

AP Computer Science Principles

- PS 1 Students will use computing tools and techniques to create artifacts. ([Strand 1, Standard 1](#))
- PS 2 Students will use computing tools and techniques for creative expression. ([Strand 1, Standard 2](#))
- PS 3 Students will use programming as a creative tool. (Strand 1, Standard 3)
- PS 4 Students will describe the combination of abstractions used to represent data ([Strand 2, Standard 1](#))
- PS 5 Students will explain how binary sequences are used to represent digital data. ([Strand 2, Standard 1](#))
- PS 6 Students will develop an abstraction. ([Strand 2, Standard 2](#))
- PS 7 Students will use multiple levels of abstraction in computation. ([Strand 2, Standard 2](#))
- PS 8 Students will use models and simulations to raise and answer questions. ([Strand 2, Standard 3](#))
- PS 9 Students will use large data sets to explore and discover information and knowledge. ([Strand 3, Standard 2](#))
- PS 10 Students will understand how computational manipulation of information requires consideration of representation, storage, security, and transmission. ([Strand 3, Standard 3](#))
- PS 11 Students will analyze the considerations involved in the computational manipulation of information. ([Strand 3, Standard 3](#))
- PS 12 Students will understand how an algorithm is a precise-sequence of instructions for a process that can be executed by a computer. ([Strand 4, Standard 1](#))
- PS 13 Students will develop an algorithm designed to be implemented to run on a computer. ([Strand 4, Standard 1](#))

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- PS 14 Students will explain how programs implement algorithms. ([Strand 5, Standard 1](#))
- PS 15 Students will use abstraction to manage complexity in programs. ([Strand 5, Standard 2](#))
- PS 16 Students will collaborate to solve a problem using programming. ([Strand 5, Standard 3](#))
- PS 17 Students will employ appropriate mathematical and logical concepts in programming. ([Strand 5, Standard 4](#))
- PS 18 Students will explain the abstractions in the Internet and how the Internet functions. ([Strand 6, Standard 1](#))
- PS 19 Students will connect the concern of cybersecurity with the Internet and the systems built on it. ([Strand 6, Standard 3](#))
- PS 20 Students will analyze how computing affects communication, interaction, and cognition. ([Strand 7, Standard 1](#))
- PS 21 Students will connect computing with innovations in other fields. ([Strand 7, Standard 2](#))
- PS 22 Students will analyze the beneficial and harmful effects of computing. ([Strand 7, Standard 3](#))
- PS 23 Students will connect computing within economic, social, and cultural contexts. ([Strand 7, Standard 4](#))
- PS 24 Students will explain how data, information, or knowledge are represented for computational use. ([Strand 8, Standard 3](#))
- PS 25 Students will collaborate with other students to solve computational problems. ([Strand 8, Standard 6](#))