

Binary Activity

Convert the binary numbers in the sentences below into a decimal number. Then use the **legend** to find the letter it belongs to.

- 1) 0100 0101 0101 00010010 sleep only 5 minutes a day.

Answer:

- 2) When 0011 0001 00010100 00010011 are happy or pleased, they squeeze their eyes shut

Answer:

- 3) Butterflies taste with their 0110 0101 0101 00010100.

Answer:

- 4) 1010 101 100 1001 is an official religion, with over 70,000 followers, in Australia.

Answer:

Legend

1	a
2	b
3	c
4	d
5	e
6	f
7	g
8	h
9	i
10	j
11	k
12	l
13	m
14	n
15	o
16	p
17	q
18	r
19	s
20	t
21	u
22	v
23	w
24	x
25	y
26	z

Research an algorithm or method online to convert from a decimal number to a binary number.
You may use:

a) 15

$$15 \div 2 = 7$$

$$7 \div 2 = 3$$

$$3 \div 2 = 1$$

$$1 \div 2 = 0$$

R

1
1
1
1

Answer:

$$1111_2 = 8+4+2+1 = 15_{10}$$

b) 35

$$35 \div 2 = 17$$

$$17 \div 2 = 8$$

$$8 \div 2 = 4$$

$$4 \div 2 = 2$$

$$2 \div 2 = 1$$

$$1 \div 2 = 0$$

R

1
0
0
0
0
1

$$100011_2 = 35_{10}$$

c) 60

$$60 \div 2 = 30$$

$$30 \div 2 = 15$$

$$15 \div 2 = 7$$

$$7 \div 2 = 3$$

$$3 \div 2 = 1$$

$$1 \div 2 = 0$$

R

0
0
1
1
1
1
1

Answer:

$$111100_2 = 32+16+8+4+2 = 60_{10}$$