PART 3

UNIT

7

FRACTIONS

Unit 7
• SESSION 1 •

TOTAL TIME

30 MINUTES

OBJECTIVE

- Recognise unit fractions such as $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{10}$ and use them to find fractions of shapes and numbers.

VOCABULARY

half

halve

quarter

equal parts

RESOURCES

fraction pictures (resource sheet 14); fraction shapes (resource sheet 15); whiteboards/pieces of paper for children to write on and hold up; number strips for 0–8, 0–12, 0–16, 0–20, 0–24, 0–28, 0–32, 0–40, 0–60, 0–80 (resource sheet 16); 0–100 number line; 1–6 paperclip spinner (resource sheet 1, Unit 1); *Spinning Money* game (resource sheet 12)

HOMEWORK

Play *Spinning Money* using the game sheet (resource sheet 12); the spinner (resource sheet 1, Unit 1) and the 10p coins (resource sheet 13)

STARTER

5 MINUTES

Hold up pictures of objects (resource sheet 14) and ask children to write on their white boards or pieces of paper what each fractional part is worth.

Show pictures of shapes (resource sheet 15), where some shapes are divided into equal parts and some are not. Ask the children to write whether each picture shows equal fractions or not, and if the parts are equal, what fraction. They should explain their reasons.

KEY QUESTION

☐ **If I cut an apple into four pieces, what must be special about each piece if we are to call each piece a quarter?**

MAIN ACTIVITY

20 MINUTES

Hold up a number line strip 0–8 as below. Fold it in half. *What is half of 8?* Fold it in half again. *What number is a quarter along the strip of paper?* You could also point out that 4 is two quarters along, that 6 is three quarters along and that 8 is four quarters along.

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0     1     2     3     4     5     6     7     8
|     |     |     |     |     |     |     |     |
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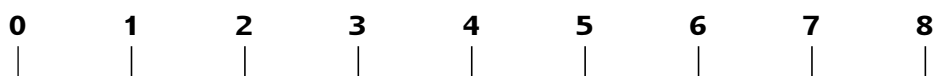
Record on the board: $\frac{1}{2}$ of 8 = 4 and $\frac{1}{4}$ of 8 = 2

⋙→

Repeat, this time folding the number line strip 0–40.

Spread a selection of strips (resource sheet 16) on a table and invite the children to choose strips to fold into halves and quarters, and to record the resulting statements in the same way.

Briefly explain Activity Sheet 7.1, which the children will have to complete before the next session.

Introduce the *Spinning Money* game for homework. (The pupils will also need resource sheet 1, resource sheet 12 and cut-out coins resource sheet 13).

KEY QUESTION

> **When we halve a number we are dividing it into two equal parts. One half of the number is one of these parts. When we 'quarter' a number what are we doing?**

PLENARY

5 MINUTES

Point to 100 on a 0–100 number line. Ask everyone to imagine the line being folded in half. *Where would one half be?* Now ask them to imagine that part of the line being halved again, to find one quarter of 100. *Where would the first fold be?* Record on the board: $\frac{1}{2}$ of 100 = 50 and $\frac{1}{4}$ of 100 = 25. Point out that you have divided 100 into two pieces and then into four pieces.

Unit 7
SESSION 2

TOTAL TIME

30 MINUTES

OBJECTIVE

- Recognise unit fractions such as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$ and use them to find fractions of shapes and numbers.

VOCABULARY

groups of

tenth

equal parts

divide by

divide into equal groups

RESOURCES

demonstration 1–100 number grid (blank); place value cards (resource sheet 2, Unit 1)

STARTER

5 MINUTES

Write on the board the following table.

10 groups of 1 child are

10 groups of 2 children are

10 groups of 3 children are

…

10 groups of 10 children are

Ask children to answer each question quickly using their place value cards. Invite children with the correct answers to come and write the answers on the board. Try to inject some pace. Leave the table on the board to refer to in the main activity, then ask questions about it.

