

Number and Place Value: Number Reasoning

<p>Aim: Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit.</p> <p>To use reasoning to solve problems with numbers up to 1 000 000.</p>	<p>Success Criteria: I can use place value to solve number puzzles. I can use my knowledge of numbers to answer reasoning questions.</p>	<p>Resources: Lesson Pack Colouring pencils or pens</p>
	<p>Key/New Words: Place value, digit, compare, order, higher, lower, greater, less, reason.</p>	<p>Preparation: Number Comparisons Dice - one per pair Comparison Cards Sets 1 and 2 - one per pair, one set each True or False Activity Sheet - one per child True or False Tips Sheet - as required Diving into Mastery Sheets - as required</p>

Prior Learning: It will be helpful if children have covered reading and writing numbers up to at least 1 000 000.

Learning Sequence

	<p>Remember It: Using the numbers shown on the Lesson Presentation, children order numbers in ascending or descending order.</p>	
	<p>Roll and Compare: Children make the Number Comparisons Dice, if not already made for them, and cut out their set of Comparison Cards. Children work in pairs, taking turns to roll the dice. Children choose two of their Comparison Cards to make a number sentence using the symbol shown on the dice. If their number sentence is correct, they can put their cards down on the table. The aim of the game is to be the first player to use up all their Comparison Cards. Can children use the <, = and > symbols to compare numbers up to at least 1 000 000?</p>	
	<p>Reasoning about Numbers: Introduce the concept of reasoning about numbers, referring to the Lesson Presentation.</p>	
	<p>Number Puzzle: Children then answer reasoning questions using their knowledge of place value, ordering and calculation of numbers up to 1 000 000. They give clear explanations for their answers.</p>	
	<p>True or False? Children work in mixed-ability pairs to move around the room and view the six different Number Puzzles. Children use colouring pens or pencils to highlight the statements on the True or False Activity Sheet according to whether they are correct or incorrect based on each of the puzzles. Can children reason about numbers to identify true or false statements?</p> <p> A True or False Tips Sheet is provided as a scaffold. An Extra Challenge Activity Sheet is provided.</p>	
	<p>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.</p> <p> Children compare a list of numbers and identify true and false statements. They then match up correct statements to numbers.</p> <p> Children read statements and prove whether they are always, sometimes or never true. They use their knowledge of place value to explain their reasoning.</p> <p> Children look at statements that are true and false and find possible numbers that meet all requirements.</p>	
	<p>Add a Card: Children use true and false statements to solve missing numbers within an ordered sequence of numbers, justifying their thinking with clear reasoning.</p>	

Exploreit

Reasonit: Use this _____ to enable children to reason about numbers and place value.

Solveit: Children can solve the number reasoning problems in these differentiated

Learnit: Children will be able to use this _____ to visualise ways to reason about numbers.