Arkansas Embedded Computer Science

2nd Grade

Navigating the Digital World 1

1 Digital Communication - Using devices to stay connected with people. 1.1

1. Identify common online interactions and their impacts on others (e.g., testing, watching YouTube, gaming, shared Google project). 1.1.1
2. Identify cyberbullying behaviors and how to get assistance. 1.1.2
3. Explain what it means to have a digital footprint and that online actions can have long-term consequences. 1.1.3
4. Understand basic rules for participating in online communication (e.g., not shouting in ALL CAPS). 1.1.4

2 Digital Privacy & Security - Keeping you safe while exploring and learning online. 1.2

1. Describe strong passwords and strategies for keeping passwords private. 1.2.1
2. Describe the consequences of sharing private information online. 1.2.2
3. Identify the concept of clickbait. 1.2.3

3 Responsible Use of Technology - Developing good habits to use throughout their digital lives. 1.3

1. Describe strategies for balancing screen time including alternate activities (what are smart choices). 1.3.1
2. Acknowledge sources and owners of digital media. 1.3.2
3. Understand that not everything online is true. 1.3.3

Programming Fundamentals 2

1 Computational Thinking - Breaking down big, complex problems into smaller, manageable parts. 2.1

1. Predict patterns in sequences using given rules. 2.1.1
2. Follow a set of instructions (e.g., start-to-finish task, guided drawing, replicate a dance) to solve a problem. 2.1.2
3. Decompose a problem into a sequence of smaller tasks (e.g., planning a short trip, following a map). 2.1.3
4. Recognize when needed information is missing to solve a problem. 2.1.4

2 **Designing Algorithms- Creating sets of instructions for solving problems.** 2.2

1 Follow simple algorithms using visual aids (e.g., diagrams, simple flowcharts). 2.2.1

2 Use debugging strategies (e.g., tracing steps, asking questions) to find and correct errors in a given sequence. 2.2.2

3 **Develop Programming Skills - Learning to create simple instructions for computers to express ideas.** 2.3

1 Identify that a program is a series of code (in blocks or text) that performs a specific task. 2.3.1

2 Use output and events in block-based programming. 2.3.2

Making Decisions with Data 3

1 **Data Collection - Gathering and organizing information to understand the importance of data in everyday life.** 3.1

1 Identify various types of data(e.g., numerical, textual, graphical). 3.1.1

2 Use various tools and methods (e.g., observation, surveys, experiments) for data collection. 3.1.2

3 Understand that data should be accurate and representative. 3.1.3

2 **Data Analysis - Understanding how data can be used to answer questions and make decisions in daily life.** 3.2

1 Draw inferences from identified patterns in data. 3.2.1

2 Describe the difference between qualitative (attribute) and quantitative (numerical) data. 3.2.2

3 Compare and contrast different sets of data. 3.2.3

3 **Data Representation - Presenting data in various ways that make the information easier to understand and analyze.** 3.3

1 Communicate data insights using charts, graphs, or simple explanations. 3.3.1

2 Describe how and why data is used to inform or persuade. 3.3.2

Computing Essentials 4

1 **Computer Components- Focusing on the basic functions of each part of the computer.** 4.1

1 Identify common devices as input, output, or both (e.g., keyboard as input; speaker as output; touchscreen as both). 4.1.1

2 Demonstrate proper physical computer maintenance including handling, cleaning, and organizing. 4.1.2

3 Understand that software provides instructions for the hardware to perform tasks. 4.1.3

4 Identify basic troubleshooting strategies (e.g. turn it off and turn it back on, refresh the page). 4.1.4

2 **Digital Literacy- Using a variety of digital tools to create, communicate, collaborate, and apply learning across subjects.** 4.2

1 Create digital content using word processing software while using basic formatting (e.g., inserting images, changing font color/size, bold, italics, bullets, page layout). 4.2.1

2 Proofread and edit digital content using built-in resources (e.g., spell check, grammar check) to correct errors. 4.2.2

3 Access and manage digital files and folders (e.g., open, save, locate, move). 4.2.3

4 Practice typing with proper posture, correct hand placement, and the ability to locate and type letters, numbers, and symbols. 4.2.4

3 **Connected Devices - Understanding how computers communicate and share information.** 4.3

1 Identify wireless access points as a common network device. 4.3.1

2 Understand that the Internet is used to widely connect people to information and communicate with others. 4.3.2

3 Perform simple device restarts to troubleshoot network issues. 4.3.3