

STOPS B4 - Lesson Plan

Name

STOPS B4 - Danton's Golden Coins

Learning Intention

To solve a problem by trial and error

Resources

Counters/cubes, 20 per child/pair/group

Danton's gold coins

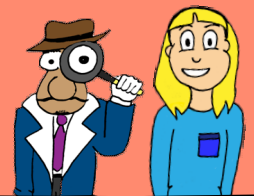
Danton has 20 golden coins.
He put them in four piles.

The first pile had four more coins than the second pile.

The second pile had one less coin than the third.

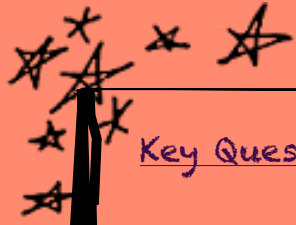
The fourth pile had twice as many coins as the second.

How many coins did Danton put in each pile?



Teaching notes

Show problem to children and ensure that they understand. Allow them to attempt the problem, possibly without the supporting resources. Identify, through children's efforts if possible, that simply having an attempt (or "trial") and seeing if it matches the clues is a good strategy. If it is not, we consider how to change it. This is called "Trial and Error". Identify the link to the "act it out" strategy by using cubes or counters as gold coins. Encourage children to make a trial and discuss with each other why it does not work and what could be done about it. For this strategy, do not necessarily encourage formal recording as this can be addressed when teaching other strategies, e.g. "trial by improvement" and "making a list or table"



Key Questions:

- What can we do to help us solve this problem?
- Which strategy are we focusing on today?
- Has your trial worked? Why not/Why?
- What will you do to change your trial? Why? What effect will that have?
- What did you do to arrive at your solution?

Differentiation:

Higher: STOPS B5

Lower: STOPS B3

Extension: If she has 40 gold coins, how does it affect the problem?
What if she has 100 gold coins?

Lower: Dalton has 20 gold coins in two piles. If the first pile has 4 more than the second, how many is in each pile?

Dalton has 20 coins in 3 piles. One pile has 6 coins in, how many could the other piles have?

Solutions:

7, 3, 4 and 6 coins in each pile.

Extension: the solution is 11, 7, 8 and 14 in each pile.

Children may also explain that the solution can only be doubled if the clues are doubled also, so that clue 1 becomes: the first pile had 8 more than the second