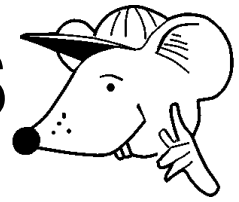# MATHEMATICS

N.S. Yr. 5   P.59

**Know multiplication facts by heart.
Relationship to division. Double and halve.**

Equipment

Paper, pencil,

MathSphere

Concepts

Children should know and use the following vocabulary: *double, twice, half, halve, whole, divide by, divide into.*

Children should have a good working knowledge of all table facts up to 10×10.

They should also know them 'backwards', eg. know how many eights make 56.

On the MathSphere CD there are pages of practice multiplication tables with the opportunity to time how long it takes to complete a table and then try for improvement in speed and accuracy.

Children should know all the squares of number up to 10×10 .

They should be able to answer a whole range of mental questions such as:

> What are eight sevens?
> How many fives are there in 45 ?
> What is 7 times 8 ?
> Multiply 5 by 7.
> What is 9 multiplied by 0 ?
> What is 24 divided by 6 ?
> What is 45 shared between five people?
> What is one third of 24 ?

Children should understand that halving is the inverse (opposite) operation to multiplication by 2.

They should be able to answer a range of questions on doubling and halving involving decimals used with money (ie. half of £35.60), and simple units such as centimetres.

It is very important to know your tables really well.

Yes, especially if you want to be good at mathematics!

That's why I'm so good at my tables.

Take this opportunity to see which table facts you know really well.

Fill in all the table facts you know without straining your brain.

×	7	3	8	1	10	6	2	9	4	5
3										
7										
2										
10										
5										
1										
9										
6										
4										
8										

Now write down all the ones you are not sure about and ask someone to test you until you know them all.

Here are some questions about the table square.

How quickly can you answer them?

1.

a. How many fours are there in 20 ?

b. How many fives are there in 15 ?

c. How many sevens are there in 21 ?

d. How many tens are there in 60 ?

e. How many eights are there in 32 ?

f. How many nines are there in 54 ?

g. How many sixes are there in 42 ?

2. You should learn the squares of all the numbers up to **10**. Try these:

a. $0^2 =$ **b.** $1^2 =$ **c.** $2^2 =$ **d.** $3^2 =$ **e.** $4^2 =$ **f.** $5^2 =$
g. $6^2 =$ **h.** $7^2 =$ **i.** $8^2 =$ **j.** $9^2 =$ **k.** $10^2 =$

3.

Here are some mixed questions for you to try.

a. What is a half of 8^2 ?   **b.** $60 \div 10$ **c.** $45 \div 9$ **d.** 8×7
e. 3×9 **f.** Double 4^2 **g.** $3^2 + 4^2$ **h.** $16 \div 8$ **i.** $64 \div 8$

Here are some more questions
about the table square.

How quickly can you answer them?
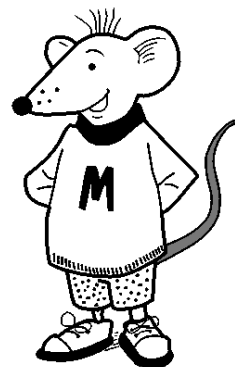
1.

a. How many twos are there in 18 ?

b. How many fours are there in 36 ?

c. How many nines are there in 36 ?

d. How many fours are there in 16 ?

e. How many nines are there in 81 ?

f. How many sevens are there in 56 ?

g. How many fives are there in 40 ?

2. You should learn the squares of all the numbers up to **10**. Try these:

a. $9^2 =$ **b.** $6^2 =$ **c.** $1^2 =$ **d.** $4^2 =$ **e.** $8^2 =$ **f.** 3^2
g. $7^2 =$ **h.** $0^2 =$ **i.** $10^2 =$ **j.** $2^2 =$ **k.** $5^2 =$

3.

Here are some more mixed questions
for you to try.

a. What is a half of 6^2 ?   **b.** $80 \div 10$ **c.** $56 \div 7$ **d.** 4×9
e. 5×7 **f.** Double 7^2 **g.** $5^2 + 7^2$ **h.** $36 \div 9$ **i.** $25 \div 5$

Here are some questions about the table square. Answer them as quickly and accurately as possible. Can you beat your friends and still get them all right?

