

SPRINGBOARD 5 • SPRINGBOARD 5 • SPRINGBOARD 5 • SPRINGBOARD 5 • SPRINGBOARD 5 • SPRINGBOARD 5 • SPRINGBOARD 5 • SPRINGBOARD 5

PART 3

UNIT  
4

**FRACTIONS**

## Unit 4

## • LEAD LESSON •

## TOTAL TIME

50  
MINUTES

## OBJECTIVES

- Recognise a half, a quarter, a tenth and a fifth. Use them to find fractions of shapes and numbers
- Begin to recognise simple equivalent fractions, such as five tenths as a half and ten tenths as a whole

## VOCABULARY

fractions,  
half, halves,  
quarter,  
tenths, fifths

## RESOURCES

interlocking  
cubes;  
counting stick;  
sticky labels for  
 $0, 1, \frac{1}{2}, \frac{1}{10} - \frac{9}{10}$   
inclusive,  $\frac{1}{5} - \frac{4}{5}$   
inclusive,  
10, 20  
(resource  
sheet 4)

## HOMEWORK

See homework sheet,  
which is designed to  
consolidate this lesson's  
work on tenths.

## STARTER

10  
MINUTES

Ask the children to work in pairs to make a stick out of eight interlocking cubes. One quarter of the stick should be red and the rest yellow. Ask them to hold up the stick of cubes for you to see. What fraction of the stick of cubes is yellow?

Now ask them to make a stick with 12 cubes. They are to make one half of the stick red and hold it up. Then they do the same for three quarters of the stick. How many halves make a whole? How many quarters make a whole? How many quarters do you need to put with one half to make a whole one?

## KEY QUESTION

- **Make a shape using 16 cubes in which one quarter of the shape is blue, one quarter yellow and the rest red. What fraction of the whole is red?**

## MAIN ACTIVITY

35  
MINUTES

Ask the children to make a shape using only 10 cubes. How many cubes in one tenth of the shape? How many in three tenths of the shape? How many cubes are left? What fraction of the shape is this? How many cubes in one half of the shape? How many tenths in one half?

Tell the children to make a different shape with ten cubes but this time changing the colour after every two cubes. What fraction of the whole is two cubes? How many groups of two cubes are there in the shape? Point out that the shape can be split into five equal parts, and that each part is a fifth. How many tenths in one fifth?



Show the children the counting stick. How many sections does it have? What fraction of the whole stick is one of these sections? What fraction is two sections? What is another way of saying this? Now put a label for zero at one end of the stick and a label for one whole one on the other end. Where does the label for one half belong? Ask a child to put it on the stick. Ask others to place the rest of the labels on the stick.

Explain that the counting stick now runs from zero to ten. Put the new labels on each end. Where does the label for one half go? What number is this? Where does the label for one fifth go? What number is there? Where should the label for one tenth go? What number is there?

Make sure all the children understand the instructions on Activity sheet 4.1.

**KEY QUESTIONS**

- How do you find one tenth of something?
- How many tenths are in a whole one?
- How many tenths are the same as one fifth?
- How many fifths in a whole one?

**PLENARY****5**  
MINUTES

Discuss the key questions above. Ask the children to imagine a cake cut into five equal slices. What fraction of the whole cake is each slice? How much is left if one slice is taken away? Now imagine a cake cut into 10 equal slices. If three children each take a slice, what fraction of the cake is left?

Explain the homework, making sure that all the children understand the instructions.

**SOMETHING TO REMEMBER**

The fraction taken from a shape and the fraction remaining make a whole.

## Unit 4

## FOLLOW-UP SESSION

## TOTAL TIME

45  
MINUTES

## OBJECTIVES

- Recognise a half, a quarter, a tenth and a fifth. Use them to find fractions of shapes and numbers
- Begin to recognise simple equivalent fractions, such as five tenths as a half and ten tenths as a whole

## VOCABULARY

fractions, half, halves, quarters, tenths, fifths

## RESOURCES

interlocking cubes;  
counting stick;  
sticky labels for zero and 20

## STARTER

10  
MINUTES

Go over the homework with the children demonstrating the activity with the different coloured cars on the board, drawing crosses instead of cars to save time.

Remind the children about the shapes they made with cubes in the lead lesson. Thinking about these may help them to answer your next questions. Ask the questions one at a time, asking children to hold up digit cards to show each answer. What is one half of 8? ...of 12? ...of 16? What is one quarter of each of these numbers?

## KEY QUESTIONS

- What is one half of 8?
- What is one quarter of 8?
- What is three quarters of 8?

## MAIN ACTIVITY

25-30  
MINUTES

Group the children in pairs and give each pair an assortment of interlocking cubes. They are to fit together 20 cubes into a shape: half of the shape should be red, one tenth blue, two tenths yellow and one fifth green. Ask the pairs to hold up their shapes so that you can check them. Two colours have the same number of cubes. Which ones? What fraction of the whole shape is each of these colours? What do you know about these fractions?

