FIRST® Tech Challenge Common Core English/Language Arts Standards Alignment & Instructional Exemplars

Rationale

Color Code

There is no evidence that the standard is addressed as part of a *FIRST*® program.

This standard potentially could be addressed as part of a *FIRST*® program either by actions that the coach/mentor takes when working with the students or by conditions established by the program for that given year.

The standard is clearly addressed by program activities.

Anchor	Anchor Strand	Cluster	Cluster Strand	Standard	Indicator/Skill	<i>FIRST</i> ® Alignment	Instructional Exemplar
College and Career Readiness Anchor Standards for Reading	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	Reading: Literature	Key Ideas and Details	RL.8.1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.		Not Applicable
College and Career Readiness Anchor Standards for Reading	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.	Reading: Informational Text	Key Ideas and Details	RI.8.1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.		As students research to find answers to questions that arise during robot design, construction, programming, and operation, students will quote sources and draw inferences to support their position.
College and Career Readiness	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	Reading: Literature	Key Ideas and Details	RL.8.2	Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.		Not Applicable
College and Career Readiness	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	Reading: Informational Text	Key Ideas and Details	RI.8.2	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.		As students research to find answers to questions that arise during robot design, construction, programming, and operation, students will summarize the main ideas and supporting details from informational text.
College and Career Readiness	Analyze how and why individuals, events, or ideas develop and interact over the course of a text.	Reading: Literature	Key Ideas and Details	RL.8.3	Analyze how particular lines of dialogue or incidents in a story or drama propel the action, reveal aspects of a character, or provoke a decision		Not Applicable
College and Career Readiness	Analyze how and why individuals, events, or ideas develop and interact over the course of a text.	Reading: Informational Text	Key Ideas and Details	RI.8.3	Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories).		Depending upon the questions that arise during robot design, construction, programming, and operation, students may have the opportunity to analyze how individuals and events influence the development of an idea.
College and Career Readiness Anchor Standards for Reading	Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.	Reading: Literature	Craft and Structure	RL.8.4	Determine the meaning of words and phrases as they are used in a text, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.		Not Applicable

College and Career Readiness Anchor Standards for Reading Anchor Standards for Reading	ing Reading: itive Informational	Craft and Structure	RI.8.4	Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the impact of specific word choices on meaning and tone, including analogies or allusions to other texts.	Depending upon the nature of the informational text, students may have the opportunity to make sense of words and phrases they encounter, to examine how the word choice affects the meaning and tone of the piece, and to determine the meaning of analogies and allusions used to craft an argument.
Analyze the structure of texts, ind how specific sentences, paragraj larger portions of the text (e.g., a chapter, scene, or stanza) relate other and the whole.	section, Literature	Craft and Structure	RL.8.5	Compare and contrast the structure of two or more texts and analyze how the differing structure of each text contributes to its meaning and style.	Not Applicable
College and Career Readiness Anchor Standards for Reading Anchor Standards for Reading the sentences, paragray larger portions of the text (e.g., a chapter, scene, or stanza) relate other and the whole.	ohs, and Reading:	Craft and Structure	RI.8.5	Analyze in detail the structure of a specific paragraph in a text, including the role of particular sentences in developing and refining a key concept.	Depending upon the nature of the informational text, students may analyze informational texts they read to determine how information is organized to develop the ideas presented.
College and Career Readiness Assess how point of view or purp Anchor Standards for Reading shapes the content and style of a		Craft and Structure	RL.8.6	Analyze how differences in the points of view of the characters and the audience or reader (e.g., created through the use of dramatic irony) create such effects as suspense or humor.	Not Applicable
College and Career Readiness Assess how point of view or purp Anchor Standards for Reading shapes the content and style of a	Informational	Craft and Structure	RI.8.6	Determine an author's point of view or purpose in a text and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.	Depending upon the nature of the informational text, students may analyze how authors acknowledge and respond to conflicting views or alternative hypotheses.
Integrate and evaluate content p College and Career Readiness in diverse media and formats, ind Anchor Standards for Reading visually and quantitatively, as we words.	cluding Reading:	Integration of Knowledge and Ideas	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.	Not Applicable
Integrate and evaluate content p College and Career Readiness in diverse media and formats, inc Anchor Standards for Reading visually and quantitatively, as we words.	cluding Informational	Integration of Knowledge and Ideas	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.	Depending upon the questions that arise during robot design, construction, programming, and operation, students may compare and contrast how information is presented across different types of media.
Delineate and evaluate the argur College and Career Readiness specific claims in a text, including Anchor Standards for Reading validity of the reasoning as well a relevance and sufficiency of the	g the Informational as the Text	Integration of Knowledge and Ideas	RI.8.8	Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	Depending upon the text in question or if the coach/mentor chooses, students may evaluate how the argument and claims were develop to determine if enough evidence is present to support the claims made.
Analyze how two or more texts a College and Career Readiness similar themes or topics in order Anchor Standards for Reading knowledge or to compare the ap the authors take.	to build Reading:	Integration of Knowledge and Ideas	RL.8.9	Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.	Not Applicable
Analyze how two or more texts a College and Career Readiness similar themes or topics in order Anchor Standards for Reading knowledge or to compare the app the authors take.	to build Informational	Integration of Knowledge and Ideas	RI.8.9	Analyze a case in which two or more texts provide conflicting information on the same topic and identify where the texts disagree on matters of fact or interpretation.	Depending upon the questions that arise during robot design, construction, programming, and operation, students may evaluate how conflicting information is addressed by two different authors.
College and Career Readiness Anchor Standards for Reading proficiently.		Range of Reading and Text Complexity	RI.8.10	By the end of the year, read and comprehend literature, including stories, dramas, and poems, in the grades 6–8 text complexity band proficiently, with scaffolding as needed at the high end of the range.	Not Applicable

