

Binary Code Worksheet

Convert between letters, numbers, and 8-bit binary

ANSWER KEY

Grades 5–9 • 20 minutes • Intermediate • [Answer key included](#)

Use the ASCII values given to convert letters and numbers to 8-bit binary, and decode binary back to text or decimal. Show your work in the spaces provided.

1. Convert the letter A to 8-bit binary (A = ASCII 65)

Answer: 01000001

2. Convert the letter H to 8-bit binary (H = ASCII 72)

Answer: 01001000

3. Convert the number 42 to binary

Answer: 00101010

4. Decode binary to decimal: 00001010

Answer: 10

5. Decode binary to ASCII letter: 01000010

Answer: B (66)

6. Decode binary to ASCII letter: 01011010

Answer: Z (90)

7. Convert the decimal number 255 to binary

Answer: 11111111

8. What decimal number does 10000000 represent?

Answer: 128

9. Decode this binary message: 01001000 01001001 (ASCII)

Answer: HI

10. Decode: 01000011 01001111 01000100 01000101 (ASCII)

Answer: CODE

11. What is 5 + 3 in binary? (add, then convert the result)

Answer: 00001000

12. Convert binary 01101001 to hexadecimal

Answer: 69