Sweets

## SAME SWEETS



Six bags of sweets each contain green, white, yellow, orange and red sweets with equal numbers of each colour (5 flavours). You pick sweets from different bags without looking.

If you pick 2 sweets what different combinations of colours can you get?

If you pick 2 sweets how likely are you to pick two of the same colour?
If you pick 6 sweets what is the probability that two are the same colour?

## HELP

One of the 'golden rules' of problem solving is to work on simple cases when a problem seems difficult.

If you find this problem difficult first solve the simpler problem for a bag of sweets with only 2 colours. Ask the same questions.
If you pick 2 sweets how likely are you to pick two of the same colour?
If you pick 6 sweets what is the probability that two are the same colour?

After that, progress to a bag of sweets with three colours and solve the same problem. Then solve the problem for a bag of sweets with 4 colours.

You should then easily be able to solve the problem for 5 colours.

## NEXT

What is the probability that, in a group of 6 people, two people have birthdays in the same month?

What if the group has 7 people?

What if the group has more than twelve people?

**https://aiminghigh.aimssec.ac.za/same-birth-month/**