

Who was Alan Turing and why should we care?

Who was Alan Turing and why is he important to Britain?

Guidance Notes and Lesson Plan

Lesson Objectives

- To create a shared environment of open enquiry
- To explore ideas about what it means to be a (national) hero, who gets counted as a national hero, who doesn't and possible reasons why/why not.
- To gain knowledge of the range of Turing's contributions to Britain and beyond
- To understand Turing's importance to British history and to legal changes
- To understand terminology and the role of individuals in society and history
- To experience and analyse primary and secondary source materials

Introduction

Alan Turing was, for most of his life and the decades following his death, little known beyond a small circle of computer scientists, mathematicians and cryptographers, and yet, he is arguably one of the most significant figures in British history of the 20th century. He made major contributions across a wide range of scientific and mathematical fields; contributions which, for example, have had huge implications for the development of computing in Britain and the wider world. His contribution, with others, at Bletchley Park during the Second World War, helped to shorten the war and save many, many lives. But his legacy went unnoticed and uncelebrated until the early 2000s because of his persecution and prosecution by the British legal system for being gay at a time when, under British law, homosexuality was a crime.

This lesson is an introduction to Alan Turing: his life, work, conviction for gross indecency and the consequences of that, and the subsequent rehabilitation of his memory in the early 21st century.



In this lesson, the learning is framed within the question of what makes a hero. Students are encouraged to challenge the notion of “the hero”, as exemplified by the Marvel™ all-action heroes of comics and blockbuster film; as far removed from the reality of Alan Turing as it could possibly be, perhaps. The lesson also encourages students to recognise the importance and far-reaching effects of Turing’s work, helping to create, as it has, the world that they have been born into. Ultimately, students will leave the lesson with knowledge of the wider-ranging contributions to Britain made by Alan Turing and, hopefully, questions about his treatment by Britain.

Key Information

This lesson is designed for students aged 13 and above. It is devised for History classes.

The timings suggested are based on a one-hour lesson and may need adapting based on circumstances. Some adaptations have been suggested where appropriate.

Prior knowledge is not needed. However, the notion that students may arrive with knowledge, ideas and preconceptions is embraced and should be utilised to explore and resolve misconceptions.

As far as possible, students should remain in the same small group throughout this course of lessons.

Resources:

- Lesson plan
- Lesson PowerPoint (NB. Slides 3 & 4 are hidden; teachers should unhide these slides if they wish to use them)
 - containing printable handouts:
 - Slide 10: A4 – 1 per student (an annotated version is included)
 - Slides 11-22 are the information cards, if teachers wish to show them during discussion
- Information Cards: set of 12 cards – 1 set per pair of students to be printed and cut up
- Washing line timeline cards: set of 20 A5 cards to be printed and cut up (the teacher will need to provide 20 pegs)
- A4 timeline (for teacher’s use if desired)

Lesson Plan

Challenging Histories and a shared space for learning (5 minutes)

Before the lesson begins, it is important to set the foundations for the learning process ahead, including being aware of the potential challenges of discussing elements of British history. Explain that British history can be contentious and cause emotional reactions. Exploring the past can mean we encounter voices, ideas, and interpretations that we may disagree with or even find offensive. It is important to acknowledge this and feel able to express it in an appropriate way. Encourage students to be open to understanding different perspectives, even if they may not agree with them.

Acknowledge and explain that how we look at the past depends on where we are in the present. Students might have knowledge, ideas, feelings, experiences, heritage related to a given historical person, context, or event which inform or steer their judgements. To ensure a classroom in which historical study can be open and honest invite students to agree to the following guiding principles for historical learning (Slide 1):

- To be conscious that we each have a unique perspective based on our own circumstances, but that nobody has more or less importance in this class.
- To let the facts inform you and lead your learning, rather than finding facts to support a prior viewpoint.
- Avoid the use terms like ‘we’ to refer to historical figures, peoples – as historians it is necessary to be impartial, so the language used is important.
 - i.e. refer to ‘the British’ rather than ‘we’. This helps to separate ourselves from the study and avoids unintentional othering or subconscious bias.
- Accept that interpretations and feelings about what we study can and will differ. This is ok!
- Discussion should be based on the facts. Use evidence to support your points to avoid making unfair or inaccurate assertions.

It is also important that students show respect and acceptance of one another in the classroom in order for them to feel comfortable sharing thoughts and ideas. To create a space of shared learning in which each member of the class is valued, invite students to agree to the ground rules outlined on Slide 2.

The aim is to encourage openness and create space for students to share their ideas and personal experiences, but without obligation and in an environment that is comfortable, supportive and non-judgemental.

