Binary Code Worksheet

Decode, encode and add place values. Use the binary alphabet chart. Answers on page 2.

Name _____ Date _____

1. Decode these words

Each group of 8 digits is one letter.

1. `01001000 01101001` = _____
2. `01000011 01100001 01110100` = _____
3. `01000011 01101111 01100100 01100101` = _____
4. `01000010 01111001 01110100 01100101` = _____

2. Write these words in binary

1. **OK** = _____
2. **Yes** = _____
3. Your initials = _____

3. Add the place values

Add the value above every 1. Example: 00000101 = 4 + 1 = 5.

128	64	32	16	8	4	2	1	Number
0	1	0	0	0	0	0	1	
0	0	1	1	0	1	1	1	
1	1	1	1	1	1	1	1	

4. Crack the secret message

This code uses only 5 digits per letter: the letter's place in the alphabet (A = 1 = 00001, B = 2 = 00010 … Z = 26 = 11010).

`01000 00101 01100 01100 01111`

Message = _____

Answer Key

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1. Decode these words

1. `01001000 01101001` = **Hi**
2. `01000011 01100001 01110100` = **Cat**
3. `01000011 01101111 01100100 01100101` = **Code**
4. `01000010 01111001 01110100 01100101` = **Byte**

2. Write these words in binary

1. **OK** = `01001111 01001011`
2. **Yes** = `01011001 01100101 01110011`
3. Your initials: check each letter against the binary alphabet chart.

3. Add the place values

1. □■□□ □□□■ `01000001` = 64 + 1 = **65**
2. □□■■ □■■■ `00110111` = 32 + 16 + 4 + 2 + 1 = **55**
3. ■■■■ ■■■■ `11111111` = 128 + 64 + 32 + 16 + 8 + 4 + 2 + 1 = **255**

4. Secret message

`01000 00101 01100 01100 01111` = 8, 5, 12, 12, 15 = **HELLO**

Check any answer, or make your own puzzles, with the free translator at binarytranslator.app