## Year 4, Unit 9, Week 2, Lesson 2

Previous related lessons

Prerequisites for learning

Pupils need to:

Vocabulary

change, inverse

# Written subtraction (5)

# National Curriculum attainment targets

Unit 5, Week 2, Lesson 2; Unit 5, Week 2, Lesson 3;

Unit 7, Week 2, Lesson 2; Unit 7, Week 2, Lesson 3

- Subtract numbers with up to 4 digits using the formal written method of columnar and subtraction where appropriate
- Estimate and use inverse operations to check answers to a calculation

• understand the place value of three and four-digit numbers

place value, thousands, hundreds, tens, ones (units), estimate,

• use the written method and decompose ones and tens

# Lesson objectives

- Subtract numbers with up to 4 digits using the formal written method of columnar subtraction (decomposition)
- Estimate and use inverse operations to check answers to a calculation

### Future related lesson

Unit 11, Week 1, Lesson 2

### Success criteria

Pupils can:

- write the calculation vertically, make a sensible estimate
- subtract the ones, change the ones column when needed
- subtract the tens, change the tens column when needed
- subtract the hundreds, change the hundreds column when needed

Connect Year 4, Unit 9,

Week 2

# **Getting Started**

- Choose an activity from Number Addition and subtraction
- Choose an activity from Fluency in Number Facts: Y3/Y4 Addition and subtraction



changing.





#### Resources

mini whiteboard, pen and eraser (per child)

Throughout the lesson, ensure that the digits are referred to by their place value not just as a one digit number. So in 1728, the digit 2 must be referred to as 20, and 1 as 1000.

- Write 5326 2538 on the board. Underneath, re-write the calculation vertically.
- Ask: What is your estimate for the answer to this question? Ask some children to share their estimates, and record them on the board.
- Say: Work out the calculation using columns in the formal written method.
- Watch the children's working out and notice any steps that children are unsure of.
- Say: In this calculation the ones, tens, and hundreds needed changing.
- Work through the calculation as a class, asking different children to explain what needs to be done next and why. Focus on any aspects you have noticed the class found tricky.
- Ask: How can we check the answer to this calculation? Share the children's ideas.
- Say: I am going to model using the inverse operation, addition. I need to add the number I subtracted to the answer.
- Write out the calculation and work it out. Say: As we have the same numbers in both calculations we know our answer is right.
- Write 5473 846 on the board.
- Say: Work out this calculation using columns in the formal written method.
- Ask: What makes this calculation different to the other calculations we have worked on?
- Share children's ideas. Establish that the two numbers have different numbers of digits.
- Look at the way pairs wrote out the calculation in order to work it out. Choose a pair who have laid it out correctly and ask them to show it to the class.

- Ask: Why did you lay out your formal written method so that it is all neatly lined up on the right-hand side? Ask the rest of the class what they think.
- Lead a discussion and draw out that the digits must be written under digits of the same place value or the method will not work.
- Work through the calculation together.
- Write 6462 975 on the board. Underneath, re-write the calculation vertically.
- Say: Work out this calculation. Think carefully about how you write it out.
- Work through as a class if appropriate.



# **Overcoming Barriers**

• If children are making mistakes with the formal written method look closely at which aspect they are having problems with. The decomposition requires very clear working and an understanding of why it works. Focus on the aspect children are having problems with.