Lesson Plan

Learning Objective

This lesson centres on the GCHQ Christmas Challenge where students tackle seven puzzles that require a mix of minds and skill sets. Through the challenge, students develop their teamwork and problem-solving skills and learn about each other's strengths and perspectives.

Duration: 1-2 hours according to ability.

Resources

Printable now from website: GCHQ Factfile, Worksheet, Certificate

For registered teachers on 7 Dec: Video from Director GCHQ, Christmas Challenge Card, Hints sheet, Answer sheet

Teaching Input

We recommend starting with the video from GCHQ Director Anne Keast-Butler to provide context for the Christmas Challenge.

There are seven puzzles to solve on the back of the card, with one additional puzzle on the front of the card that uses the seven answers to reveal a hidden final message.

The puzzles are broadly aimed at Upper KS3 students of mixed ability. Students should work in teams with a suggested group size of four. For a mixed ability group, each puzzle should take about 10 minutes to solve. Teachers should adapt group size as appropriate to ability and key stage.

Students' answers and methods can spread quickly across the classroom, so if you want to avoid this, you can start teams off on different puzzles.

Lower ability

Pair with a higher ability pupil who can explain their thought process. If the group is lower KS3/4, and/or not engaging in small groups well, it may be more appropriate to tackle the puzzles as a whole class.

The teacher can also use the challenge hints sheet to support the students' progress and keep morale high.

Middle ability

Most groups will be here and should be able to tackle the puzzles with good teamwork.

Higher ability

This can be an opportunity to focus not only on the task but on team working ability. If a class has numerous high ability pupils, it can be suggested to attempt the task solo.

Plenary

Engage with the class with questions about GCHQ.

Examples:
- What do the letters GCHQ stand for?
- What is the purpose of GCHQ?
- How old is GCHQ?
- GCHQ is one of three UK intelligence agencies. What are the names of the other two?

Assessment Questions

The teacher should check for understanding of answers obtained, and how the teams worked together to achieve them.

National Curriculum Links

Teamwork Mathematics Languages Science

Note

Find four extra worksheets on our website to dig deeper into the history of GCHQ, and topics within mathematics, computer science, and languages. These can be completed before or after the Christmas Challenge, to help pupils learn more about the skills needed to become a spy.