

Hello children, hope you all are hale and hearty!!

In our last class we had done some story problems on HCF, and today also we shall continue with the same but little different from the previous one. So, let us try out some examples.

Example-1:- What is the maximum length of equal pieces that can be cut from two wires of equal lengths 12 cm and 18 cm?

Here since **maximum** length is to be found we need to find the HCF of 12 and 18

The image shows two handwritten division tables. The first table is for the number 12, with divisors 2, 2, 3, and 1. The second table is for the number 18, with divisors 2, 3, 3, and 1. The common factors 2 and 3 are highlighted in pink.

2	12
2	6
3	3
	1

2	18
3	9
3	3
	1

Product of the common factors = $2 \times 3 = 6$

Product of the common factors = $2 \times 3 = 6$

Therefore HCF of 12 and 18 = 6

Thus $12 \div 6 = 2$, and $18 \div 6 = 3$, this means we get 2 pieces of 6 cm from the first wire and 3 pieces of 6 cm from the second wire.

Example 2:- Two water tanks contain 180 litres and 200 litres of water respectively. What will be the maximum capacity of a bucket that can exactly measure the water in the two tanks?

The image shows a handwritten division table for the number 180, with divisors 2, 2, 3, 3, 5, and 1.

2	180
2	90
3	45
3	15
5	5
	1

The image shows a handwritten division table for the number 200, with divisors 2, 2, 5, 5, and 1.

2	200
2	100
2	50
5	25
5	5
	1

Therefore HCF of 180 and 200 = $2 \times 2 \times 5 = 20$, thus a 20 litre bucket has to be used to exactly measure 180 litres and 200 litres of water.

As, $20 \times 9 = 180$ and

$$20 \times 10 = 200$$

Now let us try to solve some story problems from **Exercise 4.2** (page no 58)

Q11) What is the maximum length of equal pieces that can be cut from two wires of lengths 16 m and 20 m? (Hint: use the same method as example 1)

Q12) Find the maximum length of equal pieces that can be cut from three ribbons of lengths 45 m, 18m and 36 m? (Hint: use the same method as example 1)

Q13) What is the maximum length of equal pieces of chocolate that you can get, if you break two bars of chocolates of lengths 6cm and 8cm? (Hint: use the same method as example 1)

Q14) A child needs to build two brick towers 21 cm and 18cm in height. What should be the maximum height of a toy brick such that he can construct both the towers? (Hint: find the HCF of 21 and 18)

Q15) What should be the maximum length of a chocolate bar if the chocolate bars are to be packed in cartons either 48cm, 54cm or 60 cm long? (Hint: find the HCF of 48, 54 and 60)

Q16) What is the maximum length of equal pieces that can be cut from two ropes of lengths 80 cm and 93 cm leaving two pieces of 2 cm from each?

(Hint: subtract 2 from 80 and 93 such as $80 - 2 = 78$ and $93 - 2 = 91$, now find the HCF of 78 and 91 the resultant HCF will leave a remainder of 2 if it divides 80 and 93) **You can also take help of the video link given in worksheet 23**

Note:- Children please remember to fill up the Contents page everyday