## **Encryption with binary**

Although it is not very secret, binary numbers are a code. (Why do you think they call it 'coding'?). To give you practice encoding and decoding a message, use this Unicode chart for the upper case letters as a cipher strip. For example, the word "HELLO" can be coded as:

## 10010001000101100110010011001001111

## **Decoding:**

Each letter above uses seven digits. Circle the digits for each letter, look up the number in the chart, and write the letter beneath the number.

## **Encoding:**

Write a word here that is at least 5 and no more than 8 characters

- Using the table, write out the word on a separate piece of paper.
- Have your partner check that you correctly encoded your work.
- Give your paper to another member of your class.
   Challenge them to decode it.

| A 1000001 B 1000010 C 1000011 D 1000100 E 1000101 F 1000110 G 1000111 H 1001000 I 1001001 J 1001010 K 1001101 L 1001100 M 1001101 N 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 V 1010110 V 1010111 X 1011000 Y 1011001 Z 1011010 |   | 7       |
|---|---|---------|
| C 1000011 D 1000100 E 1000101 F 1000110 G 1000111 H 1001000 I 1001001 J 1001010 K 1001101 L 1001100 M 1001101 N 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 V 1010111 X 1011000 Y 1011001   | Α | 1000001 |
| D 1000100 E 1000101 F 1000110 G 1000111 H 1001000 I 1001010 K 1001010 K 1001101 L 1001100 M 1001101 N 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 W 1010111 X 1011000 Y 1011001   | В | 1000010 |
| D 1000100 E 1000101 F 1000110 G 1000111 H 1001000 I 1001010 K 1001010 K 1001101 L 1001100 M 1001101 N 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 W 1010111 X 1011000 Y 1011001   | C | 1000011 |
| F 1000110 G 1000111 H 1001000 I 1001001 J 1001010 K 1001011 L 1001100 M 1001101 N 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 W 1010111 X 1011000 Y 1011001   | D | 1000100 |
| G 1000111 H 1001000 I 1001001 J 1001010 K 1001011 L 1001100 M 1001101 N 1001110 O 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 W 1010111 X 1011000 Y 1011001   | Е | 1000101 |
| H 1001000 I 1001001 J 1001010 K 1001011 L 1001100 M 1001101 N 1001110 O 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 W 1010111 X 1011000 Y 1011001   | F | 1000110 |
| I 1001001  J 1001010  K 1001011  L 1001100  M 1001101  N 1001110  O 1001111  P 1010000  Q 1010001  R 1010010  S 1010011  T 1010100  U 1010101  V 1010110  W 1010111  X 1011000  Y 1011001   | G | 1000111 |
| J 1001010  K 1001011  L 1001100  M 1001101  N 1001110  O 1001111  P 1010000  Q 1010001  R 1010010  S 1010011  T 1010100  U 1010110  V 1010111  X 1011000  Y 1011001   | Н | 1001000 |
| K 1001011<br>L 1001100<br>M 1001101<br>N 1001110<br>O 1001111<br>P 1010000<br>Q 1010001<br>R 1010010<br>S 1010011<br>T 1010100<br>U 1010110<br>V 1010110<br>W 1010111<br>X 1011000<br>Y 1011001   | I | 1001001 |
| L 1001100 M 1001101 N 1001110 O 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010101 V 1010110 W 1010111 X 1011000 Y 1011001   | J | 1001010 |
| M 1001101 N 1001110 O 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010110 V 1010110 W 1010111 X 1011000 Y 1011001   | K | 1001011 |
| N 1001110 O 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010101 V 1010110 W 1010111 X 1011000 Y 1011001   | L | 1001100 |
| O 1001111 P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010101 V 1010110 W 1010111 X 1011000 Y 1011001   | M | 1001101 |
| P 1010000 Q 1010001 R 1010010 S 1010011 T 1010100 U 1010101 V 1010110 W 1010111 X 1011000 Y 1011001   | N | 1001110 |
| Q 1010001 R 1010010 S 1010011 T 1010100 U 1010101 V 1010110 W 1010111 X 1011000 Y 1011001   | 0 | 1001111 |
| R 1010010<br>S 1010011<br>T 1010100<br>U 1010101<br>V 1010110<br>W 1010111<br>X 1011000<br>Y 1011001  | Р | 1010000 |
| R 1010010<br>S 1010011<br>T 1010100<br>U 1010101<br>V 1010110<br>W 1010111<br>X 1011000<br>Y 1011001  | Q | 1010001 |
| T 1010100<br>U 1010101<br>V 1010110<br>W 1010111<br>X 1011000<br>Y 1011001  |   | 1010010 |
| U 1010101<br>V 1010110<br>W 1010111<br>X 1011000<br>Y 1011001   | S | 1010011 |
| V 1010110<br>W 1010111<br>X 1011000<br>Y 1011001  | Т | 1010100 |
| W 1010111<br>X 1011000<br>Y 1011001   | U | 1010101 |
| X 1011000<br>Y 1011001  | V | 1010110 |
| Y 1011001   | W | 1010111 |
| Y 1011001   | X | 1011000 |
| Z 1011010   | Υ | 1011001 |
|   | Z | 1011010 |

