



# MATHEMATICS



**N.S. Yr. 4 P.30**

**Recognise equivalence between  
decimals and fractions**

## Equipment

Paper, pencil, ruler  
Fraction dominoes useful.

# MathSphere

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## **Concepts**

The relationship between fractions and decimal fractions is introduced in year 4. Initially, this will be with  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{3}{4}$  as well as tenths.

The calculator is a useful way to show that  $\frac{1}{2}$ , or one divided by two, is the same as 0.5

The same can be demonstrated with tenths.

Within the context of money and measuring it is important for children to realise that 0.5 is the same as 0.50. Many children, if asked which is bigger 0.3 or 0.30, would answer the latter, as they do not realise the significance of the decimal place.

Games such as dominoes, are very good ways of building this relationship. A number of dominoes can be found at the end of this module. It is suggested that they are photocopied onto card to give them extra strength and then laminated.

## Equivalence



There are some things in maths which you just have to learn.

Try to learn the facts below - it will really help you later!!

**0.5 is the same as  $\frac{1}{2}$**

**0.25 is the same as  $\frac{1}{4}$**

**0.75 is the same as  $\frac{3}{4}$**

**0.1 is the same as  $\frac{1}{10}$**

**0.2 is the same as  $\frac{2}{10}$**

Fractions from decimal fractions

Write a fraction which is the same as these decimal fractions.

eg

$$0.5 = \frac{1}{2}$$

1.  $0.5 =$

2.  $0.1 =$

3.  $0.25 =$

4.  $0.4 =$

5.  $0.6 =$

6.  $0.9 =$

7.  $0.75 =$

8.  $0.2 =$

9.  $0.8 =$

10.  $0.3 =$

Fractions from decimal fractions

Write a fraction which is the same as these decimal fractions.

eg

$$0.5 = 1/2$$

1.  $0.7 =$

2.  $0.9 =$

3.  $0.5 =$

4.  $0.2 =$

5.  $0.25 =$

6.  $0.6 =$

7.  $0.75 =$

8.  $0.3 =$

9.  $0.1 =$

10.  $0.4 =$

Fractions to decimals

Now try changing these  
fractions into decimal  
fractions

Eg  $\frac{1}{2} = 0.5$



1.  $\frac{1}{10} =$

2.  $\frac{5}{10} =$

3.  $\frac{2}{4} =$

4.  $\frac{6}{10} =$

5.  $\frac{1}{2} =$

6.  $\frac{9}{10} =$

7.  $\frac{4}{10} =$

8.  $\frac{3}{4} =$

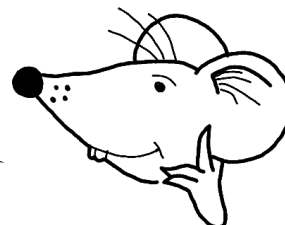
9.  $\frac{8}{10} =$

10.  $\frac{2}{10} =$

Fractions to decimals

Now try changing these  
fractions into decimal  
fractions

Eg  $\frac{1}{2} = 0.5$



1.  $\frac{1}{2} =$

2.  $\frac{4}{10} =$

3.  $\frac{2}{10} =$

4.  $\frac{1}{4} =$

5.  $\frac{1}{10} =$

6.  $\frac{8}{10} =$

7.  $\frac{3}{4} =$

8.  $\frac{5}{10} =$

9.  $\frac{7}{10} =$

10.  $\frac{9}{10} =$



### Decimal fractions

Did you know that 0.50 is exactly the same as 0.5 ?

In fact 0.5000000000000000 is exactly the same as 0.5

They are both a half.

When we write amounts in money we usually write two digits after the decimal place:

eg £1.50

the first digit is tenths (or 10p pieces)

the second digit is hundredths (or pence)

The 5 means 5 tenths

and

the 0 means 0 hundredths

Write these fractions of a pound as decimal fractions eg  $\frac{2}{10} = £0.20$

1.  $\frac{1}{10} =$  £

2.  $\frac{3}{10} =$  £

3.  $\frac{5}{10} =$  £

4.  $\frac{1}{2} =$  £

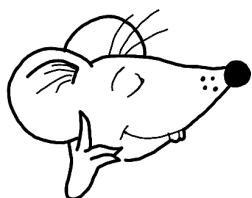
5.  $\frac{2}{10} =$  £

6.  $\frac{7}{10} =$  £

7.  $\frac{9}{10} =$  £

8.  $\frac{3}{4} =$  £



Fractions of a pound

Write these amounts as a fraction of a pound.  
Remember £0.50 is the same as  $\frac{1}{2}$  of a pound.

