PART 3

UNIT
2

ADDITION AND SUBTRACTION FACTS

UNIT **2**

Unit 2
• SESSION 1 •

TOTAL TIME

30 MINUTES

OBJECTIVES

- Know by heart all addition and subtraction facts for each number to 20.
- Derive quickly all pairs of multiples of 5 with a total of 100.

VOCABULARY

multiple of ten

plus

total

addition

subtraction

RESOURCES

wipe-on, wipe-off blank 10 × 10 number grid; place value cards (resource sheet 2, Unit 1); number cards 0–20, including two 10s (resource sheet 3); 100-grid jigsaw (resource sheet 4)
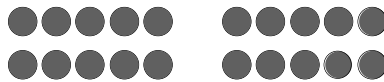
HOMEWORK

Play *Speedy Facts* using 0-20 number cards (resource sheet 3)

STARTER

5 MINUTES

Draw 20 dots on the board as below.

⬤⬤⬤⬤⬤ ⬤⬤⬤⬤⬤
⬤⬤⬤⬤⬤ ⬤⬤⬤⬤⬤

Count them together, telling the children to emphasise the multiples of 5 by clapping on each one.

Ask the children to close their eyes, then rub out five of the dots. When they open their eyes, the children have to use the single-digit place value cards to show you how many have been rubbed out. Encourage children to use the groups of five as a clue, rather than counting each individual spot.

⬤⬤⬤⬤⬤ ⬤⬤⬤⬤⬤
⬤⬤⬤⬤⬤

Rub out one more group of five and repeat. Ask how many have been rubbed out altogether.

⬤⬤⬤⬤⬤ ⬤⬤⬤⬤⬤

Continue to draw numbers of dots on the board using groups of five and part groups. Ask how many more are needed to make 20. Ask the children to answer using their place value cards. After the first few, record the number statements for each on the board like this: $14 + \square = 20$.
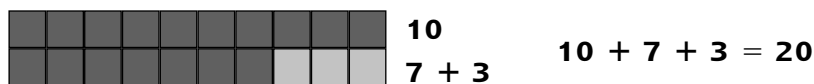
KEY QUESTION

◻ **What can we use to help us find pairs of numbers that total 20 (addition facts to 10)?**

MAIN ACTIVITY

20 MINUTES

Show the children two lines on a 10 × 10 blank number grid. Point out that each line has 10 squares. Quickly shade in 17 squares and ask the children how many squares are unshaded. Annotate the lines as below, pointing out that 10 and two numbers that total 10 will combine to make 20 altogether.

⟫→

10

7 + 3

10 + 7 + 3 = 20

Repeat with other numbers, writing each statement on the board as you go, for example 15 + □ = 20, and then filling in the missing number. Point out that this question is the same as 10 + 5 + □ = 20, so they can use their knowledge of pairs of numbers that total 10 to help.

Now ask the children to close their eyes and imagine the two lines on the grid with 16 squares coloured in. Then ask them to use number cards to show you how many squares are not coloured in.

Show the children a blank grid with 55 squares shaded in. Ask them to discuss in pairs how many squares are unshaded. *How did you work this out?* Write this on the board as 55 + □ = 100, filling in 45 afterwards.

50

5 + 5

40
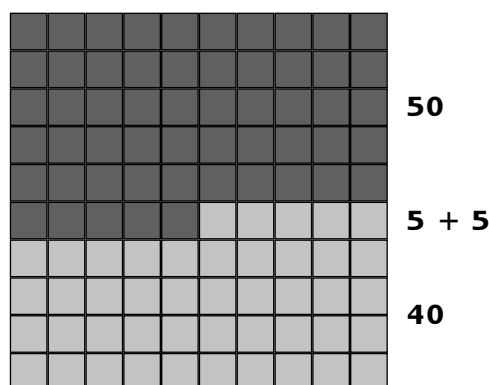
Ask the children to imagine 75 squares coloured in, and the other part of the jigsaw coming to meet it to form the grid. *How many squares would be in this bit of the jigsaw?* Repeat for other multiples of 5 (such as 45, 65, 85), and ask the children to show the answer using place value cards.

Explain Activity Sheet 2.1, which the children will have to complete before the next session. Introduce the *Speedy Facts* game for homework.

KEY QUESTIONS

■

☐ **What can we use to help us find pairs of numbers which total 20 (addition facts to 10)?**

☐ **What can we use to help us find pairs of numbers which total 100?**

PLENARY

5 MINUTES

Ask a child to give you an addition sentence with an answer of 100. Write it on the board. Can anyone make this into a different sentence? Can anyone make it into a subtraction sentence, for example 75 + 25 = 100; 100 − 75 = 25?