KEY QUESTIONS

◻ **If we know that 10 groups of 5 children is 50, how many will be in each group if we split 50 children into 10 groups? What is 50 divided by 10?**

◻ **If we split 30 children into 10 groups, how many will be in each?**

MAIN ACTIVITY

20 MINUTES

Shade in 40 squares of a 1–100 number grid, or fold the unneeded rows underneath. Say that there are forty squares here and that you want to find a tenth of 40. Ask for suggestions of how you could do this. Draw out that there are ten columns, so each column is a tenth of 40.

⟫➔
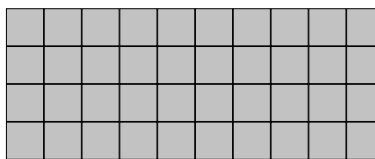
One tenth of 40 is 4. Record this as $\frac{1}{10}$ of 40 $=$ 4. Point out that we could also write this as 40 $\div$ 10 $=$ 4, because if you divide 40 into 10 equal groups you get 4 in each group. Point to the table used in the starter and ask if there are any facts there that you could have used (10 groups of 4 $=$ 40).

Repeat for other numbers of rows on the grid, each time referring back to the number facts on the sheet used in the starter and recording the relevant fraction statement and division statement.

Briefly explain Activity Sheet 7.2, which the children will have to complete before the next session.

KEY QUESTION

When we find a tenth of a number, what are we dividing it by?

PLENARY

5 MINUTES

Ask the children questions such as 'What is one tenth of 30? Of 70? Of 60?' For each question, first ask them to hold up the multiple of ten in the question, and then to hold up the answer. *What do you notice?* Point out that when we divide a 'tens' number, such as 30, by 10, we get a 'ones' number.

UNIT
7

Name ....

Date ....

Dear Parents/Carers,

We have been learning how to find halves and quarters of numbers. Please help your child to practise this by playing *Spinning Money*.

Thank you for your help.

Your child's teacher

Spinning Money

- Take it in turns to spin the paperclip and collect that number of 10p coins.

- For example, if you roll a 4, collect 40p in 10p coins. If you can say what half of this amount is, 'half of 40p is 20p', move your counter forward one space on the track.

- If you can say what a quarter of this amount is, 'a quarter of 40p is 10p', move two spaces forward.

- You cannot move more than two spaces a turn.

- The first person to reach the end is the winner.

Name ....

Date ....

Activity sheet **7.1**

1. Show a half and a quarter of each shape. Write two number sentences for each.
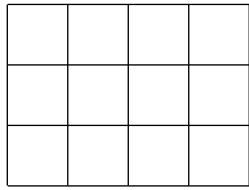
$\frac{1}{2}$ of 12 =

$\frac{1}{4}$ of 12 =

$\frac{1}{2}$ of 8 =

$\frac{1}{4}$ of 8 =

2. Colour half of each shape.
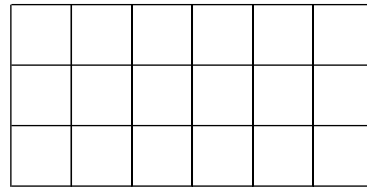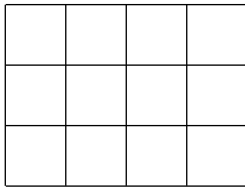
3. Colour a quarter of each shape.
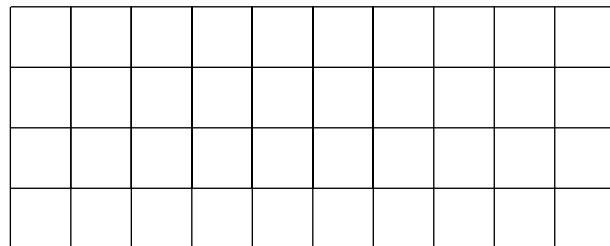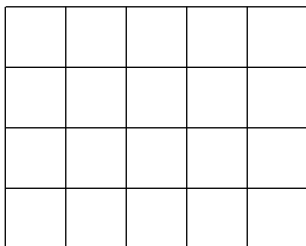
UNIT
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Name ....

Date ....

