

SPRINGBOARD 3 • SPRINGBOARD 3 • SPRINGBOARD 3 • SPRINGBOARD 3 • SPRINGBOARD 3

PART 3

UNIT  
2

**ADDITION AND SUBTRACTION  
FACTS**

## Unit 2

## • SESSION 1 •

## TOTAL TIME

30  
MINUTES

## OBJECTIVES

- Know by heart all addition and subtraction facts for 10
- Understand that subtraction is the inverse of addition
- Know all pairs of multiples of 10 with a total of 100

## VOCABULARY

multiples of ten, add, subtract, take away, total, inverse

## RESOURCES

ten cubes or stones in a container; individual white boards or pieces of paper to hold up; 10p coins; sets of 0–10 number cards (resource sheet 3)

## HOMEWORK

Play the *Make Ten* card game, using number cards (resource sheet 3)

## STARTER

5  
MINUTES

Children use their fingers to demonstrate numbers that make 10. Ask the children to put up 3 fingers. How many more are needed to make 10? All chant: '3 and 7 make 10'. Ask children to suggest and demonstrate with their fingers other numbers making 10. Do not forget 10 and 0. Write on the board a few number sentences such as  $4 + \square = 10$  or  $10 = \square + 3$  for the children to complete orally.

Now do the same with three 10p coins.

*How much is here? How much more do we need to make 100p or £1?*

All chant: '30 pence and 70 pence make £1'.

Invite children to give you other combinations of 10p coins to make £1.

## KEY QUESTIONS

■ **2 and 8 make 10. What do 20 and 80 make? What is the pattern? Explain it. Give other examples.**

## MAIN ACTIVITY

20  
MINUTES

Use pairs of number cards that make 10. Shuffle them and hand out a card to each child. Ask them to find the person whose card with theirs makes 10. If there is an odd number of children, the adult also takes a card. Ask each pair to think of a number sentence using their numbers. Write each on the board. Repeat with a different set of cards.

Place ten cubes or stones in a container, counting them out loud as you do so. Drop a number of the cubes or stones on the floor, one by one as the children count in their heads. Explain that there are now some cubes or stones left in the container and some on the floor. Ask the children to think of an appropriate number sentence to illustrate your action, for example,  $8 + 2 = 10$  (8 left in the container plus another 2 on the floor make 10 altogether), and to write it on their individual white boards or pieces of paper and hold them up for you to see. Repeat several times.

Draw attention to different number sentences the children have written. For example, some may have recorded:  $10 - 8 = 2$ . Discuss whether they are all valid.

Hold ten 10p coins in your hand. *How much money have I got in my hand?* Remind children that  $100\text{p} = \text{£}1$ . Ask them to count in their heads how many coins you drop into a box, then record an appropriate number sentence, for example,  $30\text{p} + 70\text{p} = 100\text{p}$ , to describe your actions on their boards and hold them up. Repeat with other numbers.

Show the children how to play the *Make Ten* game. Lay a pack of number cards (combinations to make ten) face down and ask them to take it in turns to pick two up together. If they make ten, they keep them; if they do not, they replace them. The winner is the child who has the most sets at the end.

Explain activity sheet 2.1, which they should complete before the next session.

#### KEY QUESTIONS

- How do you know that your sum makes 10?
- How many different number sentences can we write using the same three numbers such as 4, 6, 10?

#### PLENARY

5  
MINUTES

Ask a child to give you a number sentence with an answer of 10. Write it on the board.

*Can anyone make another number sentence using the same numbers? And another?*

Point out that there are four possible number sentences. Establish the fact that subtraction is the opposite or inverse of addition. Invite children to give examples of number sentences where the second sentence 'undoes' or 'reverses' the first sentence.

## Unit 2

## SESSION 2

## TOTAL TIME

30  
MINUTES

## OBJECTIVES

- Know by heart all addition and subtraction facts for 10 and for 20
- Know that addition can be done in any order
- Know all pairs of multiples of 10 with a total of 100

## VOCABULARY

multiples,  
addition,  
subtraction

## RESOURCES

digit cards or fans;  
number cards 0–20  
(resource sheets 3 and 4);  
10p coins;  
individual white boards or  
pieces of paper to hold up

## STARTER

5  
MINUTES

You hold up a digit card. Ask the children to show you, using their own sets of digit cards or digit fans, the number needed to make 10. Repeat several times. Try to inject pace. Now use 10p coins. Hold up, for example, 40p. *How much do we need to make 100p or £1?* Make the connection between 40 and 60 and 4 and 6. Repeat several times.

## KEY QUESTION

■ What is the connection between  $3 + 7$  and  $30 + 70$ ?

