Addition and Subtraction: Add and Subtract a 2-Digit Number and a Multiple of 10

Aim:	**Success Criteria:**	**Resources:**
Add and subtract numbers using concrete objects, pictorial representations, and mentally. DfE Ready-to-Progress Criteria: Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only twos to/from a two-digit number. (2AS-3) To add and subtract a multiple of 10 to and from any 2-digit number.	I can use number facts to add a multiple of ten to any 2-digit number. I can use number facts to subtract a multiple of ten from any 2-digit number. I can use patterns to add a multiple of ten to any 2-digit number. I can use patterns to subtract a multiple of ten from any 2-digit number.	Lesson Pack Representations of tens and ones
	Key/New Words: Tens, ones, 2-digit 1-digit, count forward, count back, steps, multiples of ten, keep track, explain, prove, reason, represent, patterns, continue a pattern.	**Preparation:** Multiple of Tens Maze – one per child Diving into Mastery Activity Cards – as required

Prior Learning: It will be helpful if children can derive or recall number facts up to ten.

Learning Sequence

	**Remember It:** Children use familiar number facts to add or subtract ten to a multiple of ten. Calculations are determined by the spin of a wheel.	
	**Addition Pattern Builders:** The Lesson Presentation shows how number facts can help us add multiples of ten, for example: 3 + 1 = 4 so 30 + 10 = 40. The following slide presents a set of calculations generated by repeatedly adding ten. Ask the children to describe what changes and what stays the same. Invite the children to use the pattern to continue the sequence of calculations. The next slide shows a collection of calculations adding multiples of ten. Remind the children of a range of approaches that can be used to support their learning, including practical equipment, jottings and number facts.	
	**Subtraction Pattern Builders:** The Lesson Presentation shows how number facts can help us subtract multiples of ten, for example: 4 - 1 = 3 so 40 - 10 = 30. The following slide presents a set of calculations generated by repeatedly subtracting ten. Ask the children to describe what changes and what stays the same. Invite the children to use the pattern to continue the sequence of calculations. The next slide shows a collection of calculations subtracting multiples of ten. Remind the children of a range of approaches that can be used to support their learning, including practical equipment, jottings and number facts.	
	**Counting in Tens:** Children look at the pattern generated by repeatedly adding and subtracting ten. They look at what changes and what stays the same and they explain what they have noticed.	
	**Counting in Twenties:** The Lesson Presentation invites children to apply what they have learnt about counting forwards and back in steps of ten, to counting forward and back in steps of twenty. Remind the children that they can explore ideas with equipment, jottings or written calculations. Ask the children to share their discoveries and explain what they notice.	

Multiples Maze: Children compete to be the first to escape the Multiples of Ten Maze. Start from the centre of the maze and choose a pathway to reach the target numbers. Children can use equipment, jottings or write numbers to keep track. Can the children use the patterns they have noticed to help them add and subtract multiples of ten? Can the children use number facts to add and subtract multiples of ten?

Children add or subtract ten or twenty to or from a multiple of ten. They use equipment, jottings, or write numbers to keep track. Children colour the route they have taken. They may not land on a square that is already coloured.

Children add or subtract multiples of ten to or from a two-digit number. They use equipment, jottings, or write numbers to keep track. Children colour the route they have taken. They may not land on a square that is already coloured. The examples given show five or eight steps for each route.

Children add or subtract multiples of ten to or from a two digit number. They use equipment, jottings, or write numbers to keep track. Children colour the route they have taken. They may not land on a square that is already coloured. The examples given offer up to eight steps for each route.

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 develop fluency in adding and subtracting ten from two-digit numbers by continuing number patterns and completing calculations using pictorial representations.

Children investigate calculations adding and subtracting multiples of ten to two-digit numbers. They apply their reasoning skills to determine whether the answers would be located on the same column of the hundred square.

Children are presented with a collection of answers marked on a hundred square.They use their problem-solving skills to create calculations adding or subtracting multiples of ten that lead to the answers.

One Hundred: Children pick a number on the hundred square shown on the Lesson Presentation. Ask the children if they can add or subtract a multiple of ten to or from the chosen number. Invite the children to describe the patterns that they see.

Exploreit

Practiseit: Keep practising the pattern with this . They could add or subtract a different multiple of ten. Can they cross 100?

Rollit: Children decide on a rule, such as the highest number, lowest number or closest to 50. They then turn over a digit card from 0 -100 and roll a multiple of ten dice. They decide whether to add or subtract the number on the dice. The person whose number best fits the chosen rule wins a point.

Spendit: Make a class shop where all items are priced in multiples of ten. The children roll two dice to see how many multiples of ten they have to spend. Can the children say how much money they will have left from their starting amount when they choose an item?

Learnit: Children will find this superb a great resource to support addition and subtraction methods.