

5.IC.5 Impacts of Computing

The student will examine the effects of social interactions due to computing technologies. (a) List and explain how advances in computing technologies impact communication and collaboration. (b) Describe how computing technologies can be designed to engage and interact with users including those with diverse needs. (c) Evaluate activities conducted in the physical and online environments. (d) Create an artifact that illustrates a solution to address the need or want of a user.



Integration Opportunities

Math 5.PS.1 Students observe and record social interactions during selected group projects. They then analyze the data to see how participation levels vary between physical and digital spaces and explore the correlation to overall collaboration and learning outcomes.

Science 5.1b Use tools and/or materials to design and/or build a device that solves a specific problem.

History USI.8e Explain the impact of technological advancements and innovations on their effects of life in America.

Health 5.3.m, 5.2.n, 5.3.n Explore how computing technology influences personal relationships and self-image. Identify social skills and activities that promote positive healthy relationships.

Understanding the Standard

The development of new computing technologies is greatly influenced by the wants and needs of different groups of people. In turn, technological developments can also have an effect on society. Students will identify computing technologies that have changed the world in history or more recent times. Areas to examine may include communication, collaboration, and automation. As many of today's activities exist in both the physical world and in the digital world, fifth graders should begin to notice the strengths and struggles encountered when participating both physically and virtually. Students will explain how technology and society influence each other and ideate solutions for new problems using computing technology.

Term	Definition
Communication	The act of giving, receiving, or sharing information. (from Common Sense Media)
Collaboration	The process of working together to achieve a goal.

Prerequisite Knowledge

Students should have a foundational knowledge of identifying cause and effect relationships.

Summary of a Lesson

As a whole group, students will compose a definition for the terms "compute" and "technology" and discuss examples of computing technologies they use every day. The whole group will then create a list of fields in which a computing technology has been developed (e.g. communication, finance, manufacturing). In pairs or groups of three, students will select a decade and field and identify one example of computing technology that has significantly changed our daily life. Teams will create a comparison chart showing how people addressed specific issues before and after their chosen technology and make predictions for how it might change in the future and what kind of problem it might solve or create.