



## PLTW - Standards Alignment

Our programs are designed to empower students to thrive in an evolving world. As a part of this, we take standards alignment into account when developing and updating our curriculum. We define alignment as:

- Students complete a designated task(s) that demonstrates the outlined knowledge and/or skills of the specific standard or objective.
- Our multidisciplinary programs align to a variety of standards and provide districts and schools with the flexibility to tailor programs to meet their specific state or local requirements as needed.

The AP Computer Science A course vertically aligns with subconcepts in the “Algorithms and Programming” core concept in the Computer Science Teachers Association (CSTA) K-12 Computer Science Framework. Subconcepts extended in the AP Computer Science A course include modularity, variables, and control. This vertical alignment allows K-12 CS teachers to make connections from their high school courses to the college-equivalent AP Computer Science course.

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**Computing Systems**

3A-CS-01 Explain how abstractions hide the underlying implementation details of computing systems embedded in everyday objects.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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**Networks & the Internet**

3A-NI-08 Explain tradeoffs when selecting and implementing cybersecurity recommendations.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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**Data & Analysis**

3A-DA-10 Evaluate the trade-offs in how data elements are organized and where data is stored.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3A-DA-12 Create computational models that represent the relationships among different elements of data collected from a phenomenon or process.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

**Algorithms & Programming**

3A-AP-13 Create prototypes that use algorithms to solve computational problems by leveraging prior student knowledge and personal interests.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

3A-AP-14 Use lists to simplify solutions, generalizing computational problems instead of repeated use of simple variables.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3A-AP-15 Justify the selection of specific control structures when trade-offs involve implementation, readability, and program performance, and explain the benefits and drawbacks of choices made.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

3A-AP-16 Design and iteratively develop computational artifacts for practical intent, personal expression, or to address a societal issue by using events to initiate instructions.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

## Computer Science Teachers Association K-12 Computer Science Standards (3A)

3A-AP-17 Decompose problems into smaller components through systematic analysis, using constructs such as procedures, modules, and/or objects.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

3A-AP-18 Create artifacts by using procedures within a program, combinations of data and procedures, or independent but interrelated programs.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

3A-AP-21 Evaluate and refine computational artifacts to make them more usable and accessible.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3A-AP-22 Design and develop computational artifacts working in team roles using collaborative tools.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Computer Science Teachers Association K-12 Computer Science Standards (3A)

3A-AP-23 Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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### Impacts of Computing

3A-IC-24 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
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Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3A-IC-28 Explain the beneficial and harmful effects that intellectual property laws can have on innovation.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3A-IC-29 Explain the privacy concerns related to the collection and generation of data through automated processes that may not be evident to users.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

**Computer Science Teachers Association K-12 Computer Science Standards (3A)**

3A-IC-30 Evaluate the social and economic implications of privacy in the context of safety, law, or ethics.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
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Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

**Networks & the Internet**

3B-NI-04 Compare ways software developers protect devices and information from unauthorized access.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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**Data & Analysis**

3B-DA-05 Use data analysis tools and techniques to identify patterns in data representing complex systems.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-DA-06 Select data collection tools and techniques to generate data sets that support a claim or communicate information.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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**Algorithms & Programming**

3B-AP-10 Use and adapt classic algorithms to solve computational problems.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Computer Science Teachers Association K-12 Computer Science Standards (3B)

3B-AP-11 Evaluate algorithms in terms of their efficiency, correctness, and clarity.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-12 Compare and contrast fundamental data structures and their uses.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-14 Construct solutions to problems using student-created components, such as procedures, modules, and/or objects.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-15 Analyze a large-scale computational problem and identify generalizable patterns that can be applied to a solution.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
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Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Computer Science Teachers Association K-12 Computer Science Standards (3B)

3B-AP-16 Demonstrate code reuse by creating programming solutions using libraries and APIs.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-17 Plan and develop programs for broad audiences using a software life cycle process.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-20 Use version control systems, integrated development environments (IDEs), and collaborative tools and practices (code documentation) in a group software project.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-21 Develop and use a series of test cases to verify that a program performs according to its design specifications.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Computer Science Teachers Association K-12 Computer Science Standards (3B)

3B-AP-22 Modify an existing program to add additional functionality and discuss intended and unintended implications (e.g., breaking other functionality).