College and Career Readiness Anchor Standards for Reading	Read and comprehend complex literary and informational texts independently and proficiently.	Reading: Informational Text	Range of Reading and Text Complexity	RI.8.10	By the end of the year, read and comprehend literary nonfiction at the high end of the grades 6–8 text complexity band independently and proficiently.	As part of rob programming multiple scier develop conc operation; the design, progr
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose	W.8.1.A	Write arguments to support claims with clear reasons and relevant evidence. a. Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.	As part of rec design, const in their Engin claims and pr that addresse
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose	W.8.1.B	Write arguments to support claims with clear reasons and relevant evidence.b. Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text.	As part of rec design, const in their Engin support claim credible sourd
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose	W.8.1.C	Write arguments to support claims with clear reasons and relevant evidence. c. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.	As part of rec design, const in their Engine the correct wo relationships supporting ev
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose	W.8.1.D	Write arguments to support claims with clear reasons and relevant evidence. d. Establish and maintain a formal style.	As part of rec design, const in their Engine use of a forma
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose	W.8.1.E	Write arguments to support claims with clear reasons and relevant evidence.e. Provide a concluding statement or section that follows from and supports the argument presented.	As part of rec design, const in their Engin- to include a c summarizes t
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose	W.8.2.A	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. a. 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.	As part of rec design, const in their Engin introduce thei organization a in comprehen

As part of robot design, construction, programming, and operation, students will read multiple scientific and technical texts in order to develop conclusions regarding: team formation or operation; the Engineering Notebook; and to design, program, or operate their robot.

As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will make claims and provide organized supporting evidence that addresses counter claims.

As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will support claims made using relevant evidence and credible sources.

As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will use the correct words and phrases to establish relationships between claims, counterclaims, and supporting evidence.

As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will make use of a formal writing style.

As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will need to include a concluding statement or section which summarizes their argument.

As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will introduce their topic and provide appropriate organization and formatting as is necessary to aid in comprehension.

College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose	W.8.2.B	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations,	As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will use facts, definitions, quotations, and other information as is appropriate to convey their message.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose	W.8.2.C	or other information and examples. Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.	As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will use transitional language to link ideas and concepts as well as convey relationships as is necessary to communicate their message.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose	W.8.2.D	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. d. Use precise language and domain-specific vocabulary to inform about or explain the topic.	As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will use precise language and domain-specific vocabulary as is necessary to communicate their message.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose	W.8.2.E	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. e. Establish and maintain a formal style.	As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will write in a formal style.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose	W.8.2.F	Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content. f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	As part of recording their experience of robot design, construction, programming, and operation in their Engineering Notebook, students will provide a concluding statement or section to summarize their research.
	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	Writing	Text Type and Purpose	W.8.3.A	Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well- structured event sequences. a. Engage and orient the reader by establishing a context and point of view and introducing a narrator and/or characters; organize an event sequence that unfolds naturally and logically.	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might construct a narrative regarding their team experience, robot building, coach/mentor, or goals/objectives.

