



Unit 6 Lesson 1

The Atbash Cipher Crib Sheet

Slide 1: Introduce the lesson explaining we will be learning about codes and cryptography in this unit. Today we will learn about three different ciphers: the Atbash Cipher, The Caesar Step and The Vignère Cipher. Explain the pupils will be writing their own ciphers and sending secret messages.

Slide 2: Elicit pupil's prior knowledge. Ask the first question on the slide upon the click, the answer appears. There are many codes the pupils could have heard of. On the board, just two are shown e.g., Morse Code and The Enigma Code. Can pupils give some detail about these codes? (Morse is a series of dots and dashes, the Enigma Code used by the Nazis in WW2.) Repeat targeted questioning with the next two questions.

Slide 3: Pupils read the notes on the board and see if they can work out the code key given in Hebrew.

Slide 4: This slide shows the Atbash Cipher using the Roman alphabet. Can pupils decipher the encrypted messages on the board?

Slide 5: Pupils discuss what could be the problem with the Atbash Cipher? 1 minute discussion time will suffice. Ask for responses.

Slide 6: Shows the answer to the question on the previous slide: it's a weak cipher i.e., it's too easy. A more complicated example of the Atbash cipher is shown using punctuation and numbers. How else could pupils make the cipher harder?

Slide 7: This slide shows the Caesar Step. Can pupils work out how it works? Give a couple of minutes discussion time. Upon the click, the answer appears. Explain that the Caesar step works by moving the alphabet along a certain number of places to the left or the right. In the example on the board, you will see a step of 3.

Slide 8: This slide shows the Vignère Cipher. These are easily created by placing the alphabet on the outer circle and the cipher on the inner layer.

Slide 9: Pupils now have a go at creating their own substitution cipher either individually or in pairs. Hand out the worksheet for them to work through. Explain they must write 3 encrypted messages and see if their partner or another pair can decrypt them. Pupils must provide the key with the messages.

Slide 10: As a plenary, choose pupils to present their ciphers to the class.