

LESSON PLAN 26: COMMUNICATING WITH CODED MESSAGES

Objective: Create ciphers for students to decode

Age range: 10-18

Want to make your students focus on your instructions? Try this easy way to make ciphers – a coded communication in which each letter in a message is replaced with another letter, word sentence or symbol – and see if your class can crack it.

YOU WILL NEED

- ▶ Computer, word processing software

DEVELOPING SKILLS

Literacy, maths, problem-solving, coding, communication

METHOD

1. Create a table with 26 spaces.
2. Type a letter of the alphabet into each space.

a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z

3. Copy and paste a duplicate table.

a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z

a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z

4. Highlight the bottom table and change to one of the weird ‘symbol’ fonts hanging about in your font folder that you’ve never had any use for before.

a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z
☪	🌀	🌀	🌀	🌀	🌀	🌀	🌀	🌀	🌀	🌀	🌀	🌀
■	□	□	□	□	•	◆	◆	❖	◆	☒	☒	⌘

Here is Wingdings. But you could choose one of any number – for example Webdings, Dingbats or Symbols – or another language script, like Arabic, Cyrillic or Greek.

5. Now decide on the text you want to encode for your class to translate, say:

‘seek and eventually you shall find’

6. Highlight this text and change to the font in the bottom table of your key.

(Be careful that your software doesn’t automatically capitalise the first letter of the sentence, as it won’t be in your key.)

In Wingdings, ‘seek and eventually you shall find’ becomes:

◆♣♣& ☪☪☪ ♣❖♣■◆◆☪●●☒ ☒□◆ ◆❖☪●● ☒☒☪

7. Give you class the coded sentence and the key to decode it, and see how they go.
8. ☪☪☪☪ ●◆♣&

TOPICS TO DISCUSS

- What are codes used for?
- How do codes work?
- What makes a good code?
- Explore famous codes and code-related stories, such as the Enigma Code
- Is text messaging like code? Why?
- Where are codes used in everyday life?

FOLLOW UP ACTIVITIES

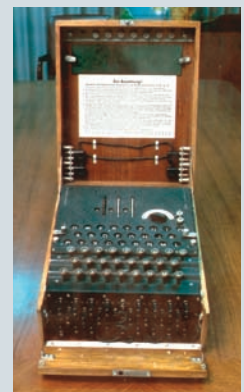
- Use alternative symbols
- Use different messages
- Use capital and lower case letters
- Use numbers
- Use foreign languages
- Ask students to communicate in code

SUBMITTED BY **ANTHONY HILL**, QUEENSTOWN PRIMARY SCHOOL

THE ENIGMA CODE

Enigma was a family of related electro-mechanical rotor machines used to encrypt and decrypt secret messages. A version was used by the German military in WWII and famously cracked by the Allies.

- www.enigmahistory.org
- www.bbc.co.uk/history/worldwars/wwtwo/enigma_01.shtml



WHAT IS CRYPTOGRAPHY?

Aka cryptology, this is the practice and study of hiding information. Today it’s commonly used in applications to secure ATM cards and computer passwords.