	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	Writing	Text Type and Purpose	W.8.3.B	Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well-structured event sequences.b. Use narrative techniques, such as dialogue, pacing, description, and reflection, to develop	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might construct a narrative regarding their team experience, robot building,
	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	Writing	Text Type and Purpose	W.8.3.C	experiences, events, and/or characters. Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well- structured event sequences. c. Use a variety of transition words, phrases, and clauses to convey sequence, signal shifts from one time frame or setting to another, and show the relationships among experiences and events.	coach/mentor, or goals/objectives. Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might construct a narrative regarding their team experience, robot building, coach/mentor, or goals/objectives.
	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	Writing	Text Type and Purpose	W.8.3.D	 Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well- structured event sequences. d. Use precise words and phrases, relevant descriptive details, and sensory language to capture the action and convey experiences and events. 	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might construct a narrative regarding their team experience, robot building, coach/mentor, or goals/objectives.
	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	Writing	Text Type and Purpose	W.8.3.E	Write narratives to develop real or imagined experiences or events using effective technique, relevant descriptive details, and well- structured event sequences. e. Provide a conclusion that follows from and reflects on the narrated experiences or events.	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might construct a narrative regarding their team experience, robot building, coach/mentor, or goals/objectives.
	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	Writing	Production and Distribution of Writing	W.8.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.)	As part of the Engineering Notebook, students will be expected to write consistent with the appropriate grade-level writing standards.
College and Career Readiness Anchor Standards for Writing	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	Writing	Production and Distribution of Writing	W.8.5	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 8 as shown above.)	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might use research to draw conclusions about their team experience, robot building, coach/mentor, or goals/objectives.
College and Career Readiness Anchor Standards for Writing	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	Writing	Production and Distribution of Writing	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.	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might use research to draw conclusions about their team experience, robot building, coach/mentor, or goals/objectives.

College and Career Readiness Anchor Standards for Writing	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	Writing	Research to Build and Present Knowledge	W.8.7	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members might construct a narrative regarding their team experience, robot building, coach/mentor, or goals/objectives.
College and Career Readiness Anchor Standards for Writing	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	Writing	Research to Build and Present Knowledge	W.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.	Throughout the season, students will conduct research and collect notes and information from a variety of data sources and for various reasons, including but not limited to: the structure and operation of the team; designing, building, and operating their robot; building a business plan; fundraising information; outreach displays; the team's Compass and/or Promote Award video.
College and Career Readiness Anchor Standards for Writing	Draw evidence from literary or informational texts to support analysis, reflection, and research.	Writing	Research to Build and Present Knowledge	W.8.9.A	Draw evidence from literary or informational texts to support analysis, reflection, and research. a. Apply grade 8 Reading standards to literature (e.g., "Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new").	Not Applicable
College and Career Readiness Anchor Standards for Writing	Draw evidence from literary or informational texts to support analysis, reflection, and research.	Writing	Research to Build and Present Knowledge	W.8.9.B	Draw evidence from literary or informational texts to support analysis, reflection, and research. b. Apply grade 8 Reading standards to literary nonfiction (e.g., "Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced").	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members will use research to draw conclusions about their team experience, robot building, coach/mentor, or goals/objectives.
College and Career Readiness Anchor Standards for Writing	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	Writing	Range of Writing	W.8.10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members will use research to draw conclusions about their team experience, robot building, coach/mentor, or goals/objectives.
College and Career Readiness Anchor Standards for Speaking and Listening	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	Speaking & Listening	Comprehensi on and Collaboration	SL.8.1.A	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. a. Come to discussions prepared, having read or researched material under study; explicitly draw on that preparation by referring to evidence on the topic, text, or issue to probe and reflect on ideas under discussion.	Throughout the process of participating in the <i>FIRST®</i> Tech Challenge, students will participate in multiple discussions where they have to review material beforehand to appropriately discuss the topics presented.

