

# Reasoning and Problem Solving

## Step 5: Bonds to 100 (Tens)

### National Curriculum Objectives:

Mathematics Year 2: (2C1) [Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100](#)

### Differentiation:

Questions 1, 4 and 7 (Problem Solving)

**Developing** Arrange cards to represent a number bond to 50 – find all the possibilities.

**Expected** Arrange cards to represent a number bond to 100 – find all the possibilities.

**Greater Depth** Identify and arrange the cards needed to represent a number bond to 100 – find all the possibilities.

Questions 2, 5 and 8 (Reasoning)

**Developing** Identify the incorrect number bond to 50 and explain why it is incorrect. Includes 3 number sentences.

**Expected** Identify the incorrect number bond to 100 and explain why it is incorrect. Includes 3 number sentences.

**Greater Depth** Identify the incorrect number bond to 100 and explain why it is incorrect. Includes 5 number sentences.

Questions 3, 6 and 9 (Problem Solving)

**Developing** Use knowledge of number bonds to 50 to identify two items which would cost £50 when bought together. Find all the possibilities.

**Expected** Use knowledge of number bonds to 100 to identify two items which would cost £100 when bought together. Find all the possibilities.

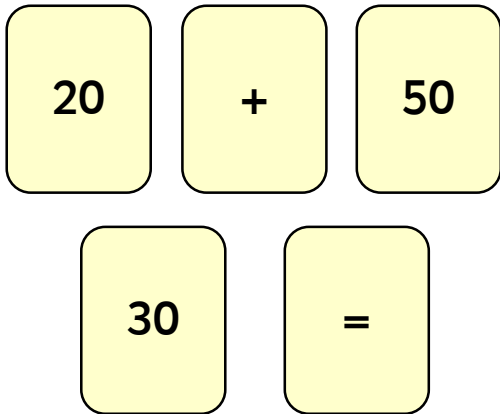
**Greater Depth** Use knowledge of number bonds to 100 to identify three items which would cost £100 when bought together. Find all the possibilities.

More [Year 2 Addition and Subtraction](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

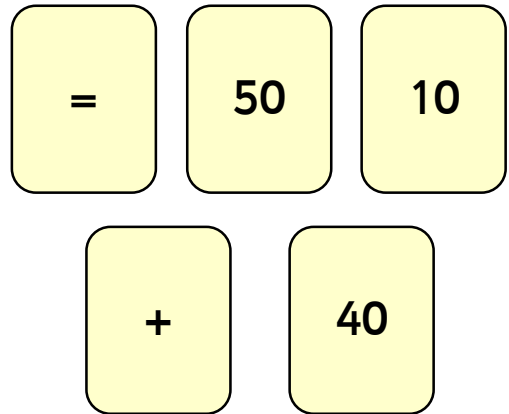
# Reasoning and Problem Solving – Bonds to 100 (Tens)

1a. Arrange the cards below to create a number sentence. Find all the possibilities.



PS

1b. Arrange the cards below to create a number sentence. Find all the possibilities.



PS

2a. Circle the incorrect number sentence below.

$$40 + 10 = 50$$

$$50 + 0 = 50$$

$$50 = 30 + 10$$

Explain why it is incorrect.



R

2b. Circle the incorrect number sentence below.

$$20 + 30 = 50$$

$$50 = 30 + 20$$

$$50 + 10 = 50$$

Explain why it is incorrect.



R

3a. Danny spends £50 on two items. Find all the possible combinations.



£10



£20



£30



£50



£40



PS

3b. Kelly spends £50 on two items. Find all the possible combinations.



£50



£40



£10



£20



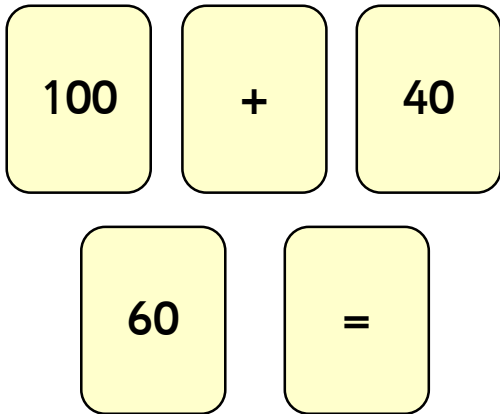
£30



PS

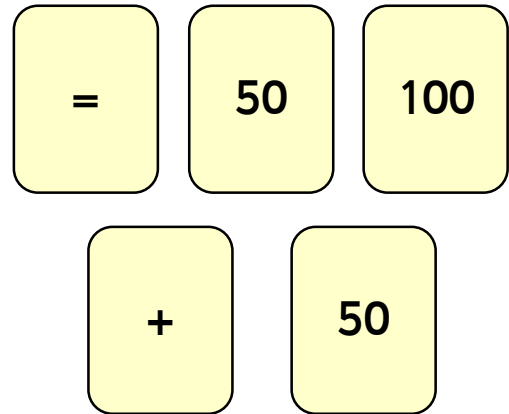
# Reasoning and Problem Solving – Bonds to 100 (Tens)

4a. Arrange the cards below to create a number sentence. Find all the possibilities.



PS

4b. Arrange the cards below to create a number sentence. Find all the possibilities.



PS

5a. Circle the incorrect number sentence below.

$$70 + 30 = 100$$

$$50 + 40 = 100$$

$$100 = 80 + 20$$

Explain why it is incorrect.



