**MOTIVATION**

**TODAY’S VOTING POLL:**

Do you think you would have enjoyed deciphering military communications during World War II?

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| --- |
|  http://tt4me.files.wordpress.com/2011/07/agree-disagree1-e1312108858738.jpg |

|  |
| --- |
| * Yes.
* No.

 Vote! |

Explain why you voted the way you did.

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**BEFORE READING**

**TODAY’S READING GOAL:**

Good readers specify a goal for reading and plan a reading process

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| --- |
| **Text Codes** |
| **Symbol** | **Meaning** |
| Circle |  | Vocabulary words |
| Underline | \_\_\_\_\_\_\_ | Key ideas |
| Question mark | ? | Confusing ideas |
| Exclamation mark | ! | Interesting ideas |

**TODAY’S TRAVEL DESTINATION:**

Bletchley, England



**READING RUBRIC**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria:** | **4 points** | **3 points** | **2 points** | **1 point** |
| **Accuracy** | Reading is meaningful and word recognition is automatic. Unfamiliar words are quickly decoded and read accurately.( 96% accuracy) | The reading is mostly accurate with some successful self-corrections. Occasionally, a word may be misread without correction.(91-95% accuracy) | The reading contains many attempts to decode words, several unsuccessful self corrections, and/or complete stalls during difficult sections.(86-90% accuracy) | Reading contains many miscues and multiple, unsuccessful decoding attempts. Substitutions can typically be "guesses" at words with little attempt to maintain meaning.(less than 85% accuracy) |
| **Phrasing** | Reading is generally well- phrased with large, meaningful phrases. Punctuation and sentence structure are interpreted accurately. | Reading is naturally phrased for the most part, with careful attention to some of the punctuation. | Reading is primarily choppy in small 2- or 3- word phrases. Some attention to punctuation is present. | Phrasing is monotonous, with little attention to phrase boundaries. Words may be stressed incorrectly and/or read word-by-word. |
| **Flow** | Reading is consistently smooth with self-corrections made automatically. | The reading may have some breaks in flow because of pauses and difficulty with specific words. | During difficult sections, the hesitations and pauses are frequent and disruptive. | Each word is read as a single entity, severely limiting the flow of the passage. As a result, meaning is usually obscured. |
| **Pace** | Reading is consistently conversational and well-paced throughout the entire passage. | Reading is sometimes conversational but may include portions that are moderately slow OR inappropriately fast. | Reading is a bumpy combination of fast and slow with minimal consistency. | The reading is slow, word-by-word, and noticeably laborious. Meaning and context are obscured by the difficult reading pace. |

**BLETCHLEY, England** (Achieve3000, May 7, 2009). During World War II, the best brains in Britain worked to crack Germany's encrypted military communications, using a machine called the Turing Bombe. Recently, a replica of the amazing device was built, and at an event held in its honor, the surviving code breakers reunited. During the event, the Turing Bombe was briefly switched on, a momentous culmination of a meticulous, 13-year effort to replicate an original version of the machines, which had been destroyed for security purposes after the war. The original Bombe, invented by mathematician Alan Turing, was a precursor of the modern computer—albeit a rather large one. The Bombe literally weighed a ton and measured about six and a half feet tall, seven feet wide, and two feet deep. These mechanical behemoths served an enormous purpose, however; they helped code breakers decipher Germany's top-secret military messages, which had been encoded using a typewriter-like cipher machine called the Enigma. "It was like getting a newspaper of German material every day," said Andrew Hodges, author of a biography about Turing. "The war would have been very different without it."

The event honoring the Turing Bombe was held at England's Bletchley Park, the site where code breakers had once spent long days and nights operating Bombe machines in complete anonymity. The code breakers were aware that if word of their location leaked, they would be targeted by unrelenting waves of German bombers. That never happened, however. While three bombs did land nearby, it is believed the target was a nearby train station, not Bletchley Park itself. "Do you know what Churchill called us?" said former code breaker Jean Valentine, now 84, who attended the event. "He called us 'the geese that laid the golden eggs but never cackled.'"