College and Career Readiness Anchor Standards for Speaking and Listening	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	Speaking & Listening	Comprehensi on and Collaboration	SL.8.1.B	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. b. Follow rules for collegial discussions and decision-making, track progress toward specific goals and deadlines, and define individual roles as needed.	Throughout the process of participating in the <i>FIRST®</i> Tech Challenge, students will participate in multiple discussions where they have to follow agreed upon rules and carry out assigned roles and responsibilities.
College and Career Readiness Anchor Standards for Speaking and Listening	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	Speaking & Listening	Comprehensi on and Collaboration	SL.8.1.C	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. c. Pose questions that connect the ideas of several speakers and respond to others' questions and comments with relevant suidance observations.	Throughout the process of participating in the <i>FIRST®</i> Tech Challenge, students will ask and answer questions during discussions.
College and Career Readiness Anchor Standards for Speaking and Listening	Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.	Speaking & Listening	Comprehensi on and Collaboration	SL.8.1.D	evidence, observations, and ideas. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 8 topics, texts, and issues, building on others' ideas and expressing their own clearly. d. Acknowledge new information expressed by others, and, when warranted, qualify or justify their own views in light of the evidence presented.	Throughout the process of participating in the <i>FIRST®</i> Tech Challenge, students will explain their ideas and consider ideas expressed by their peers as part of discussions to make decisions.
College and Career Readiness Anchor Standards for Speaking and Listening	Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.	Speaking & Listening	Comprehensi on and Collaboration	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.	Depending upon the sources used to collect information to answer questions that may arise, students may have to opportunity to paraphrase text and information that is presented orally. This will most likely occur as part of a conversation with an expert or from a video presentation.
College and Career Readiness Anchor Standards for Speaking and Listening	Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.	Speaking & Listening	Comprehensi on and Collaboration	SL.8.3	Delineate a speaker's argument and specific claims, evaluating the soundness of the reasoning and relevance and sufficiency of the evidence and identifying when irrelevant evidence is introduced.	Depending upon the sources used to collect information to answer questions that may arise, students may have the opportunity to identify the reasons and evidence that a speaker uses to support his or her conclusions This will most likely occur as part of a conversation with an expert or from a video presentation.
College and Career Readiness Anchor Standards for Speaking and Listening	Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.	Speaking & Listening	Presentation of Knowledge and Ideas	SL.8.4	Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.	As part of fundraising, during team practice, and at culminating events, students will have to provide an organized presentation that details their work during the challenge, the choices they made, and their rationales for the decisions.

College and Career Readiness Anchor Standards for Speaking and Listening	Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.	Speaking & Listening	Presentation of Knowledge and Ideas	SL.8.5	Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.	Depending upon how students decide to structure their presentations, audio recordings (e.g., interviews with experts, videos describing an event), or visual displays (e.g., posters, graphs, charts) may be used.
College and Career Readines: Anchor Standards for Speaking and Listening	Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.	Speaking & Listening	Presentation of Knowledge and Ideas	SL.8.6	Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate. (See grade 8 Language standards 1 and 3 on page 53 for specific expectations.)	Throughout the process of participating in the <i>FIRST®</i> Tech Challenge, students will have multiple opportunities to present in a wide variety of contexts that will allow them to use both formal and informal discourse.
College and Career Readiness Anchor Standards for Language	 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 	Language	Conventions of Standard English	L.8.1.A	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Explain the function of verbals (gerunds, participles, infinitives) in general and their function in particular sentences.	If the coach/mentor chooses, during writing, discussions, or peer editing, students will have the opportunity to explain the function of verbals.
College and Career Readiness Anchor Standards for Language	 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. 	Language	Conventions of Standard English	L.8.1.B	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. b. Form and use verbs in the active and passive voice.	In their writing for a variety of contexts, students will use verbs in both the passive and active voice.
College and Career Readiness Anchor Standards for Language	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	Language	Conventions of Standard English	L.8.1.C	 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. c. Form and use verbs in the indicative, imperative, interrogative, conditional, and subjunctive mood. 	In their writing for a variety of contexts, students will use verbs in in the indicative, imperative, interrogative, conditional, and subjunctive mood.
College and Career Readines: Anchor Standards for Language	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.	Language	Conventions of Standard English	L.8.1.D	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. d. Recognize and correct inappropriate shifts in verb voice and mood.	In their writing for a variety of contexts, students will recognize and correct inappropriate shifts in verb voice and mood.
College and Career Readiness Anchor Standards for Language	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	Language	Conventions of Standard English	L.8.2.A	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use punctuation (comma, ellipsis, dash) to indicate a pause or break.	In their writing for a variety of contexts, students will use punctuation to indicate a pause or break.
College and Career Readiness Anchor Standards for Language	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	Language	Conventions of Standard English	L.8.2.B	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. b. Use an ellipsis to indicate an omission.	In their writing for a variety of contexts, students will use ellipsis to indicate that text has been omitted.

