

Dr Fog Presents

**Division
with
remainders**

Year 4 (National Numeracy Strategy)
(Based on DFEE Sample Lessons)



Resources

- 1 - 6 dice (for each group)
- 2 - 9 number cards (for each group)
- Cubes and number lines (optional)
- 1-9 dice (optional)
- Counters.



Mental Learning Objective

- I can use all four number operations.



Mental Learning Task

- I am going to write 4 digits in board.
- The four operation signs
- And a two-digit target number.



Mental Learning Task

3 5 7 9

÷ - × +

Target 50

- Get a number as close as possible to the target number.
- You can only use each digit once.



Mental Learning Task

3 5 7 9

÷ - × +

Target 50

- How close did you get?
- Write the closest two answers on the board.



Mental Learning Objective

- I can use all four number operations.



Main Learning Objective

- I can find remainders.
- I can round answers up and down.
- I can practise division of two-digit numbers with remainders.



Key idea

**I can practise dividing
two-digit numbers
with remainders.**



Main Learning Task

- Today we are going to work with divisions but this time the answers won't always be whole numbers.



Main Learning Task

$$20 \div 10 =$$

$$23 \div 10 =$$

- In the last lesson you were working with division calculations like the first one.



Main Learning Task

$$20 \div 10 =$$

$$23 \div 10 =$$

- Try the calculations like the second one.



Main Learning Task

$$20 \div 10 =$$

$$23 \div 10 =$$

- Imagine you have 23 apples to share between 10 children.
- How many apples would each child get?
- How many apples are left over?



Main Learning Task

$$20 \div 10 =$$

$$23 \div 10 =$$

- The 'bit left over' is called a remainder and the answer should be written with this word in it

$$23 \div 10 = 2 \text{ remainder } 3$$



Main Learning Task

- Try to solve each of these questions.
- Write a number sentence for each one.

$$41 \div 4 =$$

$$25 \div 3 =$$

$$39 \div 5 =$$

$$362 \div 100 =$$



Main Learning Task

- Looking again at the sum...
- $41 \div 4$
- What would you need to subtract from 41 in order to do an exact division?
- You need to take off 1
- This is called what?
- A remainder



Main Learning Task

- Now we are going to look at rounding up and rounding down answers to make sensible solutions



Main Learning Task

- If a class of children need to fit on the tables at the Science Centre.
- Each table holds 6 children.
- If there are 34 children, how many tables will be needed?
- Will five tables be enough?
- No as the left over children need a table to!

This is an example of rounding up



Main Learning Task

- Suppose you want to buy pencils at the school fair.
- The pencils cost 9p and you have 50p to spend.
- How many pencils can you buy?
- You can buy 5 pencils.
- How much money have you left over?
- Why can't you buy 6 pencils?
- This is an example of **Rounding Down**



Main Learning Task

- Today we are going to play 'Leftovers'.
- Each group needs 1-6 dice.
- Each group needs a pile of number cards 2 - 9.



Main Learning Task

- One child is in charge of the dice.
- Another is the card dealer.
- The card-dealer gives a card to each group member.
- This is your division number for that round.



Main Learning Task

- The dice handler rolls the dice twice and reads out the dice number in order to make a two-digit number.
- Each child must write down a division calculation made up of this number, divided by their division number.
- And answer with its remainder.



Main Learning Task

- Read your calculation to the rest of the group.
- The child with the largest remainder wins a counter.
- Shuffle the cards and play again.
- The first child to collect three counters is the winner.



Main Learning Task

- Simplification:-
- Children use cubes and number lines for support.
- Challenge:-
- Children use 1-9 dice to generate numbers up to 100 or above.



Main Learning Objective

- I can find remainders.
- I can round answers up and down.
- I can practise division of two-digit numbers with remainders.



Plenary

- Were any of your divisions easier than others?
- What was easy about them?
- Which were the more difficult ones?



Plenary

- How did you work out the difficult ones?
- Did you know what the remainder would be before working out the sum.



Plenary

- Write down a list of ten two-digit numbers.
- Divide these tens numbers by your age.
- What remainders do you get?



Review of Key Idea

- I can practise dividing two-digit numbers with remainders.
- Did you learn this in today's lesson?



Where Can I Find More Resources Like This?

- You can now visit my teaching resource website at <http://www.DrFog.co.uk>
- You can [click here](#) to search for more of my teaching resources.
- [Click here](#) to visit my **YES** shop!

