

6.IC.1 Impacts of Computing

The student will assess the impact of computing technologies on local society. (a) Explain how computing impacts innovation and describe the development of new computing technologies in communication, entertainment, and business. (b) Discuss how computing technologies have influenced various industries and sectors locally. (c) Research simple and complex problems that computing systems can be used to solve. (d) Analyze the implications of emerging technologies and potential real-world impact in the local community.



Integration Opportunities

History USII.9a Assess the impacts of interactive and ongoing advancements in technology.

Visual Arts 6.6 Explain how computing technologies influence works of art.

Music 6.6 Explain how computing technologies impact the development of music and music styles.

English 6.R.1a,b Identify how innovations in computing technology have impacted the local community in various industries.

Understanding the Standard

Computing involves processing information and running programs. Throughout history, as the need to increase production, process large amounts of information, and communicate became more demanding, computing became more common in many fields. Computing affects not only the computer science fields, but also the fields of manufacturing, retail, finance, healthcare and transportation. Engaging with this standard involves having students identify how computing is used in the context of local industries. Obviously, the specifics of this topic will vary from locale to locale. The best way to get a sense of how computing is used in local industries and what the impacts of emerging technologies might be is to engage with community members and invite them to speak with your students about their career and the role of computing in it.

This standard is very closely related to 6.IC.3, which also focuses on career pathways and the role of computing in those careers.

Term	Definition
Computing	The use of computer technology to solve problems and perform tasks.

Prerequisite Knowledge

To engage with this standard, students should have previous experience using researching skills, identifying reliable sources and analyzing documents.

Summary of a Lesson

Brainstorm with students about what constitutes a computing technology. What are some examples of computing technology students use in their lives? Then break students into groups (4-5 students each) and assign each group a different industry (e.g. agriculture, manufacturing, retail, finance, healthcare, transportation, etc). The teacher will provide each group with a handout and resources of how computing technology has impacted their industry. Instruct each group to do additional research on the impact of computing technology in their assigned industry. Once the group has completed their research students will present their research in a powerpoint presentation or other tool. To supplement this activity, invite members of the community to share details about the role of computing in their industry with the class, either as part of an in-person visit or virtually through video. *Note: This lesson also aligns with 6.IC.3*