Explain the instructions for Activity sheet 4.2



  
KEY QUESTIONS

- How many of the 20 cubes are red? ...blue? ...yellow? ...green?
- What fraction of the whole shape does each colour stand for? How do you know?
- What fraction of the original shape is left if we take away all the red cubes?

## PLENARY

  
5-10  
MINUTES

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Show the counting stick with labels for zero at one end and for 20 at the other. Where is one half? Where is one tenth? Where is two tenths? What is another way of saying two tenths?

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Name .....

Date .....

Dear Parents and Carers,

This week we have been working very hard with our fractions. Would you please help your child complete this worksheet before our follow-up lesson later in the week.

Thank you for your help. Have fun!

Your child's Springboard 5 teacher

**Cars in a car park**

Mark  $\frac{1}{10}$  of the cars in blue.



Mark  $\frac{5}{10}$  of the cars in red.



Mark  $\frac{2}{10}$  of the cars in green.



What fraction of the cars in the park has not been marked?



.....



What fraction is the same as  $\frac{5}{10}$ ? .....

What fraction is the same as  $\frac{2}{10}$ ? .....

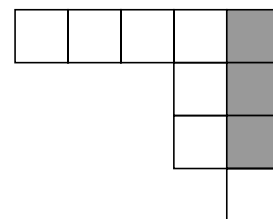
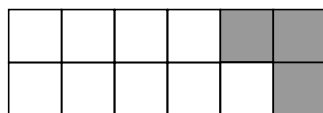
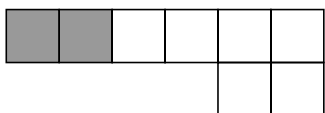
What is  $\frac{10}{10}$ ? .....

Name .....

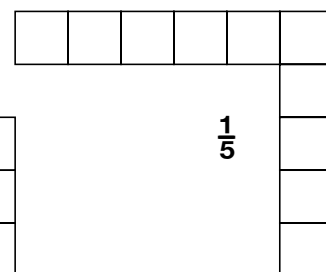
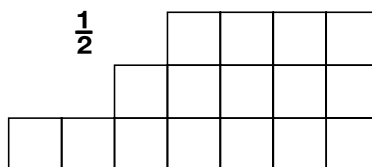
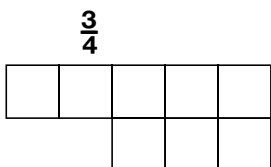
Date .....

**Activity sheet 4.1**

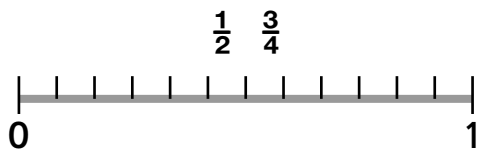
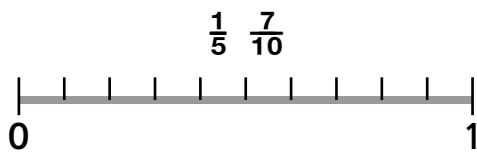
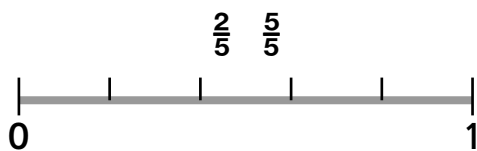
What fraction of these shapes is shaded?



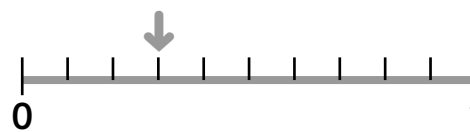
Shade in the fraction given of each of these shapes.



Draw an arrow from the fractions to their place on the number line.



Write the fraction shown by the arrow on each of these number lines.



12 children walk to school.

$\frac{1}{4}$  have book bags. How many is this? .....

$\frac{3}{4}$  have sandwich boxes. How many is this? .....

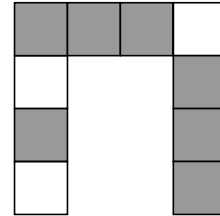
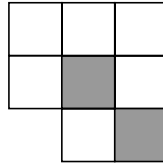
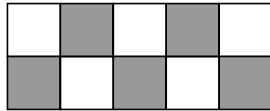
$\frac{1}{2}$  are wearing coats. How many is this? .....

Name .....

Date .....

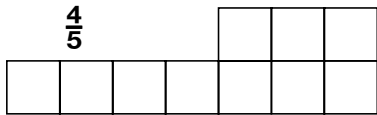
**Activity sheet 4.2**

What fraction of these shapes is shaded?

