

# Technology Skills Embedded the Common Core Standards

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Below are all of the places technology skills are referenced in the Common Core State Standards. While technology can be infused into any of the common core standards, it might be helpful for technology staff, media specialists, curriculum coordinators, and teachers to know where technologies are specifically mentioned Common Core documents. Technology skills are alluded to in some grade level standards in that technology tools could be used to complete the task or discover content.

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## Common Core State Standards for Mathematics

The Standards for Mathematical Practice make reference to technology tools with the expectation that these tools will be applied across all grade levels. These standards are to be embedded throughout each course's curriculum. Each grade level also has mathematical content standards which do not specify the technology tools to be used as these standards provide the specific math concepts, procedures, and skills that students will learn.

### Standards for Mathematical Practice

#### 5. Use appropriate tools strategically.

Mathematically proficient students consider the available tools when solving a mathematical problem. These tools might include pencil and paper, concrete models, a ruler, a protractor, **a calculator, a spreadsheet, a computer algebra system, a statistical package, or dynamic geometry software**. Proficient students are sufficiently familiar with tools appropriate for their grade or course to make sound decisions about when each of these tools might be helpful, recognizing both the insight to be gained and their limitations. For example, mathematically proficient high school students analyze graphs of functions and solutions generated using a graphing calculator. They detect possible errors by strategically using estimation and other mathematical knowledge. When making mathematical models, they know that technology can enable them to visualize the results of varying assumptions, explore consequences, and compare predictions with data. Mathematically proficient students at various grade levels are able to identify relevant external mathematical resources, such as **digital content located on a website**, and use them to pose or solve problems. They are able to use technological tools to explore and deepen their understanding of concepts.

## Common Core State Standards for English Language Arts

### Key Design Consideration

To be ready for college, workforce training, and life in a technological society, students need the ability to gather, comprehend, evaluate, synthesize, and report on information and ideas, to conduct original research in order to answer questions or solve problems, and to analyze and create a high volume and extensive range of print and **nonprint texts in media** forms old and new. The need to conduct research and to **produce and consume media** is embedded into every aspect of today's curriculum. In like fashion, research and media skills and understandings are embedded throughout the Standards rather than treated in a separate section.

## “Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language”

### They use technology and digital media strategically and capably.

Students **employ technology thoughtfully to enhance their reading, writing, speaking, listening, and language use**. They tailor their **searches online** to acquire useful information efficiently, and they integrate what they learn using technology with what they learn offline. They are familiar with the strengths and limitations of **various technological tools and mediums** and can select and use those best suited to their communication goals.

## College and Career Readiness (CCR) Anchor Standards for Reading

7. **Integrate and evaluate content presented in diverse media and formats**, including visually and quantitatively, as well as in words.

### Grade Level Standards in Reading

#### RL.4.7

Make connections between the text of a story or drama and a visual or oral presentation of the text, identifying where each version reflects specific descriptions and directions in the text.

#### RL.5.7

Analyze how visual and multimedia elements contribute to the meaning, tone, or beauty of a text (e.g., graphic novel, multimedia presentation of fiction, folktale, myth, poem).

#### RL.6.7

Compare and contrast the experience of reading a story, drama, or poem to listening to or viewing an audio, video, or live version of the text, including contrasting what they “see” and “hear” when reading the text to what they perceive when they listen or watch.

#### RL.7.7

Compare and contrast a written story, drama, or poem to its audio, filmed, staged, or multimedia version, analyzing the effects of techniques unique to each medium (e.g., lighting, sound, color, or camera focus and angles in a film).

#### RL.8.7

Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.

#### RI.4.7

Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

#### RI.5.7

Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

#### RI.6.7

Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

### RI.7.7

Compare and contrast a text to an audio, video, or multimedia version of the text, analyzing each medium's portrayal of the subject (e.g., how the delivery of a speech affects the impact of the words).

### RI.8.7

Evaluate the advantages and disadvantages of using different mediums (e.g., print or digital text, video, multimedia) to present a particular topic or idea.

### RI.9-10.7

Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.

### RI.11-12.7

Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

### RH.6-8.7

Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

### RH.9-10.7

Integrate quantitative or technical analysis (e.g., charts, research data) with qualitative analysis in print or digital text.

### RH.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, as well as in words) in order to address a question or solve a problem.

### RST.6-8.9

Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.

## College and Career Readiness (CCR) Anchor Standards for Writing

**6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.**

**8. Gather relevant information from multiple print and digital sources**, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

## Grade Level Standards in Writing

### W.6.2a

Introduce a topic; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

### W.7.2a

Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

### **W.8.2a**

Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

### **WHST.6-8.2a**

Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information into broader categories as appropriate to achieving purpose; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

### **W.K.6, W.1.6, and W.2.6**

With guidance and support from adults, explore a variety of digital tools to produce and publish writing, including in collaboration with peers.

### **W.3.6**

With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.

### **W.4.6**

With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting.

### **W.5.6**

With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.

### **W.6.6**

Use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of three pages in a single sitting.

### **W.7.6**

Use technology, including the Internet, to produce and publish writing and link to and cite sources as well as to interact and collaborate with others, including linking to and citing sources.

### **W.8.6**

Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.

### **WHST.6-8.6**

Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

### **W.9-10.6**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.

### **W.11-12.6**

Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

### W.3.8

Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

### W.4.8

Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

### W.5.8

Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

### W.6.8

Gather relevant information from multiple print and digital sources; assess the credibility of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and providing basic bibliographic information for sources.

### W.7.8, W.8.8 and WHST.6-8.8

Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

### W.9-10.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

### W.11-12.8

Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

## College and Career Readiness (CCR) Anchor Standards for Speaking & Listening

2. **Integrate and evaluate information presented in diverse media and formats**, including visually, quantitatively, and orally.

5. Make **strategic use of digital media and visual displays of data to express information** and enhance understanding of presentations.

### Note on range and content of student speaking and listening

New technologies have broadened and expanded the role that speaking and listening play in acquiring and sharing knowledge and have tightened their link to other forms of communication. Digital texts confront students with the potential for continually updated content and dynamically changing combinations of words, graphics, images, hyperlinks, and embedded video and audio.

## Grade Level Standards in Speaking and Listening

### 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.

### SL.7.2

Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text, or issue under study.

### SL.8.2

Analyze the purpose of information presented in diverse media and formats (e.g., visually, quantitatively, orally) and evaluate the motives (e.g., social, commercial, political) behind its presentation.

### SL.9-10.2

Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.

### SL.11-12.2

Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

### SL.9-10.5 and SL.11-12.5

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

### SL.3.5

Create engaging audio recordings of stories or poems that demonstrate fluid reading at an understandable pace; add visual displays when appropriate to emphasize or enhance certain facts or details.

### SL.4.5

Add audio recordings and visual displays to presentations when appropriate to enhance the development of main ideas or themes.

### SL.5.5

Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

### SL.6.5

Include multimedia components (e.g., graphics, images, music, sound) and visual displays in presentations to clarify information.

### SL.7.5

Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

### SL.8.5

Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.

## Grade Level Standards in Language

Although the CCR anchor standards for language themselves do not specifically reference using technology some of the grade level standards do.

### L.3.4d

Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.

### L.4.4c and L.5.4c

Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.

### L.6.4c

Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

### L.7.4c and L.8.4c

Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning or its part of speech.

### L.9-10.4c

Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology.

### L.11-12.4c

Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.