Common Core State Standards Correlated to Systems Thinking Tools	
CCSS 9-10 Reading Informational Text	How CCSS are addressed through the use of Systems Thinking Tools
Key Ideas and Details… 1. Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text. 2. Determine a central idea of a text and analyze its development over the course of the text, including how it emerges and is shaped and refined by specific details; provide an objective summary of the text. 3. Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.	• Using *Behavior-over-time Graphs (BOTGs)* to analyze a piece of expository text requires the reader to justify their interpretation of the central idea of a text, how it is developed, and how specific details contribute to that development. By organizing events explicitly over time, the reader can summarize evidence presented and analyze connections between different variables over time. When explaining the graph or telling the story of the line(s), students cite textual evidence as support of their analysis and analyze how the author developed her ideas. • The *Ladder of Inference (LoI)* can be used by the reader to identify and justify his own inference, based on the text, or to analyze inferences communicated by the author. When documenting the development of an inference using this tool, the reader is forced to regularly and systematically examine evidence from the text and the reasoning used to make inferences from the evidence.
Craft and Structure… 4. Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze the cumulative impact of specific word choices on meaning and tone (e.g., how the language of a court opinion differs from that of a newspaper). 5. Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter). 6. Determine an author's point of view or purpose in a text and analyze how an author uses rhetoric to advance that point of view or purpose.	• As described in the lesson example below, readers can be directed to identify and use specific semantic clusters of words to create a visual representation of what is stated in the text. These words can be used to identify dynamics, tone, or bias. By incorporating tier-two words into these clusters either to determine key accumulations or to clearly represent the author's purpose in a text, systems thinking tools draw the reader's attention to the craft and structure of the text.
Integration of Knowledge and Ideas… 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. 8. Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is	• The *BOTG* and the *LoI* can be used to help the reader analyze a piece of expository text from a variety of perspectives. The reader is able to evaluate the specific claims of an argument, by analyzing the evidence and reasoning presented *LoI*, connect multiple ideas over time in a text through *BOTGs* for key variables (for phenomena that unfold over time), and use these to critique the validity of the author's argument. • The *Iceberg* visual tool enables students to look at a

relevant and sufficient; identify false statements and fallacious reasoning.	text or multiple texts focused on a single concept in terms of the events, patterns of change over time, structures (causal forces) and claims presented in the
9. Analyze seminal U.S. documents of historical and literary significance (e.g.,Washington's Farewell Address, the Gettysburg Address, Roosevelt's Four Freedoms speech, King's "Letter from Birmingham Jail"), including how they address related themes and concepts.	text. In so doing, this tool supports students in developing and critiquing causal arguments, making connections, critically analyzing the text, and building the background knowledge necessary to intelligently consider seminal documents of historical and literary significance. As teacher scaffolding decreases, students have tools in the *Iceberg, BOTG and LoI* that support their independent capacity with informational text.

Lesson Idea: Students use two graphic organizers focused on change over time and interdependencies during and after reading a social studies text. While reading, students look for key words of change (e.g. increasing, declining, flourishing), copy the quote(s) containing these words, determine what was changing and then draw a graph of that factor based on the information within the text. Students can then cite textual evidence indicating the cause of changes within the graph.

After completing the chapter and sharing graphs with one other, students work in small groups to draw connection circles indicating cause and effect relationships among the changing factors.

In a whole-class discussion, these connections are shared and discussed in terms of their historic and present-day significance. Causal connections can also be highlighted.

(*Full lesson can be found at* www.watersfoundation.org *"Comprehending Expository Text," by Bill Dennis and Anne LaVigne.*)