

Addition and subtraction as inverses lesson plan

Subject: Maths	Lesson Title: Addition and subtraction as inverses
Date:	Time Span:
Year Group: Year 2	Group Size: 30

Desired Learning Outcomes

To be able to use addition to check subtraction and vice versa

To understand addition and subtraction as being inverse

Key Language:

Add, subtract, inverse and opposite

Use of ICT:

Smartboard for introduction

Assessment (Make reference to each section of the lesson)

Intro – Level of work based on ongoing assessment over the past few weeks

Main – Mark children's work as they complete it. Sit with any children who are struggling, bringing them back to the carpet if necessary. If still unsure by end of lesson sit with TA during plenary.

Plenary – Can children come up with an inverse number sentence to go with the one that their partner gave them?

Use of Other Adults

TA to monitor progress of children once they begin working

TA to sit and continue working with children (of any ability) who struggled in plenary

Anticipated Misconceptions/Difficulties

Children swapping the numbers in the sentences to any order without checking if the number sentence is correct e.g. changing $8 - 5 = 3$ to $8 + 3 = 5$

Children not understanding how to use addition to check subtraction and vice versa

Resources

None

Introduction	Time
<p>Briefly revise how to add and subtract on number line. What do children notice about the direction that you move?</p> <p>Briefly revise how to add and subtract multiples of ten on a hundred square. What do children notice about the direction that you move?</p> <p>Explain how addition and subtraction are inverse (opposite)</p> <p>This means that we can use addition to check subtraction and vice versa. Model how to do this with some subtractions that are incorrect e.g. to check $6 - 4 = 3$, we can do $4 + 2 = 6$ and see that we made a mistake with the subtraction</p> <p>Explain how we can also write two different addition and two different subtraction number sentences using the same numbers, just by swapping the order of the numbers around e.g. $8 - 5 = 3$, $8 - 3 = 5$, $5 + 3 = 8$ and $3 + 5 = 8$</p> <p>Emphasise need to check number sentences are correct, not just swap around the numbers in any way</p> <p>Model swapping the numbers around incorrectly e.g. $8 - 5 = 3$, $8 - 3 = 5$, $5 + 3 = 8$ and $3 + 8 = 5$</p> <p>(To help you can tell children that addition sentences will always end in the largest number, whereas subtraction sentences always end in the smallest number, although this is not true once children work with negative numbers)</p>	15 mins
<p>Main (including differentiated tasks)</p> <p>Lower ability – write one addition and one subtraction sentence as inverses e.g. $8 - 5 = 3$ and $5 + 3 = 8$</p> <p>Middle ability – write two addition and two subtraction sentence as inverses e.g. $8 - 5 = 3$, $8 - 3 = 5$, $5 + 3 = 8$ and $3 + 5 = 8$</p> <p>Higher ability – as middle ability, but with multiples of 10</p> <p>G+T – as middle ability, but with multiples of 100</p> <p>Extension – make up their own number sentences</p>	20 mins
<p>Plenary</p> <p>Each child to give a partner a number sentence to write an inverse sentence / s to go with. Partners discuss if agree about number sentences that each of them has written</p>	10 mins