

Mixed bags

Children look for multiples of 2p and 5p, then 3p and 5p with given totals to solve a problem.

Skills practised:

- Listing multiples of 2, 3 and 5
- Looking for pairs of numbers with a given total

Conjecture: *It is possible to demonstrate that all possibilities in this context have been found.*

What to do:

Children work individually or in pairs.

1. This bag has exactly 13p in it.
There is a mix of 2p and 5p coins, and no other coins.
How many coins do you think are in the bag?

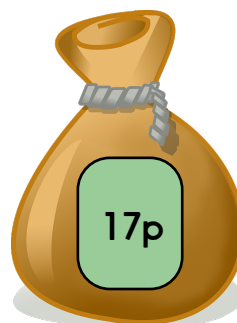
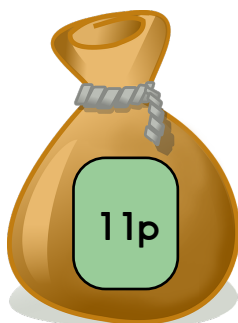


HINT: One way to solve this is to first make a list of multiples of 2p up to 12p. (Why do you think that the list should stop at 12p? Could it stop earlier?) Next make a list of multiples of 5p up to 10p. Look for a pair of numbers with a total of 13p. How can you use this information to work out how many 2p coins and how many 5p coins there are?

2. This bag has exactly 19p in it, again made from 2p and 5p coins.
How many coins do you think there are this time?
Is there another possibility?
Are you sure that there aren't any more possibilities?



3. On Tri Island, they have a 3p coin! These bags all have a mix of 3p and 5p coins.
Work out how many coins might be in each bag.



Can you make up your own questions like this for a friend to solve? It could be about a bag on Tri Island which has a mixture of 3p and 5p coins, or you could make up your own coins for another imaginary island!

Aims:

- To begin to work systematically
- To become more familiar with multiples of 2, 3 and 5

Minimum number of calculations expected

N/A

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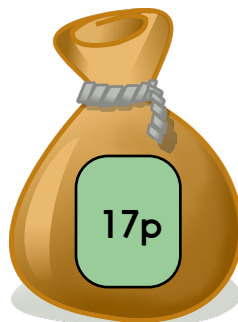
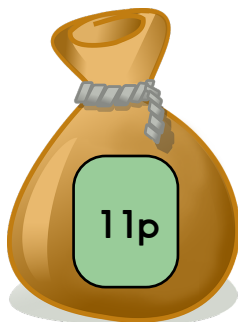
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Challenge

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