

Cyber Safety Challenge 3: Encrypt your message using a cipher and send it to a friend

You have already gained your **Codebreaker** badge by completing the online challenge – well done! You were introduced in that challenge to what cryptography, encryption and codebreaking is. And you learned about two ciphers – pigpen and codeword – that can be used to encrypt simple messages.

Your offline challenge is to use one of those ciphers, or a cryptographic wheel, to encrypt a simple message for a friend. If that friend doesn't know about codebreaking, then you will have to explain to him or her how to decrypt the message! If your friend has also gained the Codebreaker badge, then you could use either codeword or pigpen and she should know how to decrypt the message! It's up to you!

Your step-by-step guide

- You have seen the pigpen and codeword ciphers in the online challenge. We have also provided you with a document for each to remind you how they work.
- There is another cipher, known as the cryptographic wheel, which you could also use – this means making the wheel using two pieces of cardboard, a protractor, and a split pin. We have supplied a **How2 make a cryptographic wheel** to help you.
- Decide which cipher you want to use (you can use as many as you want) and use it to encrypt your message. Remember with the codeword cipher, you first have to find a good code word to use (see the **How2 use the codeword cipher** for help) and it needs to be one that doesn't repeat letters if possible. So SUPERMAN doesn't have any repeated letters but SUPERGIRL does. The letter R is repeated and that makes it more difficult to use.
- Encrypt your message and share it with a friend. Be prepared to explain to the friend how to decrypt the message. If it's going to someone who already knows the cipher, see how fast they can decrypt your message!

