

Grade 4 (Ages 9–10)

Concept	Identifier	Standard
Algorithms & Design	E4-ALG-PS-01	Create a written representation of an algorithm that includes a combination of sequence, events, iteration, and selection to solve a problem or express an idea.
	E4-ALG-ML-02	Analyze relationships between the properties of training data and a machine learning model's output.
	E4-ALG-IM-03	Evaluate how different algorithms for solving the same problem produce outcomes that may benefit or disadvantage different groups of people.
Programming	E4-PRO-PD-04	Compare different programming solutions to the same problem based on correctness and clarity.
	E4-PRO-PD-05	Collaborate with a team by offering a meaningful contribution to creating a program.
	E4-PRO-VD-06	Trace how data flows and changes variable values in a program.
	E4-PRO-RD-07	Document a program to clarify its functionality.
	E4-PRO-TR-08	Debug a program incrementally and repeatedly throughout the development process.
Data & Analysis	E4-DAT-DC-09	Organize collected data into a table using a computational tool, with rows representing records and columns representing attributes.
	E4-DAT-DI-10	Create an explanation that includes at least one data visualization to report the process and results of a data investigation.
	E4-DAT-IM-11	Investigate how data collected about people may affect individuals and groups.
Systems & Security	E4-SYS-HW-12	Apply a basic troubleshooting process to identify and fix common hardware and software issues.
	E4-SYS-SE-13	Distinguish between authentication and authorization in protecting devices and private information.
	E4-SYS-NT-14	Compare wired and wireless methods that computing devices use to connect to the internet.
	E4-SYS-IM-15	Investigate the impacts of widely used computing systems on natural resources and the environment.
Computing & Society	E4-SOC-HI-16	Investigate the contributions of diverse individuals and communities in the history of computing.
	E4-SOC-ET-17	Analyze how the limitations of existing technologies can lead to emerging technologies.
	E4-SOC-HU-18	Distinguish between human learning and machine learning processes.
	E4-SOC-CE-19	Investigate how the workforce adopts new computing technologies and continues to update their computing skills.