

Unit 8

• SESSION 1 •

TOTAL TIME

30
MINUTES

OBJECTIVES

- Choose and use appropriate operations and calculation strategies to solve problems
- Explain how a problem was solved, orally and, where appropriate, in writing

VOCABULARY

multiple, operation, add, subtract, multiply, divide

RESOURCES

individual white boards or digit cards; 1–10 number cards

HOMEWORK

Write word problems that use addition, subtraction, multiplication and division calculations. Write a number sentence for each.

STARTER

5
MINUTES

Revise number facts for 10, such as $7 + 3 = 10$ and $10 - 7 = 3$ and the related number facts for 100, such as $70 + 30 = 100$ and $100 - 70 = 30$. Ask the children to display their answers using digit cards or on individual white boards.

Revise the ten- and five-times tables.

KEY QUESTIONS

- What is 44 and 40? 44 and 4?
- What is 44 subtract 4?

MAIN ACTIVITY

20
MINUTES

Write on the board: $8 \square 2 = 16$, $8 \square 2 = 4$, $8 \square 2 = 6$, $8 \square 2 = 10$. What operation do we need to carry out? Which sign has to go in the box in each number sentence? Ask the children to explain and justify their answers. Make sure they understand that dividing by 2 (the second example) is the same as halving.

Write this simple word problem on the board:

Three children get on a bus. There are already 27 children on the bus. How many children are there on the bus now? Discuss how to solve it.

Encourage the children to write down the numbers 3 and 27 and to think about the operation they need to use to solve the problem. Repeat for other word problems such as:

I give 2 sweets to each of my 3 friends. How many sweets do I give away?

Ricky needs 5 more stickers to reach 30. How many stickers has he now?

Abida has 17 CDs. Mandy has 11 CDs. How many CDs altogether?



Give out two cards from a pack of 1–10 number cards to each pair, and ask them to make up and write down three number sentences, using different operations to get different answers, for example, 5 and 2.

$$5 - 2 = 3$$

$$5 + 2 = 7$$

$$5 \times 2 = 10$$

Check the answers as you circulate. Ask each pair to make up and write down a word problem using one of their number sentences.

Explain activity sheet 8.1, which the children should complete before the next session.

KEY QUESTION

- How do we know which operation to choose (adding when putting together two things, subtraction when taking away or finding a difference)?

PLENARY**5**
MINUTES

Choose two of the children's word problems to solve. Encourage the children to explain how they know which operation to use.

Use the numbers 5 and 10.

Which operation will give the largest answer? What is the number sentence? Which operation will give the smallest whole number? What is the number sentence?

Unit 8

SESSION 2

TOTAL TIME

30
MINUTES

OBJECTIVES

- Choose and use appropriate operations and calculation strategies to solve problems
- Explain how a problem was solved, orally and, where appropriate, in writing

VOCABULARY

operation,
addition, add,
subtraction,
subtract,
multiplication,
multiply,
division, divide

RESOURCES

individual white
boards or digit
cards

STARTER

5
MINUTES

Play *Ping Pong*. You say a number from 0 to 10, and the children call out the number needed to make 10. If you say 'three', for example, they reply 'seven'. Aim to keep the pace going.

Rehearse number facts for 10, using the vocabulary add, plus, subtract, minus; for example, $7 + 3 = 10$, $10 - 7 = 3$. The children should display their answers with digit cards or on their individual white boards.

Try *Ping Pong* with numbers to 100, such as 'sixty' - 'forty', 'eighty' - 'twenty'. Rehearse number facts for 100 with multiples of ten, for example, $70 + 30 = 100$ and $100 - 70 = 30$. The children should display their answers with digit cards or on their individual white boards.

KEY QUESTIONS

How do we do these calculations

$24 + 10 =$

$46 + 3 =$

$30 + 70 =$


$6 + 7 = ?$

MAIN ACTIVITY

20
MINUTES

Write 20 on the board. Ask the children to work in pairs and think about the different number sentences they could write that give this answer. Encourage them to think of as many as possible. Write the different responses on the board.

