

Dr Fog Presents

Place Values

Year 3 (National Numeracy Strategy)
(Based on DFEE Sample Lessons)



Resources

- Ten sheets of A4 paper, each showing one of the digits 0 to 9.
- Six cards showing +1, -1, +10, -10, +100, -100.

For each group

- Three dice
- Cubes of counters
- Base boards (one per pupil)



Mental Learning Objective

- I know what each digit in a three-digit number represents.



Mental Learning Task

- Today's lesson is about the size of numbers.
- Today we will go up to....

999



Mental Learning Task

- I need three volunteers.
- Give each volunteer a sheet of paper with a large number written on it.



Mental Learning Task

- What is the biggest number you can make?
- What is the smallest number you can make?



Mental Learning Task

- Repeat this, including a

Zero



Mental Learning Task

- Now we are going to imagine some three - digit numbers.



Mental Learning Task

- Imagine the number **four hundred and seventy three** in front of you.
- Which digit is on the left?
- Which digit is on the right?
- Which digit is in the middle?



Mental Learning Task

- Imagine the number **five hundred and seventy** in front of you.
- Which digit is on the left?
- Which digit is on the right?
- Which digit is in the middle?



Mental Learning Task

- Imagine the number **three hundred and one** in front of you.
- Which digit is on the left?
- Which digit is on the right?
- Which digit is in the middle?



Mental Learning Task

- This is a base board.

Hundreds	Tens	Units

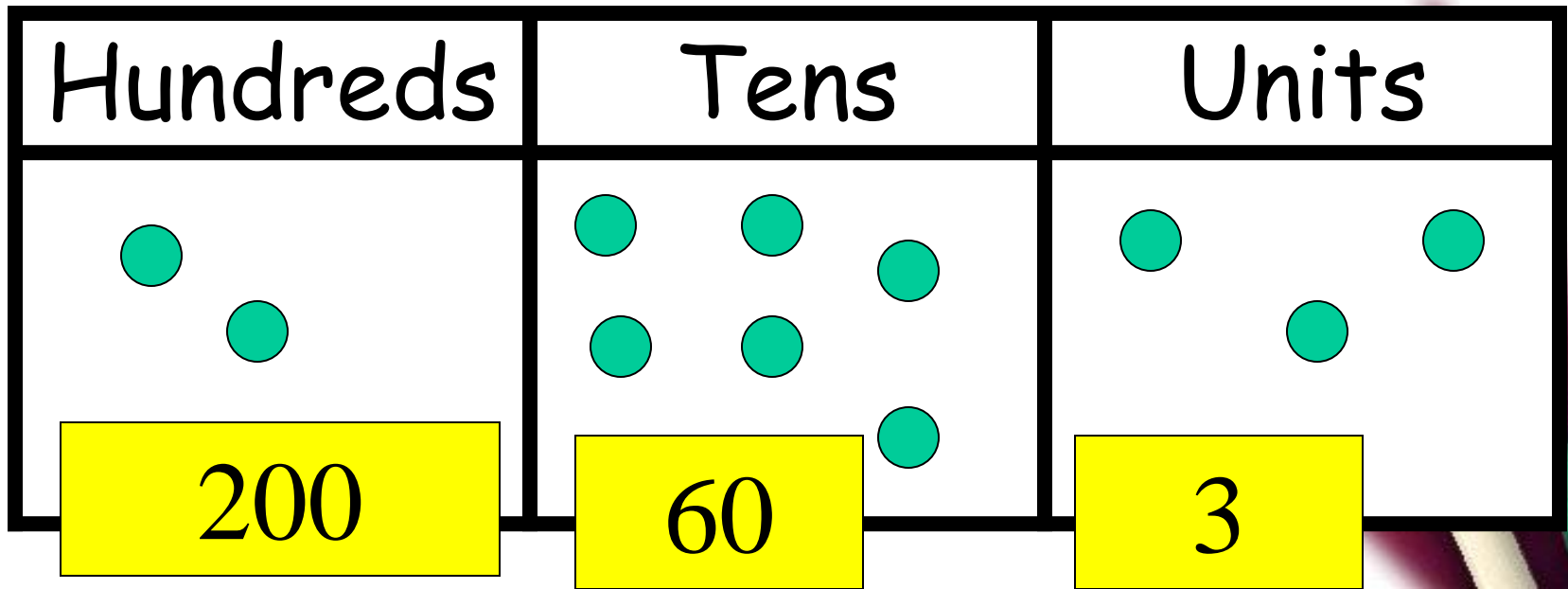
Mental Learning Task

- Suppose we had 11 counters.
- We can put them in any of the three sections.
- Where shall we put them?