College and Career Readiness Anchor Standards for Language	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.	Language	Conventions of Standard English	L.8.2.C	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. c. Spell correctly.	In their writing for a variety of contexts, students will spell grade-appropriate words correctly.
College and Career Readiness Anchor Standards for	different contexts, to make effective	Language	Knowledge of	L.8.3.A	Use knowledge of language and its conventions when writing, speaking, reading, or listening. a. Use verbs in the active and passive voice	In their writing for a variety of contexts, students will use verbs in the active and passive voice as
Language	choices for meaning or style, and to comprehend more fully when reading or listening.		Language		and in the conditional and subjunctive mood to achieve particular effects (e.g., emphasizing the actor or the action; expressing uncertainty or describing a state contrary to fact).	well as conditional and subjunctive mood to achieve particular effects.
College and Career Readiness	Determine or clarify the meaning of unknown and multiple-meaning words and		Vocabulary		Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.	While reading various texts, students will have the
College and Career Readines: Anchor Standards for Language	phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	Language	Acquisition and Use	L.8.4.A	a. Use context (e.g., the overall meaning of a sentence or paragraph; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.	opportunity to use context clues to determine the meaning of unknown words.
College and Career Readiness Anchor Standards for	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	Language	Vocabulary Acquisition and Use	L.8.4.B	Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.	While reading various texts, students will have the opportunity to use affixes and roots to determine
Language					b. Use common, grade-appropriate Greek or Latin affixes and roots as clues to the meaning of a word (e.g., precede, recede, secede).	the meaning of unknown words.
College and Corpor Boodingood	Determine or clarify the meaning of unknown and multiple-meaning words and		Vacabulary		Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.	While reading various taxts, students will have the
College and Career Readiness Anchor Standards for Language	phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	Language	Vocabulary Acquisition and Use	L.8.4.C	c. 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.	While reading various texts, students will have the opportunity to use reference materials to clarify the meaning of words.
College and Career Readiness	Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing	Language	Vocabulary	1840	Determine or clarify the meaning of unknown and multiple-meaning words or phrases based on grade 8 reading and content, choosing flexibly from a range of strategies.	While reading various texts, students will have the opportunity to use reference materials to clarify the
Language	prirases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.	Language	Acquisition and Use	L.8.4.D	d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).	meaning of words.

College and Career Readiness Anchor Standards for Language	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	Language	Vocabulary Acquisition and Use	L.8.5.A	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. a. Interpret figures of speech (e.g. verbal irony, puns) in context.	Not Applicable
College and Career Readiness Anchor Standards for Language	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	Language	Vocabulary Acquisition and Use	L.8.5.B	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. b. Use the relationship between particular words to better understand each of the words.	Depending upon the text in question, students may analyze the relationship between words to establish the meaning for both words.
College and Career Readiness Anchor Standards for Language	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.	Language	Vocabulary Acquisition and Use	L.8.5.C	Demonstrate understanding of figurative language, word relationships, and nuances in word meanings. c. Distinguish among the connotations (associations) of words with similar denotations (definitions) (e.g., bullheaded, willful, firm, persistent, resolute).	Depending upon the text in question, students may analyze the connotations of words with similar denotations.
College and Career Readiness Anchor Standards for Language	Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when encountering an unknown term important to comprehension or expression.	Language	Vocabulary Acquisition and Use	L.8.6	Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases; gather vocabulary knowledge when considering a word or phrase important to comprehension or expression	Throughout the process of participating in the <i>FIRST®</i> Tech Challenge, students will have multiple opportunities to acquire and use grade- appropriate academic as well as domain-specific words.
College and Career Readiness Anchor Standards for Reading		Reading	Key Ideas and Details	RST.6-8.1	Cite specific textual evidence to support analysis of science and technical texts.	In order to develop solutions to questions that arise, students will accurately quote sources and draw inferences to support their position.
	Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.	Reading	Key Ideas and Details	RST.6-8.2	Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.	As part of their writing in a variety of contexts, students will summarize the main idea and supporting details from informational text.
College and Career Readiness Anchor Standards for Reading		Reading	Key Ideas and Details	RST.6-8.3	Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.	In order to program their robot, students will need to precisely follow a multistep procedure and document it in their Engineering Notebook.

