

Dr Fog Presents

Developing a standard method

Year 5 (National Numeracy Strategy)
(Based on DFEE Sample Lessons)



Resources

- None



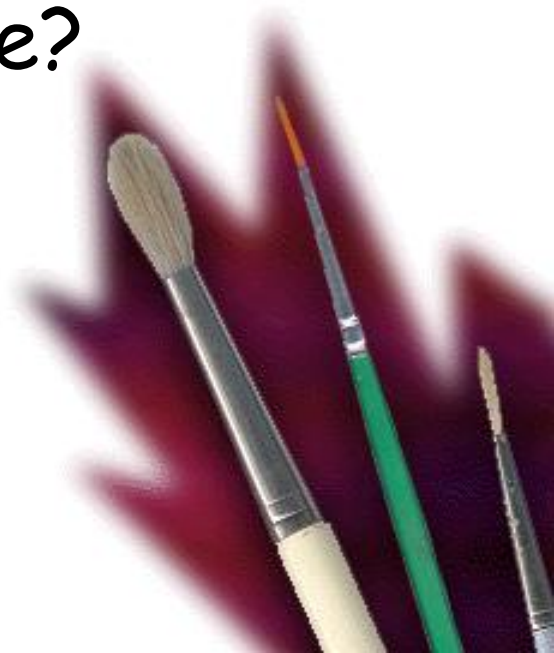
Mental Learning Objective

- I can make sense of number problems.



Mental Learning Task

- I am going to give you several problems.
- How would you solve each one?



Mental Learning Task

- I think of a number, then divide it by by 15. The answer is 20
- What was my number?



Mental Learning Task

- There are 12 eggs in a box.
- How many eggs in 9 boxes?
- How many boxes will 120 eggs fill?



Mental Learning Task

- A chocolate bar costs 19 cents.
- How many bars for \$5?



Mental Learning Task

- A CD costs \$4
- Paveen saves 40 cents a week.
- How many weeks must she save to buy the CD?



Mental Learning Task

- Now you give me some stories to go with the sum...



Mental Learning Task

$$23 \times 2$$



Mental Learning Task

$$26 \div 2$$



Mental Learning Task

$$240 \div 10$$



Mental Learning Task

$$43 \times 5$$



Mental Learning Objective

- I can make sense of number problems.



Main Learning Objective

- I can recognize real life sharing and grouping problems.
- I can solve real life division problems using repeated subtraction.
- I can do short division of HTO by O with integer remainder.



Key idea

**I can invent sharing
and grouping
problems.**



Main Learning Task

- Today the class will do work on developing their written methods of division.



Main Learning Task

- There are two main types of division:
- Sharing and grouping.
- First we are going to use the whole class and share you out equally into four teams...



Main Learning Task

- Get into four teams.
- Write what has happened on the board.
- Everyone return to your seat.
- Then write down the number calculation using conventional symbols.



Main Learning Task

- Now divide the class into groups of four.
- Write down what happened on the board.
- Everyone return to your seats.
- Write the number calculation using conventional symbols.



Main Learning Task

- There are two ways of dividing a number.
- We shared children between four teams.
- We grouped children into fours.



Main Learning Task

- When we went into teams, we knew how many teams there were, but did not know how many in each team.
- In the second case we knew how many were in each group, but not how many groups we would have.



Main Learning Task

- Lets now try to solve this problem.

380 apples must be packed equally into 9 boxes.

How many apples will be in each box?

Is this a sharing or a grouping problem?

Main Learning Task

- We shall start with the repeated subtraction

380 apples must be packed equally into 9 boxes.

How many apples will be in each box?

380 apples in 9 boxes

$$\begin{array}{r} 380 \\ -180 \text{ (20 apples in each box)} \\ \hline 200 \\ -180 \text{ (20 apples in each box)} \\ \hline 20 \\ -18 \text{ (2 apples in each box)} \\ \hline 2 \end{array}$$

42 apples in each box and 2 apples left over.

Main Learning Task

- Compare this way to a more efficient way.

$$\begin{array}{r} 9 \div 360 \\ - \underline{360} \quad 40 \times 9 \\ \quad 20 \\ - \underline{18} \quad 2 \times 9 \\ \quad \quad 2 \end{array}$$

Answer

42 Apples and 2
apples left over.

380 apples in 9 boxes

$$\begin{array}{r} 380 \\ - \underline{180} \text{ (20 apples in each box)} \\ \quad 200 \\ - \underline{180} \text{ (20 apples in each box)} \\ \quad \quad 20 \\ - \underline{18} \text{ (2 apples in each box)} \\ \quad \quad \quad 2 \end{array}$$

42 apples in each box and 2
apples left over.

Main Learning Task

- Get into pairs.
- You now must solve this problem on your own.



Main Learning Task

Simplest

96 apples must be packed equally into 9 boxes.

How many apples will be in each box?

Middle

432 apples must be packed equally into 9 boxes.

How many apples will be in each box?

Challenge

1432 apples must be packed equally into 15 boxes.

How many apples will be in each box?

Main Learning Objective

- I can recognize real life sharing and grouping problems.
- I can solve real life division problems using repeated subtraction.
- I can do short division of HTO by O with integer remainder.



Plenary

- Sit with your partner.
- Make up a real life division problem using a different context and describe whether it is a sharing or a grouping problem.
- Draw a picture to help you decide.



Plenary

- The pair presents the problem to the class.
- Discuss which kind of problem it is.
- For homework - solve your problem attempting to use the written method.



Review of Key Idea

- I can invent sharing and grouping problems.
- Did you learn this today?



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- You can now visit my teaching resource website at <http://www.DrFog.co.uk>
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