Your Knowledge of Base 10, place value & expanded notation –

that Linkage helps with your understanding of base 5

Expand that to base 2

Base 2 – made up of 2 digits; 0 and 1

$$2^5 \quad 2^4 \quad 2^3 \quad 2^2 \quad 2^1 \quad 2^0$$
$$32 \quad 16 \quad 8 \quad 4 \quad 2 \quad 1$$

Write these numbers in base 10

1_2

11_2

101_2

110_2

111_2

1010_2

Converting Base 10 to Base n

1. Determine the greatest value of BaseN contained in the Base10 Number
2. Divide by successive powers of BaseN

Example   Convert 15 to base 2

$2^0 = 1,\ 2^1 = 2,\ 2^2 = 4,\ 2^3 = 8,\ 2^4 = 16,\ 2^5 = 32, \ldots$

2^3 is the greatest value of base 2 contained in 12.

8) $\overline{15}$ 1
   − 8
4) 7   1
   − 4
2) 3   1
   − 2
1) 1   1
   − 1
      0

$15 = 1\,1\,1\,1_2$

Write these numbers in base 2

1   3   5   7   9

2   4   6   8   10