1.
a. What are four eights?

b. How many fours are there in 20 ?

c. What is five times six?

d. What is six multiplied by six?

e. What are four nines?

f. What is 49 divided by 7 ?

g. What is 8 multiplied by 5?

h. How many twos are there in eight ?

i. How many nines are there in 27 ?

j. Multiply 4 by 8.

2.
a. What are three sevens?

b. How many fives are there in 45 ?

c. What is eight times eight?

d. What is 6 multiplied by 9?

e. What are four sevens?

f. What is 36 divided by 6 ?

g. What is 5 multiplied by 9?

h. How many 4s are there in 36 ?

i. How many sevens are there in 56 ?

j. Multiply 9 by 9.

Here are some harder questions.

You will have to think hard to answer these!
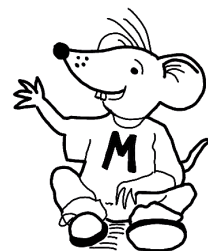
3.
a. What is 56 shared between 7 ?

b. What is 9×8 ?

c. Divide 36 by 9

d. What is one seventh of 35 ?

e. Divide 72 by 9

f. Divide 81 by 9

g. What is $^1/_6$ of 54 ?

h. What is 55 shared between 5 ?

i. Divide 3 into 27

j. Multiply 30 by 7.

4.
a. What is 8^2 ?

b. What is the square of 7 ?

c. What is 10^2 ?

d. What is the square of 1 ?

e. What is half the square of 6 ?

f. What is half of 10^2 ?

g. What is the square of 5 ?

h. What is half of 4^2 ?

i. What is 9^2 ?

j. What is a quarter of 6^2 ?

If a half of 36 is 18, then doubling 18 gives 36.

That's very sensible!
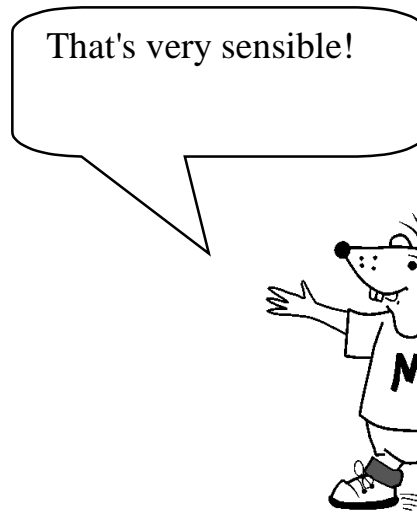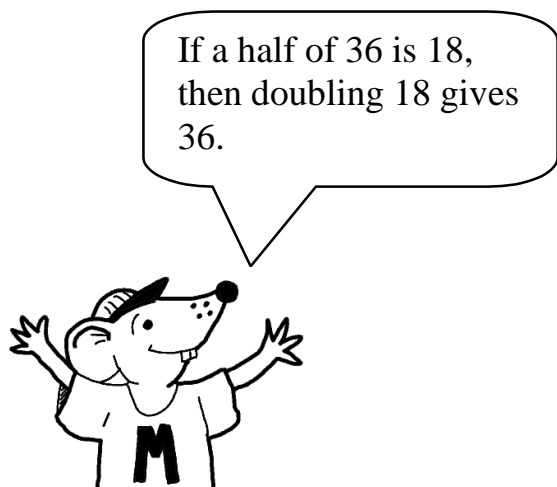
1. Write the opposite statements to the ones in the questions.
Eg. in **a.** the opposite is **"Double 9 is 18".**

a. A half of 18 is 9   **b.** $\frac{1}{2}$ of 56 is 28
c. A half of 64 is 32   **d.** $\frac{1}{2}$ of 380 is 190
e. A half of 560 is 280   **f.** $\frac{1}{2}$ of £46.40 is £23.20
g. A half of 370 is 185   **h.** $\frac{1}{2}$ of 670m is 335m

What's taking you so long?