Even after the war had ended—and for subsequent decades—the code breakers were prohibited from discussing their top-secret work at Bletchley Park. In the 1970s, however, those restrictions were rescinded, allowing the code breakers to tell their friends and family what they had achieved during the war. Finally, the geese could truly cackle. "We really didn't know what we were doing other than breaking German codes," said Valentine, who was a teenager during the war. "You weren't supposed to ask questions. You weren't supposed to know what was in the messages."

The sense of accomplishment came, Valentine explained, when a supervisor would say, "Job up," which meant that they had successfully decoded yet another message for the military. "That gave us enormous satisfaction," she said. Ruth Bourne, 83, another former code breaker in attendance at the event, said the lifting of the confidentiality orders has allowed many of the code breakers to finally comprehend the full import of their covert operation. "We've researched and found out an enormous amount about how important this was," she said. "Now I feel much more excited about it than I ever did when I was working on it."

Without realizing it, the hundreds of code breakers—consisting of mathematicians, cryptographers, crossword puzzle aficionados, chess masters, and other experts—had in fact altered history. Using Bombe machines, the code breakers played a pivotal role in thwarting Adolf Hitler's ambitions to dominate Europe by providing Churchill and his wartime cabinet crucial advance knowledge of Germany's invasion plans, defenses, and movements of U-boats (German military submarines).

The group's work provided crucial information in several major conflicts, including the protracted Battle of the Atlantic, which lasted from 1939 to 1945, and the preparations for D-Day on June 6, 1944, in Normandy, France. In the pivotal series of battles that began on that day, the Allied Forces—which included Britain, the U.S., and others—invaded the European coastline. The successful mission provided a safe landing point for further Allied troops to enter Europe and continue the assault that eventually led to the collapse of Hitler's regime. It is widely believed that the efforts of the Bletchley Park code breakers saved an untold number of lives by accelerating the Allied victory.

"The great thing is that the Germans never realized we'd broken their code," said retired brigadier Patrick Erskine-Tulloch, now 90, whose wife was a code breaker and instructor on Bombe operating procedures. "They thought it was unbreakable."

**Dictionary**

* behemoth (noun) something enormous in size and strength
* covert (adjective) secret
* import (noun) true significance
* precursor (noun) forerunner; person or thing that comes before another of the same kind
* rescind (verb) to revoke or repeal

**Math Word Challenge**

A British code-breaking machine is shaped like a rectangular prism. The machine has the following dimensions:



The machine weighs 2,000 pounds and is resting on the floor. What is the average pressure in PSI (pounds per square inch) that the machine exerts on the floor? Round to the nearest whole number. Use the formula and the diagram below to help you decide. Recall that one foot is the same as 12 inches.

***P***  ***A*** = ***F*** where ***P*** is pressure in PSI, ***A*** is area in square inches, and ***F*** is force in pounds



***Ar****=****l********w****where****Ar****is the area of a rectangle,****l****is the length, and****w****is the width*

  1 PSI

  22 PSI

  6 PSI

  16 PSI

**Answer Key**:

1. A

1. In the *first* paragraph, the author is primarily concerned with \_\_\_\_\_\_\_\_\_\_.

  Telling how long it took to reproduce an original version of the Turing Bombe

  Relaying some details of how Germany encrypted its top secret military messages

  Describing the length and weight of the original Turing Bombe machines

  Sharing a brief history about the development and purpose of the Turing Bombe

2. Which of these is a statement of fact?

  The British government was wise to select mathematicians to help decode German communications during World War II.

  The Germans encoded their military messages using a typewriter-like cipher machine called the Enigma.

  It was unreasonable of the British government to keep the code breakers from talking about their work for decades after the war.

  It is remarkable that the Germans never realized that the British had broken their codes in their encrypted military messages.

