Arkansas Embedded Computer Science

3rd Grade

Navigating the Digital World 1

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

1. Practice respectful online interactions, including writing an email. 1.1.1
2. Recognize when online interactions may be inappropriate or unsafe, and how to disengage and/or ask for help. 1.1.2
3. Describe what attributes make up a digital footprint. 1.1.3
4. Participate safely and appropriately in online school-based communication (e.g., learning management system, class email). 1.1.4

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

1. Identify strategies (e.g., using different passwords for each site) to protect personal information online. 1.2.1
2. Describe how and why people could be dishonest online. 1.2.2
3. Describe strategies for identifying a safe website. 1.2.3

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

1. Explain why balancing screen time is important, identifying potential effects, and suggesting strategies. 1.3.1
2. Understand why you give credit for the work of others. 1.3.2
3. Understand the importance of academic honesty (academic integrity). 1.3.3

Programming Fundamentals 2

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

1. Use pattern recognition to aid in problem solving. 2.1.1
2. Create a clear and ordered set of instructions that can be followed to complete a given, familiar task. 2.1.2
3. Decompose a problem into subtasks to aid in problem solving. 2.1.3
4. Explain how to identify relevant information when problem solving. 2.1.4

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

1 Use visual aids (e.g., flowcharts, diagrams) to arrange algorithms in a logical sequence. 2.2.1

2 Use debugging strategies to identify and correct errors in algorithms. 2.2.2

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

1 Discuss how variables are used to label memory locations for storage. 2.3.1

2 Use block based coding to create programs that include using variables, user input, arithmetic operators (+, -, /, *). 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 Understand that data is information collected for answering questions. 3.1.1

2 Formulate appropriate questions for data collection. 3.1.2

3 Discuss the concept of accuracy when collecting data. 3.1.3

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

1 Define pattern, trend, and relationship in terms of data. 3.2.1

2 Draw conclusions supported by evidence. 3.2.2

3 Formulate relevant questions for identifying patterns, trends, and relationships in terms 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 Create appropriate visualizations to communicate data insights. 3.3.1

2 Communicate data insights informatively. 3.3.2

Computing Essentials 4

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

1 Recognize the CPU (Central Processing Unit) as the brain of the computer. 4.1.1

2 Apply effective cleaning techniques to maintain computing devices. 4.1.2

3 Identify the different ways to store data (e.g., internal disk drives, USB drives, cloud storage). 4.1.3

4 Apply systematic troubleshooting methods for common problems(e.g, check power, connections, restart). 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 presentations, applying formatting (e.g., paragraph/line spacing, page layout, images, themes). 4.2.1
2. Proofread and edit digital content (e.g., adding, moving, deleting text, rephrasing text, refining images) to improve clarity and impact. 4.2.2
3. Demonstrate basic digital file organization by saving into existing folders. 4.2.3
4. Practice typing words and sentences using ergonomic practices (e.g, body posture, lighting, wrist position). 4.2.4

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

1. Understand that cables connect some network equipment (e.g., Ethernet cables) that help move information quickly. 4.3.1
2. Identify that the Internet is a global network of computers that communicate using protocols. 4.3.2
3. Recognize visual clues and symbols from network devices, such as routers or error messages, that indicate problems 4.3.3