Arkansas Computer Science and Computing Standards

2020

Computer Science and Computing Practices

Students exhibit proficiency in computer science and computing through:

Communication - Students effectively communicate, using accurate and appropriate terminology, when explaining the task completion or problem solving strategies used. They recognize that creating good documentation is an ongoing and important part of the communication process.

    Collaboration - Students productively work with others while ensuring multiple voices are heard and considered. They understand that diverse thoughts may lead to creative solutions and that some problems may be best solved collaboratively.

    Storytelling - Students creatively combine multimedia tools, such as graphics, animations, and videos with research, writing, and oral presentations to create ethical, data-driven stories.

Professionalism - Students embrace professionalism by demonstrating skills and behaviors necessary for success in technical careers.

    Ethics and Impact - Students comprehend the ramifications of actions prior to taking them. They are aware of their own digital and cyber presence and its impact on other individuals and society.

    Inclusion - Students encourage diversity in the field of computer science and computing regardless of race, ethnicity, gender, or other differences.

    Learning by Failure - Students reflect upon and critique their work while embracing a willingness to seek feedback and constructive instruction from teachers and peers. They utilize the feedback to continually improve current projects, educational experiences, knowledge, and confidence.

    Perseverance - Students expect difficulties and persist in overcoming challenges that occur when completing tasks. They recognize making and correcting mistakes is necessary for the learning process while problem solving.

Understanding - Students recognize patterns, utilize tools, and apply problem solving strategies to build understanding, find solutions, and successfully deliver high-quality work.

    Patterns - Students understand and utilize the logical structure of information through identifying patterns and creating conceptual models. They decompose complex problems into simpler modules and patterns.

    Problem Solving - Students exhibit proficiency through the process of identifying and systematically solving problems. They recognize problem solving is an ongoing process.

    Research - Students purposefully gather information and seek to expand their knowledge through various methods and mediums. They embrace the practice of gaining knowledge to develop novel approaches for solving problems and addressing issues they have not previously encountered, in addition to merely searching for answers.

    Tools - Students evaluate and select tools to be used when completing tasks and solving problems. They understand that appropriate tools may include, but are not limited to, their mind, pencil and paper, manipulatives, software applications, programming languages, or appropriate computing devices.