UNIT

2

Unit 2
SESSION 2

TOTAL TIME

30 MINUTES

OBJECTIVES

- Know by heart all addition and subtraction facts for each number up to 20.
- Derive quickly all pairs of multiples of 5 with a total of 100.

VOCABULARY

multiple of ten

multiple of five

count on

addition

subtraction

RESOURCES

demonstration number line from 0 to 100, marked in fives;

place value cards (resource sheet 2, Unit 1);

individual white boards or pieces of paper to hold up;

STARTER

5 MINUTES

Count in fives along a number line from 0 to 100. Point to 75 and say that you are going to find out how much needs to be counted on to reach 100. *What is the next multiple of ten after 75? How many would you count on to get to 80?* Ask everyone to select 5 from their place value cards. *How many would you count on from 80 to get to 100?* If necessary, count in tens to demonstrate the quick way of doing this. Ask them to select 20 from their place value cards and put the two cards together to make 25. Explain that this is the amount they have to count on from 75 to get to 100.

Repeat with other multiples of 5, speeding up as you go, and asking each question as one step, for example 'What do you add on to 65 to get to 100?'
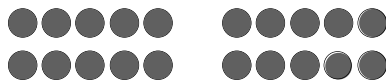
KEY QUESTIONS

☐ **When you add two multiples of five together to make 100, what do the tens add up to? Why?**

MAIN ACTIVITY

20 MINUTES

Draw 20 dots on the board as below.

Count them together, emphasising the multiples of 5 and telling children to clap on each one of them.

Say that today we want 15 spots to begin with.

Ask the children to close their eyes while you rub six of them out. They open their eyes and tell you, using cards, how many you have rubbed out. Record this as: $15 - 6 = 9$. *How many would you need to draw to get 15 spots again?* Record this as $9 + \square = 15$. Redraw the dots to check, and to help children visualise where they were before you rubbed them out. Repeat for other numbers between 10 and 20.

≫→

Now ask the children, in pairs, to write as many addition and subtraction statements as they can for a number between 10 and 20. Model first with, say, 13:

$9 + 4 = 13; 4 + 9 = 13; 13 - 9 = 4; 13 - 4 = 9$

$7 + 6 = 13; 6 + 7 = 13$ and so on.

If necessary, demonstrate why these statements are true by drawing dots as before.

Explain Activity Sheet 2.2, which the children will have to complete before the next session.

KEY QUESTION

☐ **If you know that 9 + 6 = 15, what other facts do you know?**

PLENARY

5 MINUTES

Give an addition sentence where the answer is 20, such as $13 + 7 = 20$. The children have to write down on their white boards or pieces of paper a subtraction sentence using the same numbers, for example $20 - 7 = 13$. Repeat for other sentences, recording each on the board.

UNIT

2

Name ....

Date ....

Dear Parents/Carers,

We are learning by heart pairs of numbers that make 20. Please help your child by playing the game outlined below.

Thank you for your help.

Your child's teacher

Speedy Facts

- **Lay the number cards on the table, with the numbers facing upwards. Find all the pairs that make 20, going as quickly as you can. Time how long this takes.**

   Now do it again and see if you are quicker.

00:00:22·43

| 5 | 12 | 19 | 10 | 4 | 13 |

| 1 | 8 | 16 | 2 | 9 | 15 | 11 | 0 |

| 14 | 17 | 7 | 3 | 20 | 18 | 6 | 10 |

Name ....

Date ....

Activity sheet 2.1

1. Look at the resource sheet and find the jigsaw pieces that go with those below to make 100 squares. Write a number sentence underneath each one that explains what you have done.
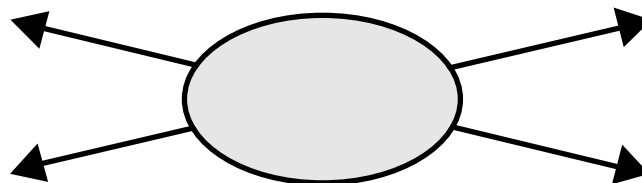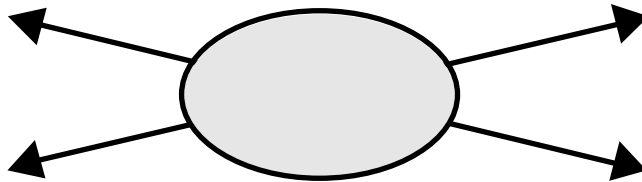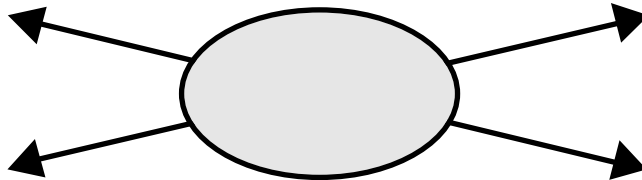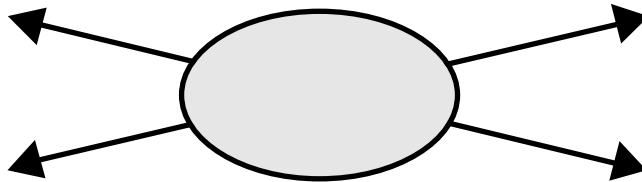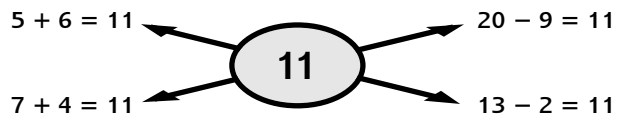
A.

