



Unit

A unit is a number of things grouped together and counted as a whole. Counting in units is something we do every day.

When you know the number in a certain unit, you can add these units together or you can multiply them.

Your supervisor asks you to get 18 marigolds. The marigold trays contain ten flowers each. How many units (trays) will you need? You may have some left over.



Answer = two trays will be enough ($2 \times 10 = 20$ marigolds) and you will have two left over ($20-18=2$)

Larger Numbers

When you are working with larger units, it helps to figure out how many items are in each unit. Look at the example below.



Tray 1



Tray 2

Both units or trays have the same number of holes for plants. How many plants can be in tray 1 and 2? There are several ways to calculate the answer for this question. You could count each hole in each tray. You could count each hole in one tray and double your answer for the total. Both ways would be correct, but these methods would take a little time.



When working with larger numbers, it is faster if you:

- Count the number of items (holes) in one row
- Count the number of rows
- Multiply these numbers together

Solution:

- There are 10 holes in each row
- There are 5 rows in each tray
- There are 2 trays

$$10 \text{ holes} \times 5 \text{ rows} \times 2 \text{ trays} = 100 \text{ plants } OR$$

$$10 \text{ holes} \times 5 \text{ rows} = 50 \text{ holes in one tray} + 50 \text{ holes in the second tray} = 100 \text{ holes}$$

Rounding Up

It is important to know the maximum number of items in each unit. For example, each tray of petunias has 6 plants (a plant may have more than one flower). Your supervisor has asked you to plant 20 petunias in the small circular bed. How many trays will you need? Since each tray contains 6 plants, you will need to bring 4 trays ($6 \times 4=24$ plants). If you round the number of plants up to the maximum in each tray, you will have enough plants to plant (20) with 4 to spare.



Always make sure you have enough plants. A second trip to the storage shed will cost your employer time and money. Four trays of 6 plants will allow for damage and poor-quality plants. Always round up your number to the maximum number of plants in a tray.

Estimating

You may also need to estimate the number of items you will need to complete a task. When you estimate, you make a rough or approximate calculation. Learning how to quickly estimate the number of plants you will need to complete a planting task is a good skill to develop. Some plant trays may only have six sections while others may have hundreds of sections.

As a new hire, you will not be asked to do a lot of estimating. Estimating comes from experience. When you perform a job task several times, you will begin to get a "feel" for how long something will take to do and how much material you will need to do it. Your supervisor may ask you to bring 250 petunias to a planting site. You will have to work out how many trays you should bring.

When you know the total number of plants equals 250, and the number of plants in each tray equals 24, divide the numbers to find your answer.

$$\text{Example: } 250 \div 24 = 10 \text{ trays (and 10 extra plants)}$$

Another important reason for estimating is when measuring. For example, place a ruler on the table. Make a fist and put your knuckles on the table along the ruler. Stretch out your thumb and pinky finger along the ruler. What is the distance? Mine is about 8". The information card for the Begonia says to space 12" between each plant. Rather than using the tape measure, I would use my outstretched fist 1 and $\frac{1}{2}$ times to space the Begonias.