Activity sheet 7.2

Shade in a tenth of each of these grids. Write a number statement for each.
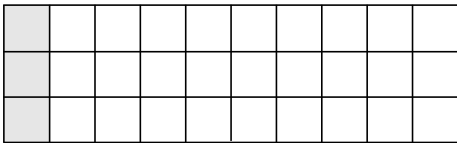
$\frac{1}{10}$ of 30 =
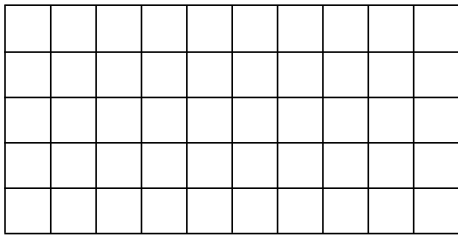
$\frac{1}{10}$ of 50 =
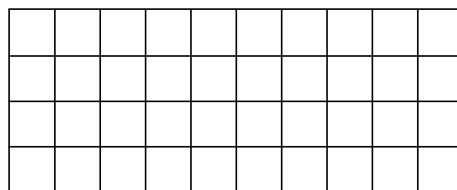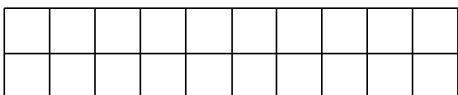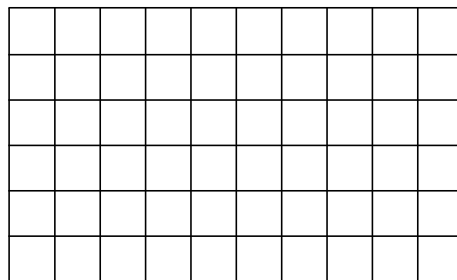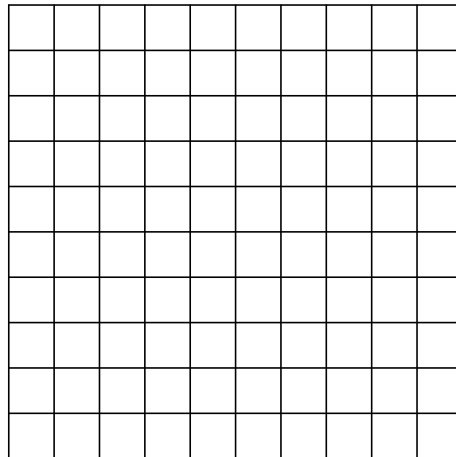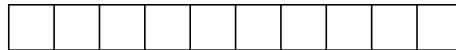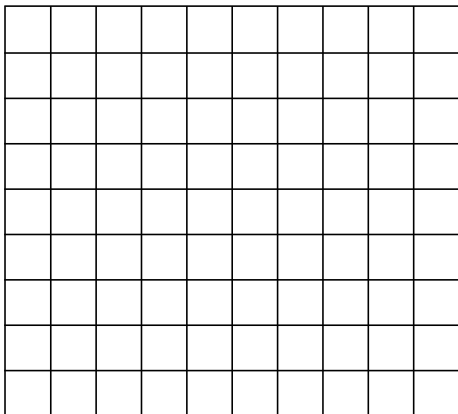
Unit 7
RESOURCE SHEET 12