Hundreds	Tens	Units

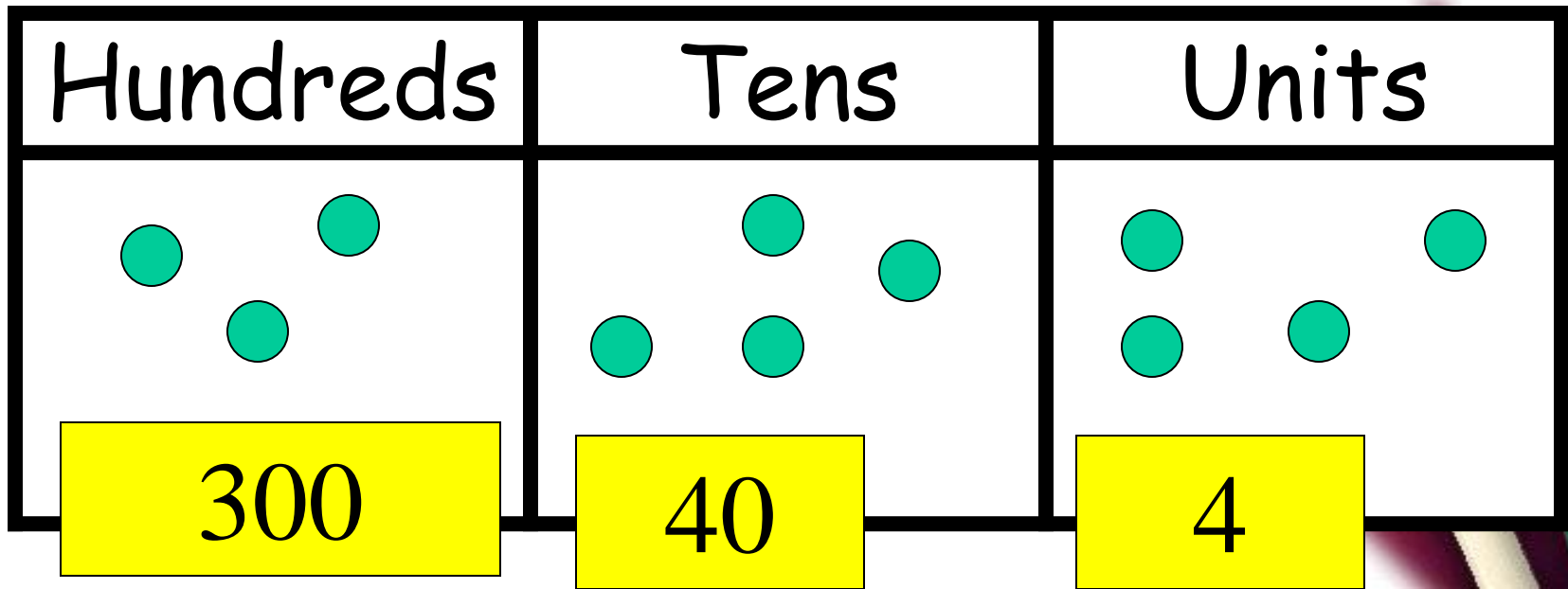
Mental Learning Task

- Suppose we had 11 counters.
- We can put them in any of the three sections.
- Where shall we put them?



Mental Learning Task

- Suppose we had 11 counters.
- We can put them in any of the three sections.
- Where shall we put them?



Mental Learning Task

- How else could we arrange them?
- What would the number be?

Hundreds	Tens	Units

Mental Learning Task

- What number could we make with those counters that is close to 500?

Hundreds	Tens	Units

Mental Learning Objective

- I know what each digit in a three-digit number represents.



Main Learning Objective

- I can partition a number into its component hundreds, tens and units.
- I can use, read and write the vocabulary of comparing and ordering numbers.



Key idea

The position of a digit determines its value.



Main Learning Task

- Today you are going to be using the base boards.



Main Learning Task

- Sit in groups of four to six.
- Everyone needs a base board.
- The group shares some cubes.
- Each group needs three dice
- A set of cards numbered between 100 and 999.



Main Learning Task

- One pupil takes a number card.
- This number is the target.
- Another pupil throws three dice.
- Work out the total of the three dice and say out loud.



Main Learning Task

- Take this many cubes.
- Arrange them on the base board.
- Make a number as close as possible to the target number.
- Record the number of cubes, target and your answer.



Main Learning Task

- If there are several answers....
- Place them into order....
- Work out which answer is the closest.



Main Learning Task

- Challenge:-
- With ten cubes, what is the largest number you can make?
- What about other numbers of cubes?
- Try 11, 12, 13... up to 20.



Main Learning Objective

- I can partition a number into its component hundreds, tens and units.
- I can use, read and write the vocabulary of comparing and ordering numbers.



Plenary

- What numbers did you make with your last dice throw?
- Can you read them out.
- Which is the largest number.
- Which is the smallest?



Plenary

- If I had 11 cubes....
- The target number was 200
- Where would you put them?

Hundreds	Tens	Units

Plenary

- Can you count around the class in ones.
- Watch the screen as every 10 seconds a number will appear...
- If it is a 10, continue counting numbers but in tens etc...



Plenary

- **1** is the start number
- Now change to...

+1

-100

+10

End

Today's Key idea

- Today's key idea was the position of a digit determines its value.
- Did you get it?



Base Boards

Hundreds	Tens	Units

Where Can I Find More Resources Like This?

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