3. Which is the closest **synonym** for the word *precursor*?

  Predecessor   Proxy   Predator   Prodigy

4. According to the article, what is one reason why the code breakers didn't realize the significance of their work during World War II?

  Because the original Turing Bombe machines had been destroyed for security purposes after the war

  Because the German military never realized that they had broken the codes on their encrypted communications

  Because they were unaware until recently that the Allied Forces invaded the European coastline in 1944

  Because they were prohibited from discussing their work until the 1970s, when confidentiality orders were lifted

5. Suppose that Pierce wants to find out more about the Turing Bombe and the Enigma. He would find **most** of his information \_\_\_\_\_\_\_\_\_\_.

  In a book titled *Codes and Ciphers*

  In an essay about D-Day and World War II

  In a manual titled *21st Century Military Machines*

  In a biography of Winston Churchill

6. The article states:

**The group's work provided crucial information in several major conflicts, including the *protracted* Battle of the Atlantic, which lasted from 1939 to 1945, and the preparations for D-Day on June 6, 1944, in Normandy, France.**

Which would be the closest **synonym** for the word *protracted*?

  Maritime   Prolonged   Retaliatory   Grievous

7. Which information is **not** in the article?

  The major events that occurred during the Battle of the Atlantic during World War II

  The way the Turing Bombe worked to break Germany's encoded communications

  The meaning of the phrase "job up," spoken to the code breakers during the war

  The name of the machine that the German military used to encode their secret messages

8. Which of these is **most** important to include in a summary of this article?

  Germany's military had submarines during World War II called U-boats.

  British code breakers cracked Germany's encrypted messages during World War II.

  D-day occurred on June 6, 1944, in Normandy, France.

  Patrick Erskine-Tulloch's wife was one of the code breakers.

**Answer Key**:

**WRITING RUBRIC**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria:** | **5 points** | **4 points** | **3 points** | **2 points** |
| **Purpose for Writing*****Do you inform, or tell about, the topic?*** | You clearly tell about the topic. | You mostly tell about the topic. | Your writing needs to tell more about the topic. | Your writing must tell about the topic. |
| **Organization*****Does your writing have a beginning, middle, and ending?*** | Your writing has a clear beginning, middle, and ending. | Your writing has a beginning, middle, and ending, but one or more parts need work. | Your writing is missing parts of the beginning, middle, or ending. | Your writing needs a clear beginning, middle, and ending. |
| **Details*****Do you use facts and definitions in your writing?*** | Your writing uses many facts and definitions. | Your writing uses some facts and definitions. | Your writing uses few facts or definitions. | Your writing must use facts or definitions. |
| **Sentence Structure and Style*****Is your writing clear? Do you use joining words to link ideas?*** | Your writing is clear. You use joining words. | Your writing is mostly clear. You often use joining words. | Your writing is sometimes clear. You sometimes use joining words. | Your writing needs to be easier to follow. You must use joining words. |
| **Mechanics*****Did you check your spelling? Do you use capital letters, when needed? Do you use commas, periods, and other punctuation?*** | You have no spelling problems. You use capital letters, when needed. You always use punctuation. | You have few spelling problems. You often use needed capital letters. You often use punctuation. | You have some spelling problems. You sometimes use needed capital letters. You sometimes use punctuation. | You have many spelling problems. You need to watch for capital letters. You need to check your punctuation. |

**THOUGHT QUESTION**

Writing Prompt: What are some characteristics one must possess in order to be a proficient code breaker? Explain why you chose each characteristic. In your estimation, would you make a good code breaker? Why or why not?

Support your response with details from the article, as well as ideas of your own. Cite your references using an accepted method.

In your answer:

* Your response should include at least three paragraphs.
* Be sure that each paragraph has a topic sentence and a minimum of four supporting details.
* If you can, use the words *cipher* and *aficionado* OR introduce two new words and be sure that enough context clues are given so the definitions of the words can be derived from the sentences.

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