








Addition and Subtraction: Add 2-Digit and 1-Digit Numbers Crossing 10

<p>Aim: Add and subtract numbers using concrete objects, pictorial representations, and mentally.</p> <p>DfE Ready to Progress Criteria: Add and subtract across 10 (2AS-1).</p> <p>To add a one-digit number to a two-digit number, crossing ten.</p>	<p>Success Criteria: I can use known number facts to add numbers that cross a ten boundary.</p> <p>I can use a number line to solve addition calculations that cross a ten boundary.</p> <p>I can use number patterns to solve addition calculations that cross a ten boundary.</p>	<p>Resources: Lesson Pack</p> <p>Number lines</p> <p>Representations of tens and ones - as required</p>
	<p>Key/New Words: One-digit, two-digit, number fact, add, addition, plus, add across ten, bridge ten, pattern, partition, part, whole, part-whole model, number line, count forward, count on, total, recall, predict, reason, explain.</p>	<p>Preparation: Differentiated Bridging Ten Game - 1 per pair</p> <p>Diving into Mastery Activity Sheets - as required</p>

Prior Learning: It would be helpful if children have been introduced to adding across ten. The following lesson supports this learning:

Learning Sequence

	<p>Remember It: The Lesson Presentation shows incomplete number facts of ten. Children complete the calculations by showing the correct number of fingers. The first slide follows a sequence to support learning. The next slide presents greater challenge as it shows a mixed collection of calculations.</p>	
	<p>Stepping Stones: The Lesson Presentation introduces the children to Forwards Fred as he travels along the stepping stones. Lots of the stepping stones are wobbly so he would like us to help him find safe places to land. Invite the children to use number facts of ten to reach the safe stepping stones. The Lesson Presentation shows a number fact applied to calculations that increase by multiples of ten. Invite the children to look for patterns. Ask the children to continue the pattern and investigate it on a number line.</p>	
	<p>A New Adventure: The Lesson Presentation shows Forwards Fred beginning a new adventure using a different number fact of ten to guide him along the stepping stones. Invite the children to continue the pattern and investigate it on a number line.</p>	
	<p>Make a Pattern: Invite the children to create patterns of their own using number facts of ten. Children are shown how to investigate the challenge with number lines and written calculations.</p>	
	<p>Jumping Further: The Lesson Presentation joins Forwards Fred as he continues his journey. This time, the number he adds will take him past ten. Forwards Fred decides to keep landing on multiples of ten, as these stones aren't wobbly. Children are shown how to partition the number being added so that they can jump to a ten, then add the remaining part.</p>	
	<p>Bridging Ten: Children complete the differentiated Bridging Ten Game, filling in their jumps on a number line and gaining a point if they are the first to bridge each ten. Can the children use known number facts to add numbers that cross a ten boundary? Can the children use a number line to solve addition calculations that cross a ten boundary? Can the children use number patterns to solve addition calculations that cross a ten boundary?</p>	
	<p>Children play the game using a 0 – 40 number line and a 0 – 5 spinner. They write a number sentence under each jump.</p>	
	<p>Children play the game using a 20 – 60 number line and a 2 – 6 spinner. They write a number sentence under each jump.</p>	
	<p>Children play the game using a 35 – 80 number line and a 0 – 8 spinner. They write a number sentence under each jump.</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 add two-digit and one-digit numbers across ten. They build fluency by making number facts of ten, then adding the remaining part. Children use number lines to complete calculations.</p> <p> Children apply their reasoning skills to check and correct calculations and statements. Children are invited to demonstrate strategies and explain their reasoning.</p> <p> Children apply their problem-solving skills to complete and create balancing calculations.</p>	
	<p>Missing Numbers: Matilda has spilt ink on her work. Using the Lesson Presentation, ask the children to identify the missing numbers by using the strategies that they have practised. Invite the children to explain their reasoning. Children can then make missing number problems for their friends to solve.</p>	

<p>Exploreit</p> <p>Completeit: Use this resource to give a different visual picture of bridging through 10 and 20.</p> <p>Avoidit: Play in a pair or small group. Take a pack of cards and turn them face down. The first player turns over a card at a time and begins to add them together. They can keep going for as long as they like, or at any point, they can stop and bank their score. This is then safe. If they turn over a J, Q or K, they lose all their points from that round and start their next turn from zero or from their banked score.</p> <p>Representit: Children build up their understanding of bridging ten by representing a calculation in as many ways as they can, including number lines, ten frames, part-whole diagrams and concrete materials. They explain to another child what they are doing and why.</p> <p>Learnit: Children will find this superb resource a great resource to support addition and subtraction methods.</p>
