

Morse code

The telegraph

Before the telephone was invented, the quickest way of sending messages over long distances was by **telegraph** ('graph' meaning to write, and 'tele' meaning from far away).

An old problem

A telegraph was basically an electric circuit with very long wires. For many years, inventors wondered how to turn the electrical pulses that travelled down the wires into letters and numbers, to send long distance messages.

Dot dot dash

In the 1830s, the American inventor **Samuel Morse** built a telegraph system with a moving lever (a small metal arm like a clock hand), with the help of **Alfred Vail**. By 1840 the two men had worked out a code to translate the movements of the lever into letters so that messages could be understood.

Morse code

Morse's telegraph could send long and short pulses of electricity along a wire. Morse called short pulses **dots** and long pulses **dashes** to represent each letter of the alphabet.

Letter	Morse	Letter	Morse	Digit	Morse	Punctuation Mark	Morse
A	..	N	--	0	-----	Full stop	-----
B	O	---	1	-----	Comma	-----
C	P	2	-----	Question mark	-----
D	...-	Q	----	3	-----	Apostrophe	-----
E	.	R	...-	4	-----	Hyphen	-----
F	S	...-	5	-----		
G	...-	T	-	6	-----		
H	U	...-	7	-----		
I	..	V	8	-----		
J	W	...-	9	-----		
K	...-	X				
L	Y	----				
M	--	Z	----				



Send a Morse code message!

1. Design and make a simple circuit to send a Morse code message across the room to a partner.
 - λ Use three pieces of wire, a bulb, battery and switch.
 - λ The switch must be made so that you can tap out dots and dashes (short and long flashes of the bulb).
 - λ When your telegraph works, try sending four short Morse messages using the code on the first page to see how many your partner can read. Here are some suggestions:
 - the name of a country
 - a type of food
 - a famous invention
 - a short sentence of 3-5 words.
2. Fill in the box below.

Design Title
What is it for?
Drawing, with labels
Evaluation: how well did it work
How can it be improved?



