

Name:

Binary Numbers

1. True or false: everything inside computers has to be stored as a number?

.....

2. What numbers does binary use?

.....

3. What is the name for a single binary number?

.....

4. What is the name for eight binary numbers together?

.....

5. Change these numbers from binary to normal numbers

| 8s | 4s | 2s | 1s | |
|----|----|----|----|---|
| 0 | 1 | 0 | 1 | = |

| | | | | |
|---|---|---|---|---|
| 1 | 0 | 0 | 1 | = |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| 1 | 1 | 1 | 1 | = |
|---|---|---|---|---|

6. Write these numbers as binary numbers:

| 4 | = | <table border="1"><thead><tr><th>8s</th><th>4s</th><th>2s</th><th>1s</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table> | 8s | 4s | 2s | 1s | | | | |
|----|----|--|----|----|----|----|--|--|--|--|
| 8s | 4s | 2s | 1s | | | | | | | |
| | | | | | | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 3 | = | <table border="1"><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table> | | | | |
| | | | | | | |

| | | | | | | |
|---|---|--|--|--|--|--|
| 7 | = | <table border="1"><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table> | | | | |
| | | | | | | |

| | | | | | | |
|----|---|--|--|--|--|--|
| 12 | = | <table border="1"><tbody><tr><td></td><td></td><td></td><td></td></tr></tbody></table> | | | | |
| | | | | | | |

7. Everything that is stored in a computer gets turned into numbers. That includes pictures, sounds and video.

Colour the 1s in black.

Work out the value of each row.

| 16s | 8s | 4s | 2s | 1s | |
|-----|----|----|----|----|---|
| 1 | 1 | 1 | 0 | 0 | = |
| 0 | 0 | 0 | 1 | 1 | = |
| 0 | 0 | 1 | 0 | 1 | = |
| 0 | 0 | 1 | 0 | 1 | = |
| 0 | 0 | 0 | 1 | 0 | = |

8. Work out what goes in each cell (1 or 0). Colour in the 1s black.

| 16s | 8s | 4s | 2s | 1s | |
|-----|----|----|----|----|------|
| | | | | | = 4 |
| | | | | | = 10 |
| | | | | | = 10 |
| | | | | | = 31 |
| | | | | | = 17 |

9. Find out how sound is stored inside computers.