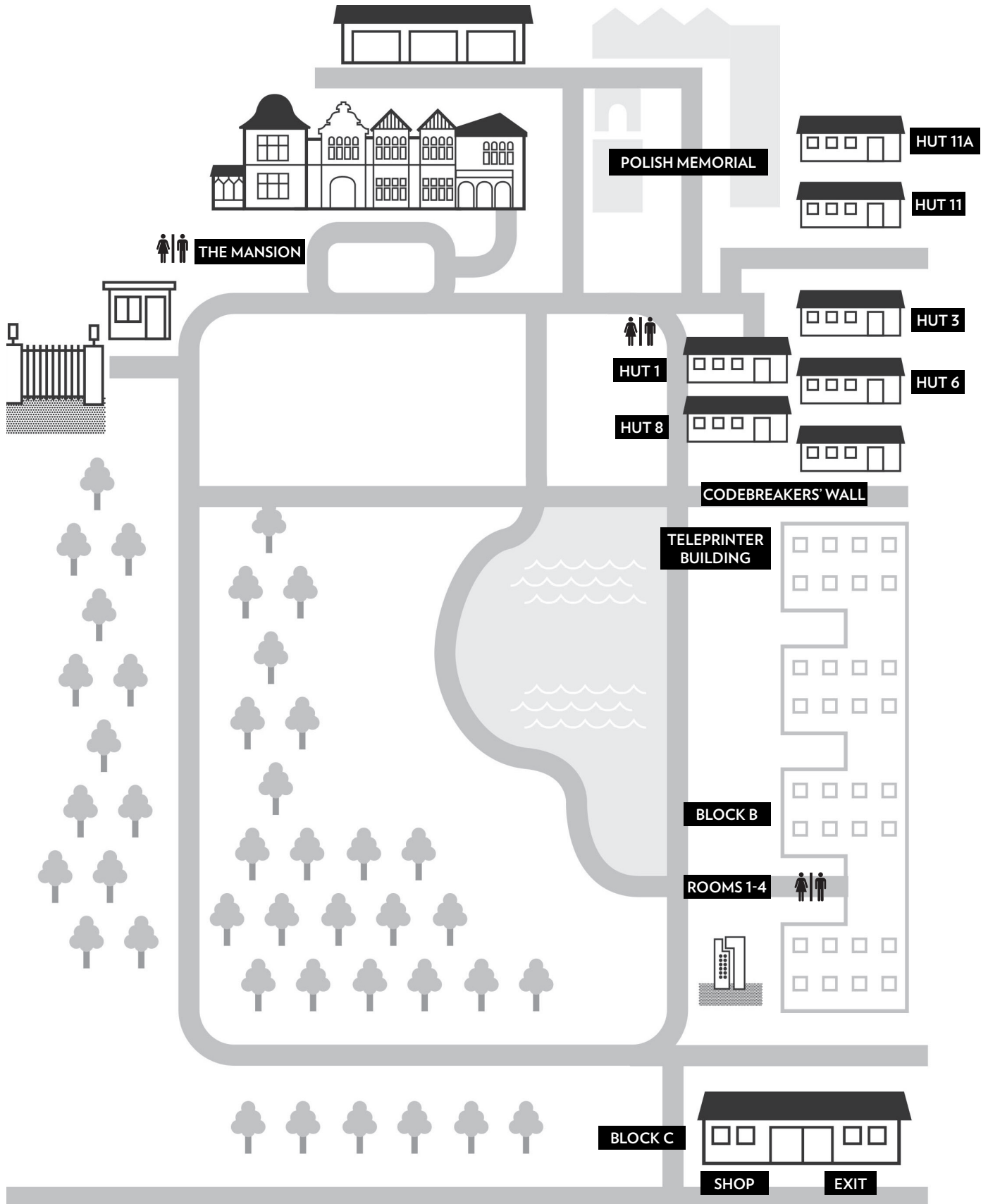


# BLETCHLEY PARK

## TEACHER NOTES

SELF GUIDED KEY STAGE 3

TOP SECRET



# TEACHER NOTES

## SELF GUIDED KEY STAGE 3

### PLAN FOR THE DAY

The entrance and exit to Bletchley Park is through Block C.

**The Shop** is in Block C, and is busiest after 1.30pm.

**Toilets** can be found in Block C, Hut 8 and in the Mansion. Drinking water is available from any of the cold taps onsite.

**Food and drink** is only allowed in designated eating areas or outside. Please don't eat in any of the exhibition spaces. There are two cafes onsite: Block C and Hut 4.

During your self-guided time, we suggest you divide into smaller groups to explore inside the buildings. Please stay with your student groups at all times for safeguarding and security.

### CURRICULUM LINKS

- History
- Maths
- Computing

### BLOCK C

#### Secrets Revealed

This exhibition explains the impact of the work at Bletchley Park, and is accessed through the red entrance sign.

• **What did wartime Prime Minister Winston Churchill say about the Codebreakers at Bletchley Park?**

'The geese that laid the golden eggs and never cackled' is a quote that can be found on a large black-board on an easel on the right hand side, visible as you enter the exhibition. Churchill is referring to the Codebreakers and their successes, which they managed to keep secret and did not receive recognition for at the time.

Enter the second part of the exhibition.

#### • **What did a dispatch rider need?**

You will see the dispatch rider's motorbike on your left as you enter the second space. This was one way in which encrypted radio messages, intercepted at listening stations, arrived at Bletchley Park.

#### • **Why was this a difficult job?**

Answers could include: travelling in all weathers, all times of the day or night, from a variety of distances.

