

## Text Complexity Analysis Template

Text complexity analysis			
<b>Created by:</b>	Thomas Ebersold	<b>Event/Date:</b>	TeachFest CT Summer Academy, July 2014
<b>Text and Author</b>	Flight and Rocketry, Sarah A. Maineri, senior project editor	<b>Where to Access Text</b>	Print book that may be purchased from Delta Science Readers
Text Description			
This text called "Forces in Flight" is one portion of an informational book on flight and rocketry. This chapter, found on page 7, is part of a section describing heavier than air flight.			
Quantitative			
<b>Lexile and Grade Level</b>	850, Guided Reading Level U, Grade 5	<b>Text Length</b>	283 words
Qualitative			
Meaning/Central Ideas		Text Structure/Organization	
The meaning and central idea is that four forces: weight, lift, thrust and drag are the aerodynamic forces involved with flight. The ideas are explicitly stated and clearly defined and explained. The chapter explains that weight and lift are opposite forces and that thrust and drag are opposite forces. The chapter also explains that that shape and angle of the wing, the speed of the plane, and the speed of the air around the plane all affect lift.		The text is organized by vocabulary word, which is presented in boldface. Each topic word is discussed in a separate paragraph. An introductory paragraph explains that forces affect the flight of a plane. A final paragraph summarizes how opposite forces affect each other. There is a picture of a plane with arrows showing the direction of forces and each arrow is labeled with the specific force for that direction.	
Prior Knowledge Demands		Language Features	
It is helpful for students to be familiar with the concept of weight and gravity.		The text explicitly introduces the words: aerodynamics, weight, lift, thrust, drag, and propeller. The text also discusses the word forces and explains it as a push or pull that acts on an airplane. The text mentions that a propeller is attached to a shaft, but does not define the word shaft. The fact that words are defined clearly supports text understanding.	
Potential Reader/Task Challenges			
The vocabulary load is heavy for a short section of text with concepts to understand behind each word. The length of text is barely adequate for students to process each concept and understand how the different forces relate to one another. The text does not clearly explain how thrust generates and affects lift.			
Big Takeaway			
The big idea for students to understand is that there are four forces (weight, lift, thrust and drag) that affect the flight of an airplane, and that these forces interact in a way that allows a plane to fly. This relates to the Common Core Standards that students should be able to identify the main idea(s) in a text.			

### Vocabulary Analysis Template

	<b>Words that demand less teaching time (i.e. the definition is singular and concrete)</b>	<b>Words that demand more teaching time (i.e. words with multiple meanings and/or that are part of a word family)</b>
<b>Words that can be determined in context</b>	Propeller (Tier 2) is defined in the text and does not need a lengthy exploration as students likely know the meaning of this word.	<p>These are concept words that are defined in the text and require in-depth discussion and analysis:</p> <ul style="list-style-type: none"> <li>• forces (Tier 2)</li> <li>• aerodynamics (Tier 3)</li> <li>• weight (Tier 2)</li> <li>• lift (Tier 2)</li> <li>• thrust (Tier 2)</li> <li>• drag (Tier 2)</li> </ul>
<b>Words that cannot be determined in context</b>	The text mentions that a propeller is attached to a shaft (Tier 2), but does not define the word shaft. The teacher could briefly define shaft as a thin, long piece of metal used to attach the propeller to the engine.	There are no words in the text that are not explicitly defined, and which have multiple meanings.