Write these number sentences on the board: $\square + 7 = 15$, $\square \times \square = 16$, $\square \div \square = \square$, $\square - \square = \square$. Underneath write 2, 4, 8, 10.

The children work in pairs to find out which numbers go in which boxes. They can use a number more than once. Encourage them to test out numbers. After a few minutes, go through the number sentences, encouraging the children to explain how they got their answers. 

Now write 100 on the board. Tell the children to write down a way of making 100 which uses addition, a way which uses subtraction and a way which uses multiplication. Look at some of the possibilities the children suggest.

Can anybody think of a way of making 100 using division? Will the number we start with be bigger or smaller than 100?

Remind them to think of the division sentence they made above. Ask them to think how that could help them.

Explain activity sheet 8.2, which the children should complete before the next session.

KEY QUESTION

- How can number facts for 10 help us when we are calculating with multiples of 10? For example, if we know $5 + 2$ what is $50 + 20$?

PLENARY**5**
MINUTES

Write the following number sentences on the board: $\square + 7 = 20$, $\square \times \square = 12$, $\square - 8 = \square$, $\square \div 2 = \square$. Tell the children that you don't want the answers straight away. First, they have to explain to you how to set about finding each answer.

What do you have to do first to work out the addition sentence?

Name

Date

Dear Parents/Carers,

In our mathematics lessons, we have been looking at word problems and whether we have to add, subtract, multiply or divide. Please help your child to write a word problem for each of the four operations, as in the example below.

Thank you for your help.

Your child's teacher

Example:

For multiplication

*I gave 7 sweets to each of my 5 friends.
How many sweets did I give away?*

$$7 \times 5 = 35$$

Answer: 35 sweets

Addition +

Subtraction -

Multiplication ×

Division ÷

If there is time, ask your child some short word problems of this kind. Keep the arithmetic simple but vary the examples you use.

Name

Date

Activity sheet 8.1

1. Which operation (+ or -) should go in the box to make the number sentence right?

$$20 \square 5 = 15 \quad 20 \square 5 = 25 \quad 50 \square 20 = 30 \quad 50 \square 20 = 70$$

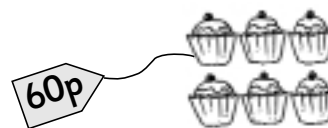
2. Which operation (+, -, \times or \div) should go in the box to make the number sentence right?

$$6 \square 2 = 8 \quad 6 \square 2 = 12 \quad 6 \square 2 = 4 \quad 6 \square 2 = 3$$

3. Pencils cost 6p.
How much will 6 pencils cost?



4. Cakes cost 60p for 6.
How much is one cake?



5. Carlo has 22 stickers.
He gives Kim 7 stickers.
How many stickers does Carlo have left?



Name

Date

Activity sheet 8.2

1. Complete these number sentences:

$\boxed{5} \times \boxed{} = 45$

$45 \div \boxed{5} = \boxed{}$

$\boxed{2} \times \boxed{} = 28$

$28 \div \boxed{} = \boxed{}$

$\boxed{} \times \boxed{} = 40$

$40 \div \boxed{} = \boxed{}$

2. Make up these number sentences.

Use the numbers 3, 4, 9 and 12 only.

$\boxed{} \times \boxed{} = \boxed{}$

$\boxed{} + \boxed{} = \boxed{}$

$\boxed{} \div \boxed{} = \boxed{}$

$\boxed{} - \boxed{} = \boxed{}$

3. Fill in the signs in these number sentences:

$3 \boxed{} 5 = 15$

$15 \boxed{} 3 = 12$

$15 \boxed{} 3 = 5$

$15 \boxed{} 5 = 3$

$3 \boxed{} 12 = 15$

$5 \boxed{} 3 = 15$

4. Make as many number sentences as you can using the numbers 20, 15, 10, 5 and 2 only.