College and Career Readiness Anchor Standards for Reading		Reading	Craft and Structure	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.	As part of research to answer questions that arise, students will have to determine the meanings of symbols, key terms, and domain-specific vocabulary encountered.
College and Career Readiness Anchor Standards for Reading		Reading	Craft and Structure	RST.6-8.5	Analyze the structure an author uses to organize a text, including how the major sections contribute to the whole and to an understanding of the topic	Depending upon the text in question, or if the coach/mentor chooses, students may analyze text structure to determine how the organization of information affects presentation of the topic.
	Assess how point of view or purpose shapes the content and style of a text.	Reading	Craft and Structure	RST.6-8.6	Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text.	Depending upon the text in question, or if the coach/mentor chooses, students may analyze the use of equations, procedures, or experiments.
	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.	Reading	Integration of Knowledge and Ideas	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).	Depending upon the text in question, or if the coach/mentor chooses, students may analyze information presented visually with the same information presented in a text form.
	Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.	Reading	Integration of Knowledge and Ideas	RST.68.8	Distinguish among facts, reasoned judgment based on research findings, and speculation in a text.	As part of reading texts to gain information for a variety of tasks, including but not limited to: the organization and function of the team; designing, programming, and operating their robot; developing the team business plan; for fundraising information; outreach displays; or in creating the team Compass and/or Promote Award videos, students will have to identify and use appropriately facts, reasoned judgments, and speculation.
	Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.	Reading	Integration of Knowledge and Ideas	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.	Depending upon the topic in question or if the coach/mentor chooses, students may analyze information presented in a multimedia format with information presented in a print format.
College and Career Readiness Anchor Standards for Reading		Reading	Range of Reading and Text Complexity	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.	As part of <i>FIRST®</i> Tech Challenge, students will read multiple age-appropriate scientific and technical texts for a variety of tasks, including but not limited to: the organization and function of the team; designing, programming, and operating their robot; developing the team business plan; for fundraising information; outreach displays; or in creating the team Compass and/or Promote Award videos in order to develop their presentation, design, and program their robot.
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose	VHST.6-8.1./	Write arguments focused on discipline-specific content. 4 a. Introduce claim(s) about a topic or issue, acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically.	As part of writing for a variety of contexts, students will have to make claims and provide organized supporting evidence.

	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type NHST.6-8.1.f and Purpose	Write arguments focused on discipline-specific content. b. Support claim(s) with logical reasoning and relevant, accurate data and evidence that demonstrate an understanding of the topic or text, using credible sources.	As part of writing for a variety of contexts, students will support claims made using relevant evidence and credible sources.
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type VHST.6-8.1.0 and Purpose	Write arguments focused on discipline-specific content. C. Use words, phrases, and clauses to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence.	As part of writing for a variety of contexts, students will use the correct words and phrases to establish relationships between claims and supporting reasons.
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose NHST.6-8.1.I	Write arguments focused on discipline-specific content. - d. Establish and maintain a formal style.	As part of writing for a variety of contexts, students will make use of a formal writing style.
	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.	Writing	Text Type and Purpose NHST.6-8.1.1	Write arguments focused on discipline-specific content. e. Provide a concluding statement or section that follows from and supports the argument presented.	As part of writing for a variety of contexts, students will need to include a concluding statement or section which summarizes their information or request.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose NHST.6-8.2./	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. a. 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.	As part of writing for a variety of contexts, students will introduce their topic and provide appropriate organization and formatting as is necessary to aid in comprehension.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose NHST.6-8.2.f	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. b. Develop the topic with relevant, well-chosen facts, definitions, concrete details, quotations, or other information and examples.	As part of writing for a variety of contexts, students will use facts, definitions, quotations, and other information as is appropriate to convey their message.
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose NHST.6-8.2.0	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. c. Use appropriate and varied transitions to create cohesion and clarify the relationships among ideas and concepts.	As part of writing for a variety of contexts, students will use transitional language to link ideas and concepts as well as convey relationships as is necessary to communicate their message.