fraction champion

Spinning Money

start
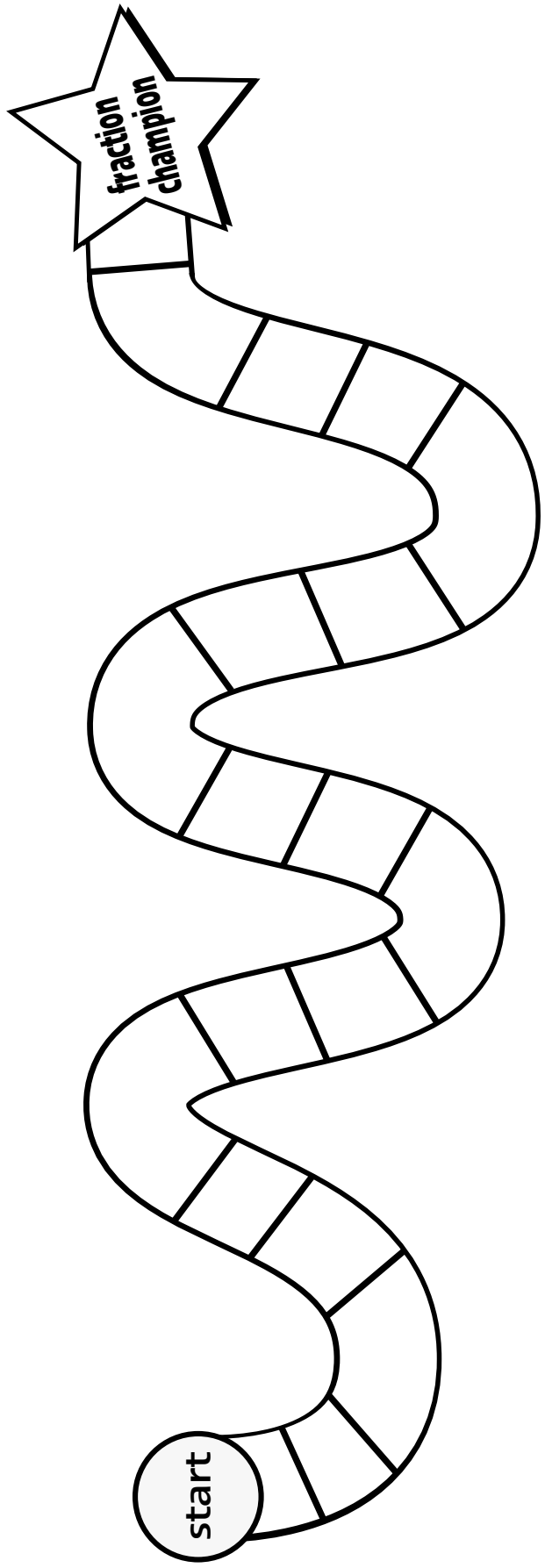
Unit 7

RESOURCE SHEET 13

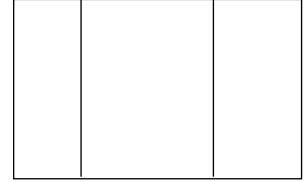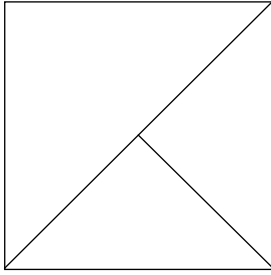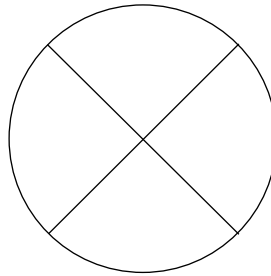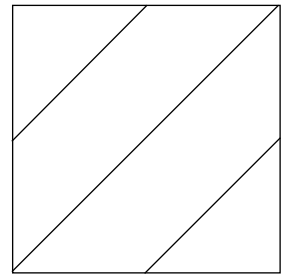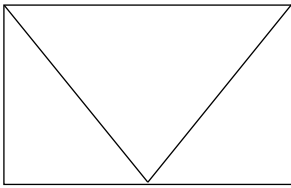|					
10p	10p	10p	10p	10p	10p
10p	10p	10p	10p	10p	10p
10p	10p	10p	10p	10p	10p
10p	10p	10p	10p	10p	10p
10p	10p	10p	10p	10p	10p
10p	10p	10p	10p	10p	10p