2. See how quickly you can **double** all these numbers:

a. 12 **b.** 35 **c.** 60 **d.** 58 **e.** 42 **f.** 62 **g.** 89 **h.** 37
i. 44 **j.** 55 **k.** 81 **l.** 45 **m.** 86 **n.** 63 **o.** 99 **p.** 52
q. 73 **r.** 82 **s.** 39 **t.** 93 **u.** 15 **v.** 18 **w.** 26 **x.** 10

3. See how quickly you can **halve** all these numbers:

a. 40 **b.** 36 **c.** 62 **d.** 68 **e.** 64 **f.** 92 **g.** 22 **h.** 74
i. 84 **j.** 72 **k.** 60 **l.** 32 **m.** 50 **n.** 48 **o.** 26 **p.** 80
q. 56 **r.** 38 **s.** 46 **t.** 78 **u.** 90 **v.** 88 **w.** 98 **x.** 20

I'm just measuring how long this is taking you.

Can you double any multiple of 10 up to 1 000 ?

I believe I can. Can you?

1. See how quickly you can **double** all these numbers:

a. 350	**b.** 230	**c.** 180	**d.** 640	**e.** 220	**f.** 150	**g.** 480	**h.** 130
i. 280	**j.** 550	**k.** 370	**l.** 180	**m.** 260	**n.** 750	**o.** 650	**p.** 120
q. 730	**r.** 810	**s.** 760	**t.** 450	**u.** 320	**v.** 360	**w.** 160	**x.** 700

2. See how quickly you can **double** all these numbers:

a. 1 200	**b.** 2 500	**c.** 3 400	**d.** 2 700	**e.** 6 700	**f.** 3 100
g. 5 500	**h.** 1 300	**i.** 5 800	**j.** 5 200	**k.** 4 500	**l.** 1 100
m. 4 900	**n.** 6 600	**o.** 9 900	**p.** 8 300	**q.** 2 400	**r.** 7 200
s. 3 500	**t.** 4 700	**u.** 3 200	**v.** 3 500	**w.** 9 300	**x.** 4 100

3. See how quickly you can **halve** all these numbers:

a. 280	**b.** 36	**c.** 680	**d.** 8 400	**e.** 320	**f.** 2 800
g. 9 000	**h.** 180	**i.** 4 200	**j.** 5 800	**k.** 84	**l.** 56
m. 126	**n.** 940	**o.** 380	**p.** 38	**q.** 96	**r.** 28
s. 82	**t.** 3 800	**u.** 284	**v.** 840	**w.** 666	**x.** 990

I wish all these halves were cakes. I'm getting hungry!

Here are some doubling and halving questions with words.
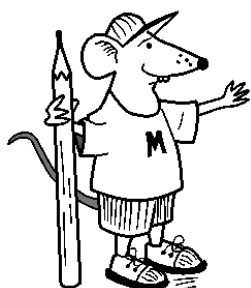
Words? That sounds like fun!

1.
a. Double 37   **b.** What is twice 58 **?**
c. What is twice 39 ?   **d.** What is one half of 56?
e. Calculate one half of 45   **f.** What fraction 16m is 8m ?
g. What fraction of 20 is 5 ?   **h.** Calculate one half of 376.
i. What is a half of £288 ?   **j.** Halve 86
k. What is twice 134 **?**   **l.** What is a half of 89 **?**
m. What is one half of £37.50 ?   **n.** What is one half of £126.60 ?

2. Fill the numbers in the boxes:

a. $380 \times 2 =$ ☐   **b.** $3\,400 \div 2 =$ ☐   **c.** $315 \times \mathbf{2} =$ ☐

d. ☐ $\div 2 = 94$ **e.** ☐ $\times 2 = 226$ **f.** $\frac{☐}{2} = 82$

g. $520 \times 2 =$ ☐   **h.** $2\,600 \div 2 =$ ☐   **i.** $226 \times \mathbf{2} =$ ☐

j. ☐ $\div 2 = 78$ **k.** ☐ $\times 2 = 312$ **l.** $\frac{☐}{2} = 72$

Answers

Page 4
1. **a.** 5   **b.** 3   **c.** 3   **d.** 6   **e.** 4   **f.** 6   **g.** 7
2. **a.** 0   **b.** 1   **c.** 4   **d.** 9   **e.** 16   **f.** 25   **g.** 36
   h. 49   **i.** 64   **j.** 81   **k.** 100
3. **a.** 32   **b.** 6   **c.** 5   **d.** 56   **e.** 27   **f.** 32   **g.** 25
   h. 2   **i.** 8

