Multiplicative reasoning Sheet 1

Flapjack nrich.maths.org/6202

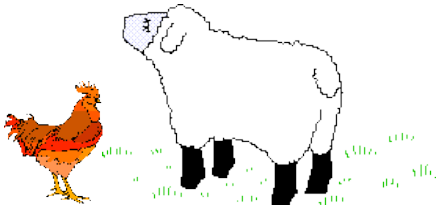
A recipe for eight flapjacks needs 2oz butter, 3oz sugar and 4oz rolled oats.
How many flapjacks can I make if I have 14oz butter, 15oz sugar and 16oz rolled oats?

Heads and Feet nrich.maths.org/924

On a farm there were some hens and sheep.

Altogether there were 8 heads and 22 feet.

How many hens were there?



Punky Fish nrich.maths.org/5755

A male punky fish has 9 stripes and a female punky fish has 8 stripes.
I count 86 stripes on the fish in my tank.

What is the ratio of male fish to female fish?

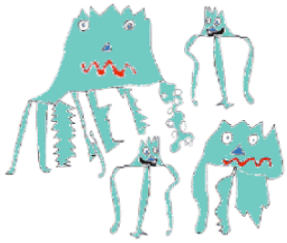
Multiplicative reasoning Sheet 2

Stamp Collecting nrich.maths.org/11638

Last week, Tom and Sophie bought some stamps for their collections. Each stamp Tom bought cost him £1.10, whilst Sophie paid 70p for each of her stamps.

Between them they spent exactly £10.
How many stamps did they buy in total?

Zios and Zepts nrich.maths.org/1005



On the planet Vuv there are two sorts of creatures. The Zios have 3 legs and the Zepts have 7 legs.

The great planetary explorer Nico, who first discovered the planet, saw a crowd of Zios and Zepts. He managed to see that there was more than one of each kind of creature before they saw him. Suddenly they all rolled over onto their backs and put their legs in the air.

He counted 52 legs.

How many Zios and how many Zepts were there?
Do you think there are any different answers?

Roses and Carnations nrich.maths.org/13237

Class 7H has collected £56 to buy a bunch of flowers for their teacher.

Roses cost £3 each and carnations cost £2 each.

Assuming they spend all of their money, how many different possible bunches do they have to choose from?

Multiplicative reasoning Sheet 3

Printer Ink nrich.maths.org/11680

A small ink cartridge has enough ink to print 600 pages.
Three small ink cartridges can print as many pages as two medium cartridges.
Three medium cartridges can print as many pages as two large cartridges.

How many pages can be printed using a large cartridge?

Pairing Up nrich.maths.org/5759

The numbers 72, 8, 24, 10, 5, 45, 36, 15 are grouped in pairs so that each pair has the same product.

Which number is paired with 10?

Multiplicative reasoning Sheet 4

Stair Climb nrich.maths.org/4879

Boris, Spike and Percival are going to race up the 99 steps that lead from the beach to the car park at the top of the cliff.

Boris can run up five steps in the same time as Spike can run up four steps, which is the same time as Percival can run up three steps.

It is agreed that Boris starts from the bottom, Spike starts 21 steps up and Percival 38 steps up.

If they all start at the same time, in what order will they reach the top?

A Leg to Stand On nrich.maths.org/2458

In the Soft Boulder Cafe, each table has 3 legs, each chair has 4 legs and all the customers and the three members of staff have two legs each. There are four chairs at each table.

At a certain time, three-quarters of the chairs are occupied by customers and there are 206 legs altogether in the cafe.

How many chairs does the cafe have?