R

5b. Circle the incorrect number sentence below.

$$40 + 60 = 100$$

$$100 = 10 + 90$$

$$20 + 70 = 100$$

Explain why it is incorrect.



R

6a. Anwar spends £100 on two items. Find all the possible combinations.



£10



£20



£30



£90



£70



PS

6b. Fay spends £100 on two items. Find all the possible combinations.



£60



£50



£40



£50



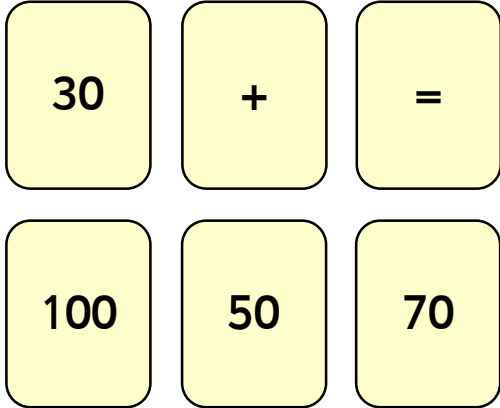
£40



PS

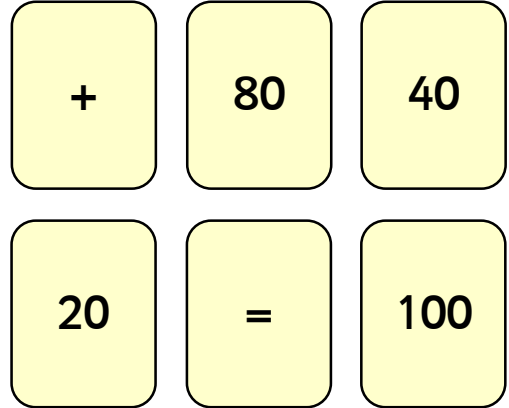
# Reasoning and Problem Solving – Bonds to 100 (Tens)

7a. Identify the cards needed to create a number sentence. Arrange them in the correct order. Find all the possibilities.



PS

7b. Identify the cards needed to create a number sentence. Arrange them in the correct order. Find all the possibilities.



PS

8a. Circle the incorrect number sentence below.

- 100 = 50 + 50
- 90 + 10 = 100
- 50 + 50 = 100
- 100 = 20 + 80
- 60 = 40 + 100

Explain why it is incorrect.



R

8b. Circle the incorrect number sentence below.

- 40 + 60 = 100
- 100 = 10 + 90
- 90 + 100 = 10
- 50 + 50 = 100
- 30 + 70 = 100

Explain why it is incorrect.



R

9a. Kurt spends £100 on three items. Find all the possible combinations.



PS

9b. Rachna spends £100 on three items. Find all the possible combinations.



PS

# Reasoning and Problem Solving – Bonds to 100 (Tens)

## Developing

1a.  $20 + 30 = 50$ ;  $30 + 20 = 50$ ;  $50 = 20 + 30$ ;  $50 = 30 + 20$

1b.  $10 + 40 = 50$ ;  $40 + 10 = 50$ ;  $50 = 10 + 40$ ;  $50 = 40 + 10$

2a.  $50 = 30 + 10$  is incorrect because  $30 + 10 = 40$

The number sentence should be either  $50 = 30 + 20$  or  $50 = 40 + 10$

2b.  $50 + 10 = 50$  is incorrect because  $50 + 10 = 60$

The number sentence should be either  $50 + 0 = 50$  or  $40 + 10 = 50$

3a. 1. Football £10 and Robot £40

2. Drum £20 and Keyboard £30

3b. 1. Hobby Horse £10 and Game Controller £40

2. Dinosaur wind-up toy £20 and Jack-in-the-box £30

## Expected

4a.  $60 + 40 = 100$ ;  $40 + 60 = 100$ ;  $100 = 60 + 40$ ;  $100 = 40 + 60$

4b.  $50 + 50 = 100$ ;  $100 = 50 + 50$

5a.  $50 + 40 = 100$  is incorrect because  $50 + 40 = 90$

The number sentence should be either  $50 + 50 = 100$  or  $60 + 40 = 100$

5b.  $20 + 70 = 100$  is incorrect because  $20 + 70 = 90$

The number sentence should be either  $20 + 80 = 100$  or  $30 + 70 = 100$

6a. 1. Football £10 and Scooter £90

2. Keyboard £30 and Robot £70

6b. 1. Rocket £60 and Hobby Horse £40

2. Rocket £60 and Jack-in-the-box £40

3. Game Controller £50 and Dinosaur wind-up toy £50

## Greater Depth

7a.  $70 + 30 = 100$ ;  $30 + 70 = 100$ ;  $100 = 70 + 30$ ;  $100 = 30 + 70$

7b.  $80 + 20 = 100$ ;  $20 + 80 = 100$ ;  $100 = 80 + 20$ ;  $100 = 20 + 80$

8a.  $60 = 40 + 100$  is incorrect because the numbers are in the wrong order. The number sentence should be  $100 = 40 + 60$  or  $100 = 60 + 40$

8b.  $90 + 100 = 10$  is incorrect because the numbers are in the wrong order. The number sentence should be  $90 + 10 = 100$  or  $10 + 90 = 100$

9a. 1. Football £20, Drum £30 and Scooter £50

2. Keyboard £40, Robot £40 and Football £20

9b. 1. Rocket £60, Hobby Horse £20 and Jack-in-the-box £20

2. Rocket £60, Game Controller £30 and Dinosaur wind-up toy £10