College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose NHST.6-8.2.1	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. d. Use precise language and domain-specific vocabulary to inform about or explain the topic.	As part of writing for a variety of contexts, students will use precise language and domain-specific vocabulary as is necessary to communicate their message.	
College and Career Readiness Anchor Standards for Writing	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type NHST.6-8.2.1 and Purpose	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. e. Establish and maintain a formal style and	As part of writing for a variety of contexts, students will write in a formal style.	
	organization, and analysis of content.			objective tone.		
College and Career Readiness	Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.	Writing	Text Type and Purpose NHST.6-8.2.I	Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.	As part of writing for a variety of contexts, students will provide concluding statements or sections to	
Anchor Standards for Writing				f. Provide a concluding statement or section that follows from and supports the information or explanation presented.	summarize their research.	
	Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details, and well-structured event sequences.	Writing	Text Type and Purpose WHST.6-8.3	In science and technical subjects, students must be able to write precise enough descriptions of the step-by-step procedures they use in their investigations or technical work that others can replicate them and (possibly) reach the same results.	As part of the Engineering Notebook, students write detailed step-by-step procedures to describe how their robot is constructed or programming was created so that different students could replicate the process.	
	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	Writing	Production and WHST.6-8.4 Distribution of Writing	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	As part of the challenge, students will be expected to produce a variety of writing consistent with the appropriate grade-level writing standards.	
College and Career Readiness Anchor Standards for Writing	Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.	Writing	Production and WHST.6-8.5 Distribution of Writing	With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.	As part of writing for a variety of contexts, students will revise, edit, and review their writing with peers and adults.	
College and Career Readiness Anchor Standards for Writing	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.	Writing	Production and WHST.6-8.6 Distribution of Writing	Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.	Depending on the structure and content style of their Engineering Notebook, whether the team submits a video for their League Meet (if applicable), and whether or not the team chooses to apply for a Compass or Promote Award, team members will likely and frequently use technology to discuss and explain their team experience, robot building, coach/mentor, or goals/objectives.	
College and Career Readiness Anchor Standards for Writing	Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.	Writing	Research to Build and Present Knowledge	Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.	As part of <i>FIRST</i> ® Tech Challenge, students will conduct research for a variety of reasons, including but not limited to: the team Engineering Notebook; business plan; fundraising information; outreach displays; or Compass or Promote Award videos.	

College and Career Readiness Anchor Standards for Writing	Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.	Writing	Research to Build and Present Knowledge	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.
	Draw evidence from literary or informational texts to support analysis, reflection, and research.	Writing	Research to Build and Present Knowledge	Draw evidence from informational texts to support analysis reflection, and research.
College and Career Readiness Anchor Standards for Writing	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.	Writing	Range of Writing	Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

As part of their research to answer questions that arise, design their robot, and develop programming, students will conduct research for a variety of tasks, including but not limited to: designing their robot; programming their robot; developing the team business plan; for fundraising information; outreach displays; or in creating the team Compass and/or Promote Award videos.

As part of *FIRST*® Tech Challenge, students will use a variety of informational sources to develop answers to questions that arise, design their robot, and develop programming. As part of *FIRST*® Tech Challenge, students will

As part of *PIRS* 1/8 1ech Challenge, students will write for differing periods of time ranging from notetaking to formal, extended writing in order to produce a variety of pieces, including but not limited to: developing the team business plan; for fundraising information; outreach displays; or in creating the team Compass and/or Promote Award videos