

# Number Bonds to 10 and 20

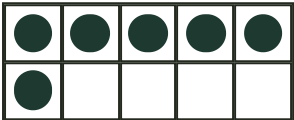
Find the missing numbers. Use the ten frames and part-whole models to help.

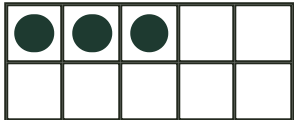
Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

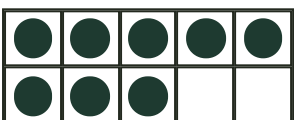
**Learning objective:** I can recall and use number bonds to 10 and 20.

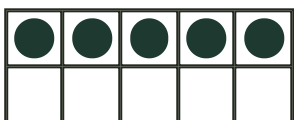
✓ I know pairs of numbers that make 10 ✓ I can use bonds to 10 to find bonds to 20 ✓ I can find a missing number

**1 Ten frames** Count the dots. How many more make 10? Write the number sentence.

  +  = 10

  +  = 10

  +  = 10

  +  = 10

**2 Bonds to 10** Write the missing number in each box.

1  $3 + \square = 10$

2  $\square + 6 = 10$

3  $8 + \square = 10$

4  $10 = 5 + \square$

5  $\square + 1 = 10$

6  $10 - 4 = \square$

7  $10 - \square = 3$

8  $2 + \square = 10$

9  $10 = \square + 9$

10  $0 + \square = 10$

11  $10 - 7 = \square$

12  $\square + 4 = 10$

**3 All the bonds to 10** Complete the pattern. What do you notice?

$0 + \square = 10$

$1 + \square = 10$

$2 + \square = 10$

$3 + \square = 10$

$4 + \square = 10$

$5 + \square = 10$

$6 + \square = 10$

$7 + \square = 10$

$8 + \square = 10$

$9 + \square = 10$

$10 + \square = 10$

**Challenge:** how many different pairs of numbers make 10? (3 + 7 and 7 + 3 count as the same pair.)

## Number Bonds to 20

**4 Use bonds to 10** If you know a bond to 10, you know a bond to 20!

$$3 + 7 = 10$$

SO...

$$13 + 7 = \square$$

$$6 + 4 = 10$$

SO...

$$16 + \square = 20$$

$$2 + 8 = 10$$

SO...

$$\square + 8 = 20$$

**5 Bonds to 20** Write the missing number in each box.

1  $14 + \square = 20$

2  $\square + 11 = 20$

3  $20 - 5 = \square$

4  $20 = 13 + \square$

5  $18 + \square = 20$

6  $\square + 10 = 20$

7  $20 - \square = 8$

8  $9 + \square = 20$

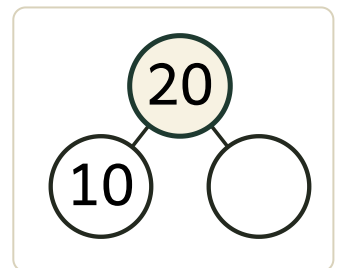
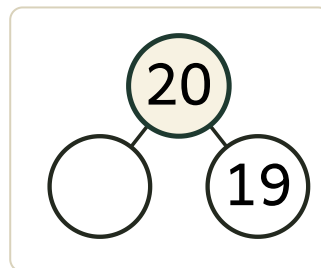
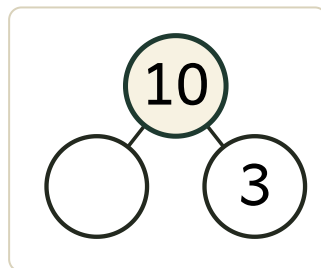
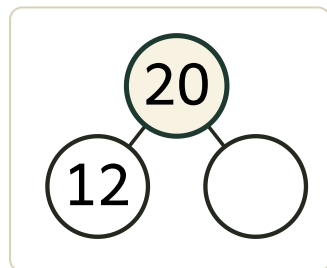
9  $20 - 17 = \square$

10  $\square + 15 = 20$

11  $20 = \square + 6$

12  $20 - 0 = \square$

**6 Part-whole models** The top circle is the whole. Write the missing part.



**7 Reasoning** Sam says, "11 + 8 = 20." Is Sam right? Explain how you know.

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# Answer Key

## Number Bonds to 10 and 20

| Question              | Answers                                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Ten frames          | $6 + 4 = 10$ ; $3 + 7 = 10$ ; $8 + 2 = 10$ ; $5 + 5 = 10$                                                                                                                                                        |
| 2 Bonds to 10         | (1) 7; (2) 4; (3) 2; (4) 5; (5) 9; (6) 6; (7) 7; (8) 8; (9) 1; (10) 10; (11) 3; (12) 6                                                                                                                           |
| 3 All the bonds to 10 | 0+10, 1+9, 2+8, 3+7, 4+6, 5+5, 6+4, 7+3, 8+2, 9+1, 10+0.<br>Pattern: as the first number goes up by 1, the second number goes down by 1.<br><b>Challenge:</b> 6 different pairs – 0+10, 1+9, 2+8, 3+7, 4+6, 5+5. |
| 4 Use bonds to 10     | $13 + 7 = 20$ ; $16 + 4 = 20$ ; $12 + 8 = 20$                                                                                                                                                                    |
| 5 Bonds to 20         | (1) 6; (2) 9; (3) 15; (4) 7; (5) 2; (6) 10; (7) 12; (8) 11; (9) 3; (10) 5; (11) 14; (12) 20                                                                                                                      |
| 6 Part-whole models   | $20 = 12 + 8$ ; $10 = 7 + 3$ ; $20 = 1 + 19$ ; $20 = 10 + 10$                                                                                                                                                    |
| 7 Reasoning           | No. $11 + 8 = 19$ , not 20. Possible explanations: $1 + 8 = 9$ , not 10, so $11 + 8 = 19$ ; or $11 + 9 = 20$ / $12 + 8 = 20$ .                                                                                   |

**Teaching note:** encourage children to say each fact both ways ( $3 + 7$  and  $7 + 3$ ) and to spot the link between  $3 + 7 = 10$  and  $13 + 7 = 20$ . Sections 1–3 suit Year 1; sections 4–7 extend to Year 2 (recall and use addition and subtraction facts to 20).