Number and Place Value: Place Value Up to 10 Million Including Decimals

Aim:	**Success Criteria:**	**Resources:**
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. To partition and compose numbers up to 10 000 000 including decimal tenths, hundredths and thousandths.	I can read and write decimal numbers up to 10 000 000. I can identify the place value of digits in decimal numbers up to 10 000 000. I can combine units to compose decimal numbers up to 10 000 000. I can partition decimal numbers up to 10 000 000.	Lesson Pack
	Key/New Words: Gattegno chart, partitioning, combining, composing, unit parts, decimal number, ten-thousands, hundred-thousands, millions, tenths, hundredths, thousandths.	**Preparation:** Differentiated Place Value Number Guess – one per child Diving into Mastery Activity Sheets – as required

Prior Learning: It will be helpful if children have covered place value of numbers up to 10 000 000.

Learning Sequence

	**Remember It:** Children follow instructions on the Lesson Presentation, using the digit cards to make numbers that satisfy the instructions. Can children write decimal numbers up to 10 000 000?	
	**Partitioning:** Using the Lesson Presentation, children explore representations of numbers using a Gattengo chart. They use this representations to identify the place value of decimal numbers up to 10 million and demonstrate their understanding by completing sentence stems about the numbers. They then answer sentence stems about their own decimal number. Can children identify the place value of digits in decimal numbers up to 10 000 000?	
	**Partitioning Problems:** Children identify which calculations have shown a decimal number up to 10 000 000 with standard partitioning correctly. They explain their answers and correct any that are incorrect. Can children partition decimal numbers up to 10 000 000?	
	**Combining:** Children practise identifying the parts of a number using arrow cards and combining these unit parts to compose a decimal number up to 10 000 000. Can children combine units to compose decimal numbers up to 10 000 000?	
	**Place Value Number Guess:** Children play this game in pairs. One person in the pair writes their decimal number up to 10 000 000 on their whiteboard, in numbers and words. The other player has to try and work out which number their partner has written down. Children use the Place Value Number Guess sheet to record their answers and show how their guesses would be partitioned.  Children guess numbers with three decimal places up to 1 000 000. The Place Value Number Guess sheet provides a place value grid for children to specifically record the feedback obtained from their partner.  Children guess numbers with three decimal places up to 10 000 000. The Place Value Number Guess sheet provides a place value grid for children to specifically record the feedback obtained from their partner.  Children guess numbers with three decimal places up to 1 000 000. The Place Value Number Guess sheet provides space for children to record the feedback obtained from their partner.	

Diving into Mastery: Schools using a mastery approach may prefer to use the following as an alternative activity. These sheets might not necessarily be used in a linear way. Some children might begin at the 'Deeper' section and in fact, others may 'dive straight in' to the 'Deepest' section if they have already mastered the skill and are applying this to show their depth of understanding.

Children write the number shown by the arrow cards. They match the partitioned number to the composed number. They partition numbers shown.

Children reason about the number shown by the arrow cards. They explain whether a child has partitioned numbers correctly, providing the correct answer if incorrect. They answer a reasoning question about partitioning.

Children problem-solve to find all possible answers from a set of arrow cards, where some are covered. They make their own similar problem for a partner. They use digit cards and clues to find all possible numbers that fit the clues.

Prove It! Children discuss the question bout partitioning shown on the Lesson Presentation, reasoning and proving whether they agree with it.