

# Brains Over Bullets: The Secrets of WWII

Name: \_\_\_\_\_ Period: \_\_\_\_\_

*This tasksheet is designed to complete while watching the NOVA special presentation of "Decoding Nazi Secrets." A full transcript of this presentation can be found at <http://www.pbs.org/wgbh/nova/transcripts/2615decoding.html>.*

1. What was Churchill's secret weapon?
2. What was the name of the German's seemingly invincible codemaking machine?
3. What was the name of the special British Intelligence unit that moved into Bletchley Park?
4. What was Bletchley Park's code name?
5. What kinds of people were hired to be a part of the Bletchley Park codebreaking team?
6. If the work at Bletchley Park were to succeed, what was essential?
7. How many different ways could the Enigma code messages?
8. What was the purpose for which the Enigma was first developed?
9. What three adjustments had to be made to the Enigma so that the sender's and receiver's machines would match?
10. What did the codebreakers have to have in order to even begin breaking the enigma codes?
11. Who finally bought the 300 Enigma documents being sold secretly by a hard-up German army clerk?
12. How had the Germans wired the Enigma's keyboard to the first rotor?
13. What change did the Germans make to the Enigma in 1939 that caused the Poles to no longer be able to read any of the messages?

14. What was to become the Enigma's Achilles' heel?
15. What were the huge cards called which had holes punched in them to represent the wheel positions that could produce females?
16. How did Admiral Cunningham act on the message of the Italians planned convoy attack without giving his plans away?
17. What change did the Germans make to plunge Bletchley park in the dark again?
18. Hut 6 in Bletchley Park was concentrating on which Enigma code?
19. What was Herivel tip which allowed Hut 6 to begin breaking the Air Force code again?
20. Even though they were successful in breaking the Luftwaffe RED (air force) code, which enigma code were they still unable to break?
21. What mind held the key to breaking the Enigma?
22. Who invented the first basic concept of a computing machine?
23. How did the Germans hide their crucial message setting for their U-boat messages?
24. To avoid the risk of exposure, all information resulting from Bletchley Park decodes bore what top secret rating?
25. What two key factors allowed Bletchley Park to crack the naval Enigma?
26. What was the name for particular phrases known to be in a particular encrypted message?
27. What did Bletchley Park refer to as gardening?
28. What was the one major weakness to Rommel's strategy?
29. In order to keep Ultra safe, what did the British do so that the Germans would not be suspicious of their code being broken?
30. How were the Germans able to break the diplomatic code used to convey messages to Washington?

31. How long did it take the codebreakers at Bletchley Park to crack the daily rotor settings of the Enigma by hand?
32. What was the name of Turing's computing machine?
33. On average, how long did it take the Bomb to find the daily rotor settings of the Enigma?
34. How many of Turing's Bombs were being used by the end of the war?
35. What name did the naval Enigma team at Bletchley Park give to the German's U-boat enigma code?
36. What abrupt change in the U-Boat code once again plunged Bletchley Park into darkness?
37. What critical weakness was found in the four-rotor system?
38. What was the name of the US code breaking unit?
39. What was the name of the machine that Hitler had created for the German high command that was faster and even more secure than the Enigma?
40. How many rotors did the Lorenz use?
41. What name did Bletchley Park give to the mysterious code made by the Lorenz?
42. How did a lazy German operator give the whole game away and allow the Lorenz to be broken?
43. What was the name of Bletchley Park's replica of the Lorenz?
44. Even with a replica of the Lorenz machine, how long did it take the Allies' code breakers to crack a particular message?
45. Who built the world's first programmable computer for the purpose of automating the hunt for the Fish settings?
46. How many of these computers were in use by the end of World War II?

47. What was the name of Flowers' machine?
48. With the help of the Colossus, how long did it take for the code breakers at Bletchley Park to crack a particular message coded with the Lorenz machine?
49. How fast could the tape in Flowers' machine move through the optical reader?
50. How long were those at Bletchley Park who knew about the invasion not allowed to leave the building?
51. The operations at Bletchley Park were to be kept a secret for how many years?
52. What was the fate of the 10 Colossus machines used by Bletchley Park?