a collaborative work group, use a variety of technologies to produce a digital presentation or product in a curriculum area.
	2. Use technology resources for communicating and sharing ideas with others.

a. Knows that communication technology allows people to exchange and find information quickly, cheaply, and reliably over a distance

* 1. Participate in learning activities with or about learners from other countries and/or cultures.

a. Knows that technology is used to improve what humans get from crops by reducing the amount of work needed, keeping food fresh, and moving it long distances to where people need it

b. Knows that communication technology allows people to exchange and find information quickly, cheaply, and reliably over a distance

c. Knows that a transportation system is tailored to a society’s needs and consist of rules

**C. Grade Level Benchmark:** Utilize predetermined digital resources and tools to answer questions or solve problems.

**Objective(s):**

* 1. Follow a plan of action to guide inquiry by using predetermined digital resources.

a. Knows that planning is an important part of the design process

* 1. Locate and organize information from a variety of sources and media.
	2. Review provided resources, explain why they are or are not useful, and use information appropriately.

a. Knows that both objects and systems occur in nature, but people can also design and make objects and systems to solve a problem and to improve the quality of life

b. Knows that tools have specific functions, such as to observe, measure, make things, and do things better or more easily; selecting the right tool makes the task easier

* 1. Identify, read, and report data from charts, graphs, and other sources.

**D. Grade Level Benchmark:** Use technological resources to investigate given questions or problems.

**Objective(s):**

1. Use a variety of technology resources to explore questions or problems.
2. Use technology to decide what information to locate and how to use that information to complete a project.
3. Collect and explain data to identify commonalities or solutions to problems.
4. Explore the different ways that problems may be solved.

a. Knows that planning is an important part of the design process

b. Knows that because there may be multiple solutions to a design problem, each appropriate to different situations, many creative ideas can be useful

**E. Grade Level Benchmark:** Understand and practice appropriate and safe uses of technology.

**Objective(s):**

* 1. Understand that stealing information and things others have created is the same as stealing tangible items.

a. Handles computer equipment with care.

b. Knows that new tools and ways of doing things affect all aspects of life, and may have positive or negative effects on other people

c. Understands that when an individual creates something on a computer, the created work is that person’s property, and only that person has the right to change it.

d. Knows safe and responsible online behaviors

* 1. Be aware of why it is unsafe for students to provide others with information about themselves.

a. Uses computers for a variety of purposes (e.g., playing games, listening and interacting with storybooks, working with numbers, drawing)

* 1. Demonstrate awareness of the importance of communicating with adults about things that might concern them.

a. Knows that man-made materials, products, and systems can affect the environment adversely, yet there are things that can be done to circumvent this process

* 1. Understand why technology is useful in helping them complete a task.

a. Knows safe and responsible online behaviors

* 1. Use technology to explore personal interests.

a. Knows that new tools and ways of doing things affect all aspects of life, and may have positive or negative effects on other people.

* 1. Demonstrate to others how to use technology tools in ways that assist, rather than prevent, others from learning.

**F. Grade Level Benchmark:** Understand basic technology hardware and software and their application.

**Objective(s):**

* 1. Choose the most appropriate technology tool for a given task.

a. Knows that both objects and systems occur in nature, but people can also design and make objects and systems to solve a problem and to improve the quality of life

b. Understands how some elements of simple systems work together

c. Knows that technology is used in medicine to prevent and cure diseases

d. Knows that technology is used to improve what humans get from crops by reducing the amount of work needed, keeping food fresh, and moving it long distances to where people need it

e. Knows that energy comes from different sources

f. Knows that manufacturing technology first creates a complete and detailed design of a product and then produces this product in quantity

g. Knows that there are different types of structures and each one requires different materials and parts

* 1. Demonstrate a basic knowledge of how technology is supposed to function and know when it is not working properly.

a. Understands that actions can control software programs.

b. Uses computers for a variety of purposes (e.g., playing games, listening and interacting with storybooks, working with numbers, drawing)

c. Knows that both objects and systems occur in nature, but people can also design and make objects and systems to solve a problem and to improve the quality of life

d. Knows that tools have specific functions, such as to observe, measure, make things, and do things better or more easily; selecting the right tool makes the task easier

* 1. Know when to seek adult assistance for technology problems.
	2. Explore new technologies using existing skills and knowledge.
		1. Knows basic features of computer software (e.g., file, open, save, help, preview)
		2. Uses basic menu commands and toolbar functions.
		3. Knows names of basic computer hardware (e.g. mouse, keyboard, touch screen)
		4. Uses basic computer hardware (e.g., hunts for specific keys on keyboard, uses mouse)
		5. Knows basic computer hardware (e.g., keyboard and mouse, printer and monitor, optical storage device [such as CD-ROM], case for the CPU [central processing unit])
		6. Powers-up computer, monitor, and starts a computer program (e.g. checks that printer is switched on and on-line; reboots the computer when necessary)
		7. Knows the alphanumeric keys and special keys (e.g. space bar, delete/backspace, return/enter)
		8. Knows proper finger placement on the home row keys

i. Knows ways that technology is used at home and at school to help humans do work and solves problems

j. Knows that people are always inventing new ways to solve problems and accomplish work

k. Knows that most things are made of parts and they may not work if some parts are missing

l. Knows that when parts are put together, they can do things that they couldn’t do by themselves