

## Problem of the Week

### Problem A and Solution

#### Sweet Treat

#### Problem

A single package of suckers contains 25 suckers of different colours: blue, red, yellow, pink, and green. There is an equal number of each colour of sucker in a package.

Miss Lolli surveys her class to find out what colour they would like to have for their special Fun Friday treat. The results of the survey are tallied as follows.

Colour	Number of Students
Blue	
Red	
Yellow	
Pink	
Green	

- If Miss Lolli wants to make sure that each student receives the sucker colour they would like, how many packages of suckers does she need to buy?
- After each student gets their sucker of choice on Friday, how many of each colour of sucker will she have left over?

#### Solution

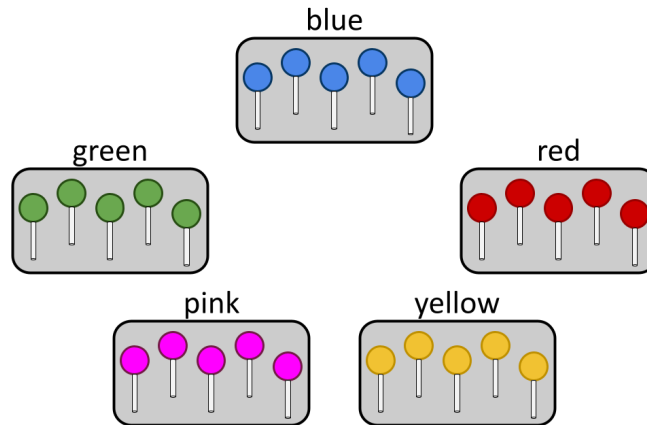
- From the tally chart we know that the most popular colour is red, and 11 students selected that colour. This means Miss Lolli needs to buy enough packages to have at least 11 red suckers.

There are 25 suckers in a package, there are 5 different colours, and there are an equal number of each colour in a package. This means there are  $25 \div 5 = 5$  suckers of each colour in a package.



Alternatively, we can find there are 5 suckers of each colour in a package in the following way:

If we build one pile for each colour, and we add the suckers from the package to a pile one at a time, we will find that there are 5 suckers of each colour.



Since there are 5 red suckers in a single package, then there are 10 red suckers in two packages, and 15 red suckers in three packages. This means Miss Lolli needs to buy three packages to get enough red suckers for the students.

- (b) Since there are 5 suckers of each colour in a package, then if Miss Lolli buys three packages there will be 15 suckers of each colour.

For each colour of sucker, we subtract the value of the tally from 15 to see how many will be left over of that colour:

- Blue:  $15 - 4 = 11$  left over
- Red:  $15 - 11 = 4$  left over
- Yellow:  $15 - 2 = 13$  left over
- Pink:  $15 - 7 = 8$  left over
- Green:  $15 - 3 = 12$  left over