## MAIN ACTIVITY

20  
MINUTES

Make up pairs of cards that total 20. Give each child or pair of children (depending on the number of children) a pair of these cards. Keep the remaining pairs yourself. The children make one addition sentence using the numbers they have been given, for example  $15 + 5 = 20$ . Write these on the board and discuss patterns. Ask them which cards you must still be holding. *How do you know?* Reveal the cards individually and ask the children to work out the matching number to make 20. Record in order.

Now ask the children to write down three more number sentences using the pair of numbers they were originally given. Write on the board the four number sentences generated from one pair of numbers. *Which sentence reverses another?* Remind children that subtraction reverses addition and addition reverses subtraction.



Look at an addition sentence, for example  $18 + 2 = 20$ .

*Does it matter which way round we add the numbers to make 20? Does  $2 + 18$  work?*

Ask the children, in pairs, to consider another addition sentence.

*Has it worked with your example? Can we do the same with subtraction?*

$20 - 2 = \square$  is not the same as  $2 - 20 = \square$

Explain activity sheet 2.2, which children should complete before the next session.

### KEY QUESTIONS

- **Does the order we add numbers matter? Does the order matter for subtraction?**

### PLENARY

**5**  
MINUTES

Give an addition sentence where the answer is 20, such as  $13 + 7 = 20$ . The children write down on their white boards or pieces of paper the other addition sentence containing these three numbers (such as  $7 + 13 = 20$ ) and hold them up. Now give an addition sentence with three numbers, say  $10 + 7 + 3 = 20$ .

*How many other ways could you write this? What are they?*

Discuss the key questions given above, ensuring that all the children understand that the order of numbers does not matter for addition but it does for subtraction.

**Name** .....**Date** .....

Dear Parents/Carers,

We are learning by heart pairs of numbers that make 10. Please help your child by playing the game below.

Thank you for your help.

Your child's teacher

### Make Ten

- Cut out the numbers on the sheet. Shuffle them.
- Lay them out face down in rows. Take it in turns to pick up two cards. If they add up to 10, you keep them. If not, you replace them where you found them.
- Keep playing until all the pairs of 10 have been found. The winner has the most pairs.
- Try playing this variation if you have time. Remove one of the 5s and the 10 from the pack, then find pairs of cards to make 9.

Name .....

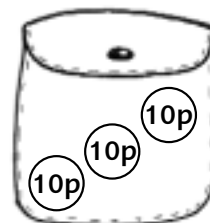
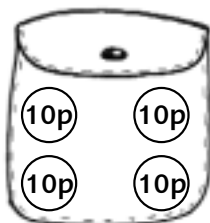
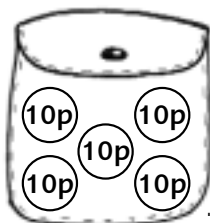
Date .....

**Activity sheet 2.1**

1. Draw lines to join pairs of numbers that make 10.

7	10	5	4	8	9
5	3	0	1	6	2

2. How many more 10p coins do you need in each purse to make £1?



3. Write a number sentence to make each number up to 10.

$6 + 4 = 10$

$5 + \square = \square$

$8 + \square = \square$

$1 + \square = \square$

$7 + \square = \square$

$2 + \square = \square$

4. Finish these number sentences.

$10 - 6 = \square$

$10 - \square = 7$

$10 - 5 = \square$

$10 - \square = 6$

5. Use the numbers 2 and 8.

Write three more different number sentences.

$2 + 8 = 10$

Name .....

Date .....

**Activity sheet** 2.2

1. Fill in the gaps in these number sentences.

$1 + \square = 10$

$20 = 15 + \square$

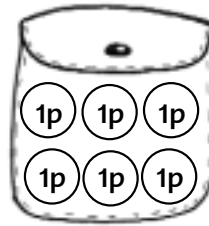
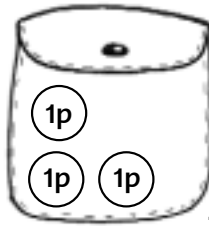
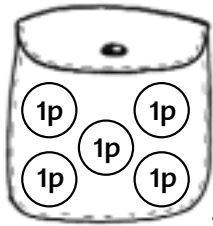
$10 = 0 + \square$

$7 + \square = 10$

$\square + 18 = 20$

$12 + \square = 20$

2. How many more 1p coins do we need in each purse to make 10p?



3. Fill in the gaps in these number sentences.

$\square + 80 = 100$

$\square = 70 + 30$

$100 = \square + 40$

$100 = \square + 20$

$\square + 50 = 100$

$\square + 90 = 100$

4. Think of two more different ways of making 100.

$\square + \square = 100$

$\square + \square = 100$

5. Make as many number sentences as you can to total 20.  
Write them on the back of this sheet.



## Unit 2

## RESOURCE SHEET 3

UNIT

2

0	1	2
3	4	5
6	7	8
9	10	5

10	11	12
13	14	15
16	17	18
19	20	