

# Unit 1-4C Technology in a Global Society

Content Area: **Technology**  
Course(s): **Technology 6**  
Time Period: **MP1-4**  
Length: **Once per week**  
Status: **Published**

## Essential Questions

---

- How does the use of technological devices affect our lives, community, and the world?
- How can I use technology to make the world a better place?
- How can we be responsible users of technology?
- What's the difference between the Internet and the World Wide Web?
- What are blogs and wikis and why can they be useful tools?
- What are the risks of giving too much information on Facebook or similar social networking sites?
- How does culture, social, economic, and politics affect technology?
- What role does society play in the development and use of technology?
- How has technology influenced history?
- How can I use the design process to create a product or solve a problem?

## Big Ideas

---

- The process includes generating ideas, choosing the best solution, and making, testing, and redesigning models or prototypes.
- Engineering design requirements and specifications involve making trade-offs between competing requirements and desired design features.
- Technology advances through the processes of innovation and invention which relies upon the imaginative and inventive nature of people.
- Sometimes a technology developed for one purpose is adapted to serve other purposes.
- Engineers use a systematic process of creating or modifying technologies that is fueled and constrained by physical laws, cultural norms, and economic resources.
- Scientists use systematic investigation to understand the natural world.
- Computer models can be used to simulate events, examine theories and inferences, or make predictions.
- Advancements in computing technology can change individuals' behaviors. Society is faced with trade-offs due to the increasing globalization and automation that computing brings.

## Enduring Understandings

---

- 8.2.8.ITH.2: Compare how technologies have influenced society over time.
- 8.2.8.ITH.3: Evaluate the impact of sustainability on the development of a designed product or system.
- 8.2.8.ITH.4: Identify technologies that have been designed to reduce the negative consequences of other technologies and explain the change in impact.
- 8.2.8.ITH.5: Compare the impacts of a given technology on different societies, noting factors that may

make a technology appropriate and sustainable in one society but not in another.

- 8.2.8.NT.4: Explain how a product designed for a specific demand was modified to meet a new demand and lead to a new product.
- 8.1.8.DA.6: Analyze climate change computational models and propose refinements.
- 8.1.8.IC.2: Describe issues of bias and accessibility in the design of existing technologies.

## **Cross-Curricular Integration**

---

### **English Language Arts**

- RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks
- RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.
- RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.
- SL.6.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.
- SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

### **Science**

- MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

## **Career Readiness, Life Literacies and Key Skills Integration**

---

### **Performance Expectations**

- 9.4.8.CI.3: Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
- 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries.
- 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to

determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1)

- 9.4.8.DC.3: Describe tradeoffs between allowing information to be public (e.g., within online games) versus keeping information private and secure.
- 9.4.8.DC.4: Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.
- 9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.
- 9.4.8.DC.6: Analyze online information to distinguish whether it is helpful or harmful to reputation.
- 9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).
- 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
- 9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information.
- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b)
- 9.4.8.IML.7: Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).
- 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
- 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.8.TL.4: Synthesize and publish information about a local or global issue or event (e.g., MSLS4-5, 6.1.8.CivicsPI.3).
- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

## **Practices**

- Act as a responsible and contributing community member and employee.
- Consider the environmental, social and economic impacts of decisions.
- Demonstrate creativity and innovation
- Utilize critical thinking to make sense of problems and persevere in solving them

- Model integrity, ethical leadership and effective management.
- Plan education and career paths aligned to personal goals
- Use technology to enhance productivity, increase collaboration and communicate effectively.
- Work productively in teams while using cultural/global competence.

## **Activities and Assessments**

---

- *(Current Events)* Technology and a Product's history/sustainability; presentation to class
- *(Current Events)* Technology and Ethics; presentation to class
- Activity Resources: National Institute of Environmental Health Sciences:  
<http://kids.niehs.gov/index.htm>

## **Additional Resources**

---

- Glacier in a fridge: Student scientists at work on climate change: <https://newsela.com/read/student-climate-scientists-pt-3/id/2001015327/> (**Climate Change**)
- The Intelligent Robot | Curious:  
<https://ny.pbslearningmedia.org/resource/vt107.la.ws.research.intelrobot/the-intelligent-robot/>
- Technology Over Time:  
<https://ny.pbslearningmedia.org/resource/ate10.sci.engin.design.techvertime/technology-over-time/>
- Technology in WildLife Medicine: <https://ny.pbslearningmedia.org/resource/technology-in-wildlife-medicine-video/untamed-the-wildlife-center-of-virginia/>
- Cyber Bullying Text Set: <https://newsela.com/subject/other/2000450526> (**Holocaust Law/SEL**)
- NOVA scienceNOW: What Will the Future Be Like? | Wearable Robots:  
<https://ny.pbslearningmedia.org/resource/nsn12.sci.engin.design.robots/wearable-robots/>