Opposite the motorbike are displayed the 6 stages of codebreaking.

1. Intercept your enemies' radio signals
2. Work out how the messages have been encrypted
3. Decipher the messages
4. Translate the messages to English
5. Cross reference message information to build a bigger picture
6. Send on the Top Secret Intelligence you've uncovered

Now look in more detail at Step 4.

#### • **Circle which languages were in high demand at Bletchley Park during WW2?**

German, Italian and Japanese.

## BLOCK B MUSEUM

Turn right out of Block C and walk up towards the next Block—B. The exhibition is down the stairs, and level access is via a ramp outside. You can find the Enigma collection about half way down on the left.

### • What is this machine?

The machine pictured is an Enigma machine.

### • How does it work?

The Germans were using Enigmas before and during WW2 to encrypt messages. It scrambles each individual letter of a message by a different setting. As you press down one of the keys on the keyboard, a rotor turns and a lamp on the lamp panel lights up. The Enigma machine did not send the message; the message was sent using Morse Code over radio and this was secretly listened to at Wireless Intercept Stations (Y stations).

### • What are the differences between the Enigma machines on display?

Answers could include: number of rotors, size, material, numbers or letters on the rotors.

You may like to try the Enigma interactive on the wall.

### • Find three key facts about Alan Turing

Answers could include when he lived and died, where he was educated, what he worked on, facts related to his possessions on display, his conviction of a homosexual relationship in 1952 and the post-humous pardon granted in 2009.

## HUT 6

Please enter this Hut and find yourself in 28th February 1941. You will see information on your left as you enter and further down on the left.

### • What happened on this day?

On 28/2/41, a crucial enemy cipher was broken, from the light blue network—this was the German air force operational key in North Africa.

### • What would it be like to work here?

Answers could include busy, stressful, frustrating, hot in summer, cold in winter, noisy, poorly lit conditions, smoky

atmosphere.

### • Which types of codes are being broken here?

Hut 6 was focused on German Army and Airforce Enigma messages.

### • Go to the Decoding Room at the far end on the left. How were messages often sent through from Hut 6 to Hut 3?

Papers were pushed through a wooden chute with a broom handle (as shown in the projection). Once sent to Hut 3, messages were translated and analysed.

You will find the following rooms in Hut 6.

**Registration Room:** Intercepted messages are sorted.

**Machine Room:** ciphers settings are broken using pencil and paper.

**Interception Control Room:** staff communicate with Y-stations to ensure all radio stations are covered.

**Netz and Crib Rooms:** different methods are tried to help break the ciphers.

**Decoding Room:** once Enigma settings had been broken in the Machine Room the intercepted messages were typed into Typex machines (British cipher machines), adapted to work like Enigma machines. The decrypts were then pushed through a wooden chute with a broom into Hut 3.

## HUT 3

**The Watch:** four watch keepers who were experts in German filled in the Gaps in the messages that had come through from Hut 6.

**Duty Officers' Room:** the messages were prioritised.

**Advisers' Room:** Hut 3 reports were checked for accuracy in military and technical details.

**Intelligence Officers' Room:** officers worked on cover stories to conceal the fact that Enigma was being broken.

**Administration and Typing Room:** reports were typed up and sent to MI6. They were often sent by a (fictitious) spy called Boniface.

**Teleprinter Room:** At the beginning of the War Hut 3 sent their reports directly to MI6 and a small group of people who knew about the Bletchley Park secret. These messages were enciphered using a Typex machine and then sent by teleprinter.

Typex machines were the British wheel-based electromechanical cipher machines, a variant of the German commercial Enigma machine. They were developed in the UK in 1934. Once German messages were broken with the help of the Bombe machines, the intercepted messages were decrypted using adapted Typex machines.

## HUT 8

Work as a team to find different ways to break the codes. Different rooms explain different approaches.

### • Which strategies of codebreaking have you discovered?

Answers could include pinches, cribbing, banburismus, Eins catalogue.

Pupils can watch the following film in Hut 8 about the Petard Pinch: [goo.gl/qkFHvW](http://goo.gl/qkFHvW)

Alan Turing's office is near the far end on the right. He was the head of Hut 8 until 1942, working on Naval Enigma messages. His mug is chained to the radiator and his running shoes are in the cupboard.

## HUT 11A

Enter and keep to the right, heading towards the model of the Bombe machine at the back.

### • What does a Bombe machine do?

It checks the possible settings of Enigma messages for that day.

It does not break the cipher; it finds some of the possible settings after humans have done some of the initial work, such as finding a crib. They could then use this information to design a menu for the Bombe, allowing it to check possible Enigma settings for that day.

The Bombe machine was designed by Alan Turing and Gordon Welchman to assist with and speed up the codebreaking process. A set of three vertical drums on the Bombe machine represents three rotors in one Enigma machine. Over 200 Bombe machines were built but most were destroyed after the war. The Bombe is not a computer: it carries out systematic searches rather than numerical calculations.

### • Circle the menu. What is it for?

The menu is the pencilled diagram at the bottom of the message joining up different letters. It is based on links between letters in the cipher text and the crib (guess of the message content). It tells the Bombe operators how to plug up the Bombe, so that when it runs it will check particularly likely settings.

## MANSION

Enter, turn left and left again to stand in Commander Denniston's office.

### • How would it feel to sign the Official Secrets Act?

Student opinion. Answers could include daunting, worrying, pressurised, important, proud.

The Veterans Stories exhibition is in the end room between the library and Commander Denniston's office. Read or listen to a Veteran's wartime experiences.

\*Identity cards can be stamped with the embossing stamper on the desk in the Library.