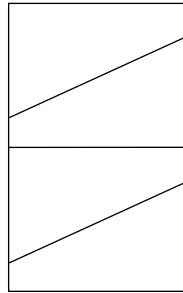# Unit 7

RESOURCE SHEET 14
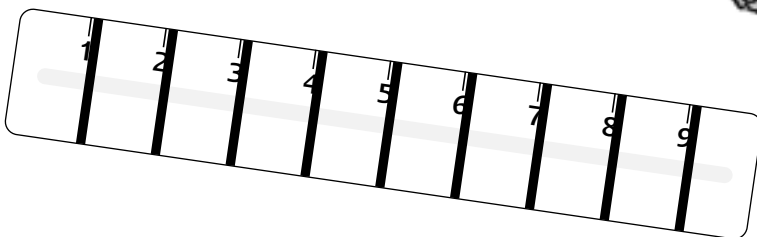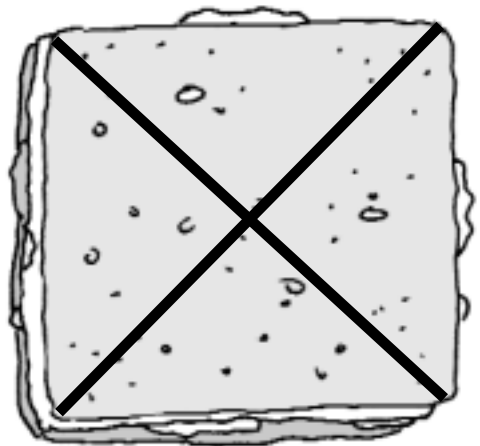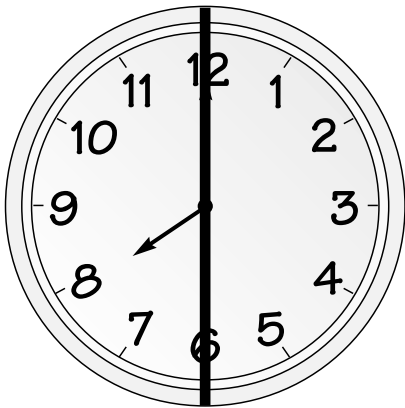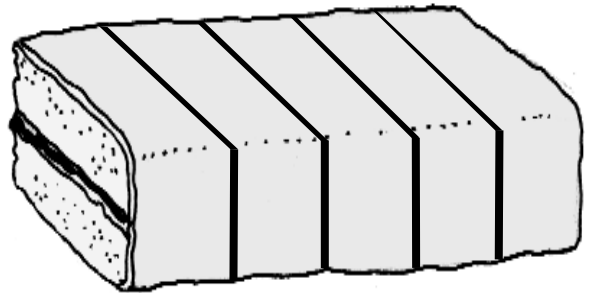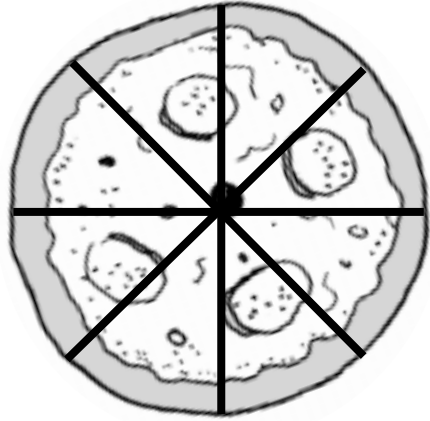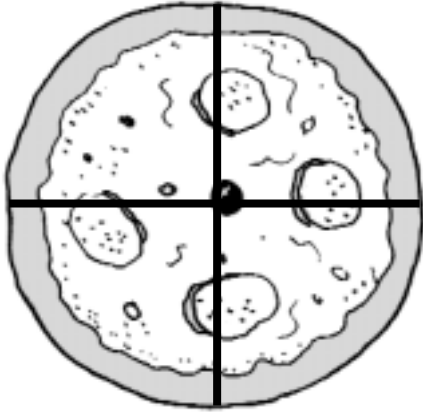
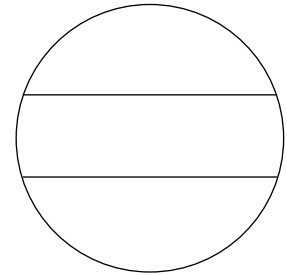**Unit 7**
RESOURCE SHEET 15

A.
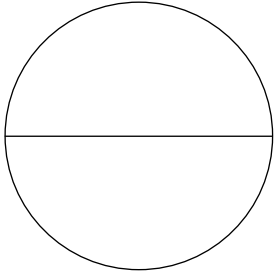
B.
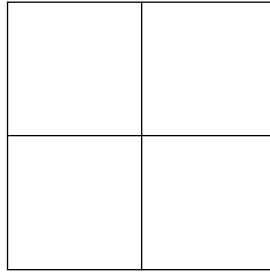
C.

D.

E.

F.

G.

H.

I.

J.

K.

L.

Unit 7
RESOURCE SHEET 16

UNIT

7

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

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

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |

| 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |

| 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 |