1. £0.50 =

2. £0.20 =

3. £0.25 =

4. £0.90 =

5. £0.30 =

6. £0.60 =

7. £0.75 =

8. £0.10 =

9. £0.40 =

10. £0.70 =

Fractions of a pound

Write these amounts as a fraction of a metre.

Remember 0.5m is the same as 0.50m and  $\frac{1}{2}$  of a metre.

1. 0.3 m =

2. 0.30 m =

3. 0.25 m =

4. 0.9 m =

5. 0.40 m =

6. 0.4 m =

7. 0.75 m =

8. 0.1 m =

9. 0.5 m =

10. 0.7 m =

0.5

 $\frac{1}{10}$ 

0.1

 $\frac{8}{10}$ 

0.2

 $\frac{6}{10}$ 

0.3

 $\frac{4}{10}$ 

0.4

 $\frac{1}{2}$ 

0.6

 $\frac{9}{10}$ 

0.7

 $\frac{3}{4}$ 

0.8

 $\frac{3}{10}$ 

0.9

 $\frac{1}{4}$ 

0.25

 $\frac{2}{10}$ 

0.75

 $\frac{7}{10}$ 

0.5

 $\frac{5}{10}$

0.50

 $\frac{9}{10}$ 

0.10

 $\frac{2}{10}$ 

0.20

 $\frac{4}{10}$ 

0.30

 $\frac{6}{10}$ 

0.40

 $\frac{8}{10}$ 

0.60

 $\frac{7}{10}$ 

0.70

 $\frac{5}{10}$ 

0.80

 $\frac{1}{10}$ 

0.90

 $\frac{3}{10}$  $\frac{3}{4}$ 

0.25

0.75

 $\frac{1}{4}$

**Answers**

**Note: some answers written as fractions may be simplified.**

<b>Page 4</b> 1. $\frac{5}{10}$ 2. $\frac{1}{10}$ 3. $\frac{1}{4}$ 4. $\frac{4}{10}$ 5. $\frac{6}{10}$ 6. $\frac{9}{10}$ 7. $\frac{3}{4}$ 8. $\frac{2}{10}$ 9. $\frac{8}{10}$ 10. $\frac{3}{10}$
<b>Page 5</b> 1. $\frac{7}{10}$ 2. $\frac{9}{10}$ 3. $\frac{1}{2}$ 4. $\frac{2}{10}$ 5. $\frac{1}{4}$ 6. $\frac{6}{10}$ 7. $\frac{3}{4}$ 8. $\frac{3}{10}$ 9. $\frac{1}{10}$ 10. $\frac{4}{10}$
<b>Page 6</b> 1. 0.1 2. 0.5 3. 0.5 4. 0.6 5. 0.5 6. 0.9 7. 0.4 8. 0.75 9. 0.8 10. 0.2
<b>Page 7</b> 1. 0.5 2. 0.4 3. 0.2 4. 0.25 5. 0.1 6. 0.8 7. 0.75 8. 0.5 9. 0.7 10. 0.9
<b>Page 8</b> 1. £0.10 2. £0.30 3. £0.50 4. £0.50 5. £0.20 6. £0.70 7. £0.90 10. 0.75
<b>Page 9</b> 1. $\frac{5}{10}$ 2. $\frac{2}{10}$ 3. $\frac{1}{4}$ 4. $\frac{9}{10}$ 5. $\frac{3}{10}$ 6. $\frac{6}{10}$ 7. $\frac{3}{4}$ 8. $\frac{1}{10}$ 9. $\frac{4}{10}$ 10. $\frac{7}{10}$
<b>Page 10</b> 1. $\frac{3}{10}$ 2. $\frac{3}{10}$ 3. $\frac{1}{4}$ 4. $\frac{9}{10}$ 5. $\frac{4}{10}$ 6. $\frac{4}{10}$ 7. $\frac{3}{4}$ 8. $\frac{1}{10}$ 9. $\frac{5}{10}$ 10. $\frac{7}{10}$