

## FACTORS

Ali has to arrange 8 stones in different ways. Following are the ways he can arrange 8 stones.

- In ones      ○ ○ ○ ○ ○ ○ ○ ○       $8 \times 1 = 8$
- In twos      ○○ ○○ ○○ ○○       $4 \times 2 = 8$
- In fours      ○○○○ ○○○○       $2 \times 4 = 8$
- In Eights      ○○○○○○○○       $1 \times 8 = 8$

He has arranged the stones in ones, twos, fours and eights with no left over stones in each case.

This shows that 1, 2, 4 and 8 are the **factors** of 8.

**Remember** some important facts about factors of a number!

- 1 is a factor of every number
- When a number is divided by its factor, there is no remainder.
- Each number is a factor of itself.

### **Highest Common Factor (HCF):**

Look at the factors of 4 and 8.

Factors of 4 : 1, 2, 4

Factors of 8 : 1, 2, 4, 8

Here we see that some numbers are factors of both 4 and 8 like 1, 2 and 4. These are the *common factors* of 4 & 8.

And 4 is the **Highest Common Factor**.