B.

C.

D.

E.

F.
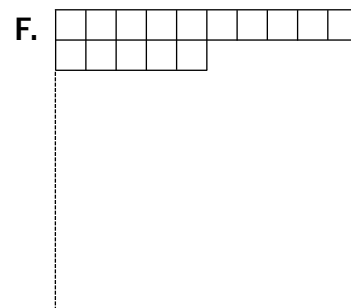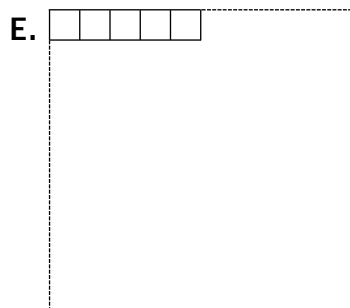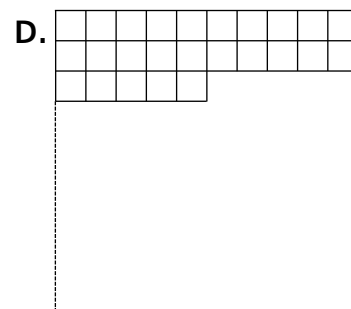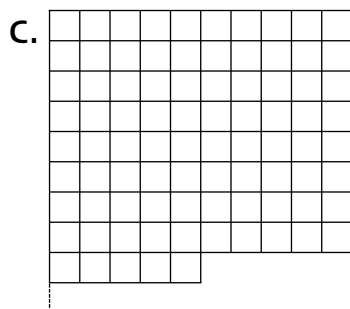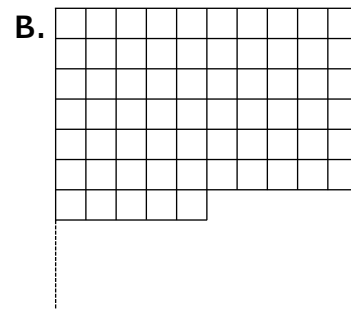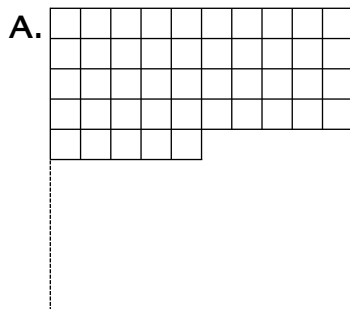
2. Write all the pairs of multiples of five that total 100, such as 95 + 5 = 100, on the back of this sheet.

UNIT
2

Name ....

Date ....

Activity sheet 2.2

1. Choose four numbers between 10 and 20 and write them in the centres below. Write two addition facts and two subtraction facts for each number. Do this as quickly as you can.
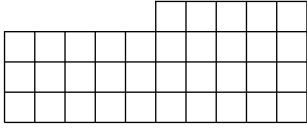
$5 + 6 = 11$ **11** $20 - 9 = 11$

$7 + 4 = 11$ $13 - 2 = 11$

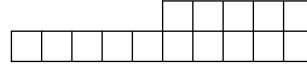2. Choose another four numbers between 10 and 20 and write four number sentences for each on the back of this sheet.
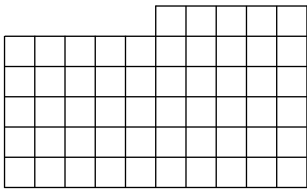
Unit 2

RESOURCE SHEET 3

NNS Springboard 4
PART **3** UNIT **2**
RESOURCE SHEET

UNIT
2

0	1	2	3
4	5	6	7
8	9	10	10
11	12	13	14
15	16	17	18
19	20		

Unit 2

RESOURCE SHEET 4

1.

2.

3.

4.

5.

6.