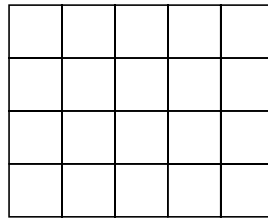


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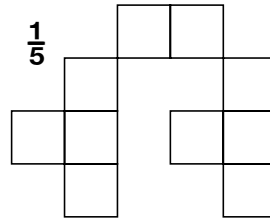
Shade in this fraction of each shape.



$\frac{3}{10}$



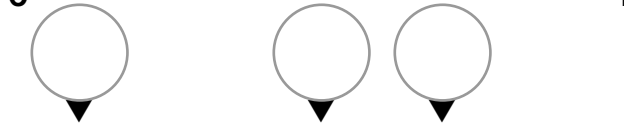
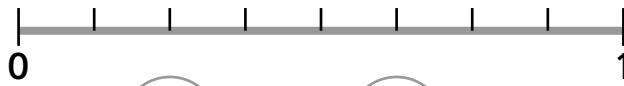
$\frac{1}{5}$



Put these fractions in the right places on this line.

$\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$

Write the fraction the arrow is pointing to in the circles.

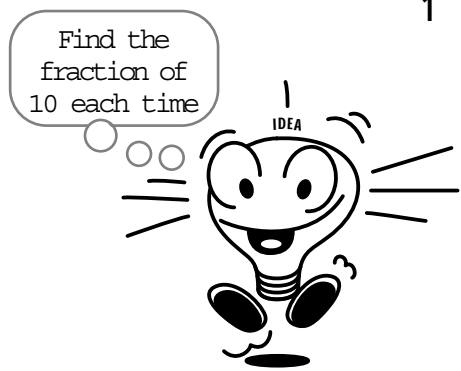


There are 10 pets in the pet shop.

$\frac{1}{2}$  are puppies.  
How many puppies are there? .....

$\frac{1}{5}$  are kittens.  
How many kittens are there? .....

$\frac{3}{10}$  are canaries.  
How many canaries are there? .....



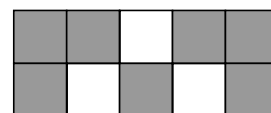
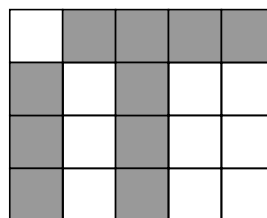
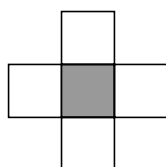


Name .....

Date .....

**Activity sheet** 4.3

What fraction of these shapes is shaded?



.....

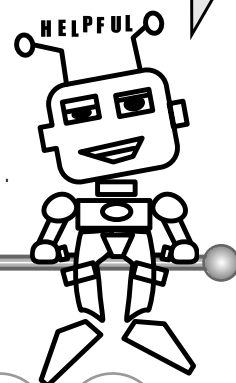
Matt has 12 stickers. He gives three quarters of them away.  
How many does he give away? .....

Sam makes 15 sweets and eats four fifths of them. How many does she eat? .....

Amina has a packet of 20 biscuits. She puts three tenths of them on a plate.  
How many does she put on the plate? .....

Robert has 16 marbles. He puts three eighths of them in his pocket for a game.  
How many does he put in his pocket? .....

For these problems, think about how many items there are to start with.



Write in the equivalent fractions

|                 |                |                    |                    |                    |                    |                    |                    |                    |   |
|-----------------|----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---|
| $\frac{1}{10}$  | $\frac{2}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ |   |
| 0               | ▼              | ▼                  | ▼                  | ▼                  | ▼                  | ▼                  | ▼                  | ▼                  | 1 |
| $\frac{1}{10}$  | $\frac{1}{5}$  | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ |   |
| $\frac{10}{10}$ | $\frac{5}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ | $\frac{\quad}{10}$ |   |

Unit 4  
RESOURCE SHEET

UNIT  
4

|                                  |                                  |                                  |                                  |
|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <b>0</b>                         | <b>1</b>                         | <b><math>\frac{1}{2}</math></b>  | <b><math>\frac{1}{5}</math></b>  |
| <b><math>\frac{2}{5}</math></b>  | <b><math>\frac{3}{5}</math></b>  | <b><math>\frac{4}{5}</math></b>  | <b><math>\frac{1}{10}</math></b> |
| <b><math>\frac{2}{10}</math></b> | <b><math>\frac{3}{10}</math></b> | <b><math>\frac{4}{10}</math></b> | <b><math>\frac{5}{10}</math></b> |
| <b><math>\frac{6}{10}</math></b> | <b><math>\frac{7}{10}</math></b> | <b><math>\frac{8}{10}</math></b> | <b><math>\frac{9}{10}</math></b> |
| <b>10</b>                        |                                  | <b>20</b>                        |                                  |