

# Lesson Plan

**Teacher** [AA]      **Date** 00/00/00      **Period** 0      **Class** 9AA  
**No. pupils** 00      **SEN** 0      **G&T** 0

**Project title** Cryptography

**Context of project** During this unit, pupils will learn about the use and purpose of cryptography and encryption of data. They will learn about the purpose and use of cryptography in everyday society and understand how the use of computers has enabled ever more secure and sophisticated methods of cryptography to be developed.

**Lesson No.** Lesson 2

**Learning Objectives**

- To understand how cryptography was used during the second World War
- To understand how the codes from the Enigma Machine were ‘cracked’
- To understand the role that Bletchley Park played in the deciphering of the Enigma codes

**Learning Outcomes**

- All pupils will:* Be able to explain the purpose of the Enigma machine
- Most pupils will:* Have a good understanding of the Enigma machine and be able to explain the role of the Allies in helping to decypher the German codes
- Some pupls will:* Be able to explain the main events on the Engima timeline with clarity. Understand how each new development on the timeline led to a need to change or adapt the work being done.

**Key Terms** cryptography, encrypt, decrypt, Enigma machine, Bletchley Park

<b>Starter</b>	Hand out a copy of ‘starter.doc’ to each pupil. Pupils should work quietly whilst you are collecting their homework.	5 mins
<b>Main activity</b>	<p><u>Teacher led discussion</u></p> <p>Ask pupils to remind you of three things which they learned about last lesson.</p> <p>Tell pupils that cryptography has continued to be developed and that there are many examples of it being used through the centuries.</p> <p>Find out if pupils have heard about the Enigma cipher machine. Provide a very brief overview about the machine was used by the Germans in WW2. Explain very briefly how Polish and British mathematicians worked to crack the ‘uncrackable’ Enigma Machine.</p> <p>Play the following videos:</p> <p>Video 1: <a href="http://www.youtube.com/watch?v=LU2s28-tN08&amp;feature=fvsr">http://www.youtube.com/watch?v=LU2s28-tN08&amp;feature=fvsr</a></p>	15 mins

	<p>Video 2:  <a href="http://www.youtube.com/watch?v=2458QZmNxRY&amp;feature=Playlist&amp;p=E25E9EDBBFC8822F&amp;index=30">http://www.youtube.com/watch?v=2458QZmNxRY&amp;feature=Playlist&amp;p=E25E9EDBBFC8822F&amp;index=30</a></p> <p>(if you do not have access to YouTube during lessons, you will need to be able to access a version of this video offline)</p> <p>Check that pupils understand:</p> <ul style="list-style-type: none"> <li>- the purpose of the Enigma machine</li> <li>- some of the work that went into deciphering the codes</li> <li>- why it was important for the Allies to be able to crack the codes</li> <li>- the effect that the work at Blechley Park had upon the results of WW2</li> </ul> <p><u>Teacher instructions</u>  Hand out a copy of 'enigma_information.doc' to pupils.</p> <p>Explain that they are to use one or two pieces of information from the enigma information document and create a poster which could be used as part of a wall display for the classroom.</p> <p>Ask pupils to remind you about the rules for a good poster before they start. Display 'rules_good_poster.ppt' on the board</p> <p><u>Individual activity</u>  Pupils should log on and begin work on their poster design.</p>	<p>5 mins</p> <p>30 mins</p>
<b>Plenary</b>	Pupils should work in pairs and look at each others' posters. Each pupil should explain the events that happened directly before, during and after the event that they have chosen to focus on for their own poster.	5 mins
<b>Extension</b>	Undertake their own research and find out three facts about the Enigma machine which aren't on the information handout	
<b>Homework</b>	Complete poster, print it in colour and bring it to the next lesson.	30 mins

<b>Materials required</b>	Starter.doc Starter answers.doc <a href="http://www.youtube.com/watch?v=cGPRCIA-lok">http://www.youtube.com/watch?v=cGPRCIA-lok</a> Enigma_information.doc Rules_good_poster.ppt
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