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

3B-AP-23 Evaluate key qualities of a program through a process such as a code review.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Standards for Technological and Engineering Literacy

### STEL 1 Nature and Characteristics of Technology and Engineering

STEL-1N Explain how the world around them guides technological development and engineering design.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-1O Assess how similarities and differences among scientific, mathematics, engineering, and technological knowledge and skills contributed to the design of a product or system.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-1P Analyze the rate of technological development and predict future diffusion and adoption of new technologies.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-1Q Conduct research to inform intentional inventions and innovations that address specific needs and wants.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

## Standards for Technological and Engineering Literacy

STEL-1R Develop a plan that incorporates knowledge from science, mathematics, and other disciplines to design or improve a technological product or system.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

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## STEL 2 Core Concepts of Technology and Engineering

STEL-2T Demonstrate the use of conceptual, graphical, virtual, mathematical, and physical modeling to identify conflicting considerations before the entire system is developed and to aid in design decision making.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-2U Diagnose a flawed system embedded within a larger technological, social, or environmental system.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-2V Analyze the stability of a technological system and how it is influenced by all of the components in the system, especially those in the feedback loop.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Standards for Technological and Engineering Literacy

STEL-2W Select resources that involve tradeoffs between competing values, such as availability, cost, desirability, and waste while solving problems.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-2X Cite examples of the criteria and constraints of a product or system and how they affect final design.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-2Y Implement quality control as a planned process to ensure that a product, service, or system meets established criteria.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-2Z Use management processes in planning, organizing, and controlling work.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Standards for Technological and Engineering Literacy

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### STEL 3 Integration of Knowledge, Technologies, and Practices

STEL-3H Analyze how technology transfer occurs when a user applies an existing innovation developed for one function for a different purpose.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-3I Evaluate how technology enhances opportunities for new products and services through globalization.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-3J Connect technological progress to the advancement of other areas of knowledge and vice versa.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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### STEL 4 Impacts of Technology

STEL-4P Evaluate ways that technology can impact individuals, society, and the environment.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Standards for Technological and Engineering Literacy

STEL-4S Develop a solution to a technological problem that has the least negative environmental and social impact.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-4T Evaluate how technologies alter human health and capabilities.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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## STEL 5 Influence of Society on Technological Development

STEL-5H Evaluate a technological innovation that arose from a specific society's unique need or want.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-5I Evaluate a technological innovation that was met with societal resistance impacting its development.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

## Standards for Technological and Engineering Literacy

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### STEL 6 History of Technology

STEL-6F Relate how technological development has been evolutionary, often the result of a series of refinements to basic inventions or technological knowledge.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-6H Evaluate how technology has been a powerful force in reshaping the social, cultural, political, and economic landscapes throughout history.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-6J Investigate the widespread changes that have resulted from the Information Age, which has placed emphasis on the processing and exchange of information.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

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### STEL 7 Design in Technology and Engineering Education

STEL-7W Determine the best approach by evaluating the purpose of the design.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

## Standards for Technological and Engineering Literacy

STEL-7X Document trade-offs in the technology and engineering design process to produce the optimal design.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-7Y Optimize a design by addressing desired qualities within criteria and constraints.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-7Z Apply principles of human-centered design.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-7AA Illustrate principles, elements and factors of design.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

## Standards for Technological and Engineering Literacy

STEL-7BB Implement the best possible solution to a design.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-7CC Apply a broad range of design skills to their design process.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-7DD Apply a broad range of making skills to their design process.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input checked="" type="checkbox"/>	Unit 1.3 <input checked="" type="checkbox"/>	Unit 1.4 <input checked="" type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input checked="" type="checkbox"/>	Unit 4.10 <input checked="" type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

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## STEL 8 Applying, Maintaining, and Assessing Technological Products and Systems

STEL-8N Use various approaches to communicate processes and procedures for using, maintaining, and assessing technological products and systems.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

## Standards for Technological and Engineering Literacy

STEL-8O Develop a device or system for the marketplace.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input checked="" type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-8P Apply appropriate methods to diagnose, adjust and repair systems to ensure precise, safe and proper functionality.

Chapter 1:	Unit 1.1 <input checked="" type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input checked="" type="checkbox"/>	Unit 2.6 <input checked="" type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input checked="" type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input checked="" type="checkbox"/>	

STEL-8Q Synthesize data and analyze trends to make decisions about technological products, systems, or processes.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input checked="" type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	

STEL-8R Interpret the results of technology assessment to guide policy development.

Chapter 1:	Unit 1.1 <input type="checkbox"/>	Unit 1.2 <input type="checkbox"/>	Unit 1.3 <input type="checkbox"/>	Unit 1.4 <input type="checkbox"/>
Chapter 2:	Unit 2.4 <input checked="" type="checkbox"/>	Unit 2.5 <input type="checkbox"/>	Unit 2.6 <input type="checkbox"/>	
Chapter 3:	Unit 3.6 <input type="checkbox"/>	Unit 3.7 <input type="checkbox"/>	Unit 3.8 <input type="checkbox"/>	Unit 3.9 <input type="checkbox"/>
Chapter 4:	Unit 4.9 <input type="checkbox"/>	Unit 4.10 <input type="checkbox"/>	Unit 4.11 <input type="checkbox"/>	