Starter (8-10 minutes)

Phones or other IT devices are needed, so this activity is optional and the relevant slides in the PowerPoint are hidden. If desired, teachers can provide the details so that students can try the test at home. To unhide the slides right click on the slide and select 'Unhide'.

A fun starter is to allow students to play one of the many online Turing Tests. Recommended are playturing.com or humanornot.ai. Students can be asked what they know about the concerns about AI and how do we know whether something online is human or AI. The teacher introduces the concept of the Turing Test (without naming Alan Turing specifically) and by scanning the relevant QR code, students can select which version to play, as many times as possible in the time available.

After a few minutes, briefly discuss how they got on.

- Did anyone guess correctly every time?
- Is it important to be able to distinguish between AI and humans? Why? (Someone may mention Russian bots, for example.)
- Does the inventor of the test deserve some sort of recognition, or would that person need to do more to gain national recognition than just devise such a test?

Starter (5-8 minutes)

(If time allows, both starters could be used. If only one starter is used, then it must be this one.)

In pairs, students have two minutes to list what they consider to be the traits of a hero. They should also name two of their own heroes. After two minutes, students should pair & share for a further two minutes. If possible, this small group of four should remain working together throughout this lesson and any subsequent lessons used in the scheme of work.

When time is up, conduct a discussion on what the class consider to be the traits of a hero, writing the key traits of a hero on the board, along with any examples of heroes given. Then ask:

- What (if anything) do these heroes have in common?
- How many are **not** men?
- How many are fictional?
- Why might people not agree that someone is a hero? This question opens up the idea – which is explored in later lessons – that different attitudes and beliefs lead to different opinions and actions.

Activity: Who was Alan Turing? (25-30 minutes)

Show the short film [Alan Turing - Celebrating the life of a genius](#) (Slide 8; 8 minutes). Inform the class that they will need to pay close attention so they can complete a worksheet afterwards. By being asked not to take notes whilst watching the extract, students are required to engage closely with the film; the feedback questions are designed to ensure that everyone does have the necessary information.

Some teachers may feel that their class would benefit from taking notes whilst watching the film, in which case the 'Who was Alan Turing?' worksheet should be given out, one to each student. There is an annotated SEND version if needed.

- After watching the film, give each student a copy of the 'Who was Alan Turing?' worksheet and distribute the 'Who was Alan Turing? Information Cards between pairs.
- In small groups, using what they remember from the film and the card resources, students add what they can find out about this person and fill in the 'Who was Alan Turing?' worksheet as they go.
- Note that the images are left uncaptioned so that students can investigate them without (probably) prior knowledge of what the images are.

Feedback questions:

- Check everyone has the correct name and dates.
- What contributions did Turing make to Britain?
- What significant contributions did Turing make to science; mathematics; computing?
- Did Turing make any other contributions? ('Mathematical biology' may be suggested, probably by implication through talking about animal spots and stripes.)
- How and why was Turing persecuted? What does it mean to be persecuted?
- How has Turing been recognised by the country?
- Is Turing a hero? Why/why not? (Reference to the starter activity on their ideas about heroes should be made when appropriate.)

Activity: Timeline (10 minutes)

Divide up and randomly distribute the timeline cards (and pegs if using) to the small groups of four from the 'pair & share' starter. Randomly choose one group to read aloud their card and then place it in the appropriate place on the washing line timeline. Depending on the class's understanding of timeline distribution, the teacher may need to briefly explain how to position the cards according to date; it will probably be necessary to specify the start and end dates on the washing line.

If it is deemed necessary, the teacher can deliberately choose the groups with the first and last dates, making it easier for the others to place their cards appropriately. The washing line should remain in situ for reference throughout the topic.

This is a simple, straightforward activity which helps to reinforce the knowledge acquired so far. It is also an exercise in creating an accurate timeline, enabling students to see, at a glance, periods of significance in Turing's life and work. Students should note where there are clusters of events.

Summary (10 minutes)

1. What have we learned? Take feedback, asking students to provide support or justification for any opinions or conclusions they may have. Ask students to take notes from the board if desired.

Some possible discussion questions might be:

- In what ways did Turing contribute to Britain?
 - How did he contribute to maths and science?
 - Why was he persecuted?
 - How has he been recognised and is that enough?
2. What questions do they still have? To avoid a deafening silence, the teacher may wish to prompt some questions:
 - What is the purpose of an apology from the government?
 - Why did the apology take so long to happen?
 - Turing broke the law at the time, so why was he pardoned?
 - What makes a hero?

Make a note of these on the board and take a photo for future reference. Allow students to take a photo, if appropriate, or make notes, as the questions and answers point forward to later lessons.