Page 5
1. **a.** 9   **b.** 9   **c.** 4   **d.** 4   **e.** 9   **f.** 8   **g.** 8
2. **a.** 81   **b.** 36   **c.** 1   **d.** 16   **e.** 64   **f.** 9   **g.** 49
   h. 0   **i.** 100   **j.** 4   **k.** 25
3. **a.** 18   **b.** 8   **c.** 8   **d.** 36   **e.** 35   **f.** 98   **g.** 74
   h. 4   **i.** 5

Page 6
1. **a.** 32   **b.** 5   **c.** 30   **d.** 36   **e.** 36   **f.** 7   **g.** 40
   h. 4   **i.** 3   **j.** 32
2. **a.** 21   **b.** 9   **c.** 64   **d.** 54   **e.** 28   **f.** 6   **g.** 45
   h. 9   **i.** 8   **j.** 81
3. **a.** 8   **b.** 72   **c.** 4   **d.** 5   **e.** 8   **f.** 9   **g.** 9
   h. 11   **i.** 9   **j.** 210
4. **a.** 64   **b.** 49   **c.** 100   **d.** 1   **e.** 18   **f.** 50   **g.** 25
   h. 8   **i.** 81   **j.** 9

Page 7
1. **a.** Double 9 is 18   **b.** Double 28 is 56   **c.** Double 32 is 64
   d. Double 190 is 380   **e.** Double 280 is 560   **f.** Double £23.20 is £46.40
   g. Double 185 is 370   **h.** Double 335m is 670m

2. **a.** 24   **b.** 70   **c.** 120   **d.** 116   **e.** 84   **f.** 124   **g.** 178
   h. 74   **i.** 88   **j.** 110   **k.** 162   **l.** 90   **m.** 172   **n.** 126
   o. 198   **p.** 102   **q.** 146   **r.** 164   **s.** 78   **t.** 186   **u.** 30
   v. 36   **w.** 52   **x.** 20

3. **a.** 20   **b.** 18   **c.** 31   **d.** 34   **e.** 32   **f.** 46   **g.** 11
   h. 37   **i.** 42   **j.** 36   **k.** 30   **l.** 16   **m.** 25   **n.** 24
   o. 13   **p.** 40   **q.** 28   **r.** 19   **s.** 23   **t.** 39   **u.** 45
   v. 44   **w.** 49   **x.** 10

Answers (Contd)

Page 8

1. a. 700   **b.** 460   **c.** 360   **d.** 1 280   **e.** 440   **f.** 300
   g. 960   **h.** 260   **i.** 560   **j.** 1 100   **k.** 740   **l.** 360
  m. 520   **n.** 1 500   **o.** 1 300   **p.** 240   **q.** 1 460   **r.** 1 620
   s. 1 520   **t.** 900   **u.** 640   **v.** 720   **w.** 320   **x.** 1 400

2. a.   2 400   **b.**   5 000   **c.**   6 800   **d.**   5 400   **e.**   13 400   **f.**   6 200
   g. 11 000   **h.**   2 600   **i.** 11 600   **j.** 10 400   **k.**   9 000   **l.**   2 200
  m.   9 800   **n.** 13 200   **o.** 19 800   **p.** 16 600   **q.**   4 800   **r.** 14 400
   s.   7 000   **t.**   9 400   **u.**   6 400   **v.**   7 000   **w.**   18 600   **x.**   8 200

3. a. 140   **b.** 18   **c.** 340   **d.** 4 200   **e.** 160   **f.** 1 400
   g. 4 500   **h.** 90   **i.** 2 100   **j.** 2 900   **k.** 42   **l.** 28
  m. 63   **n.** 470   **o.** 190   **p.** 19   **q.** 48   **r.** 14
   s. 41   **t.** 1 900   **u.** 142   **v.** 420   **w.** 333   **x.** 495

Page 9

1. a. 74   **b.** 116   **c.** 78   **d.** 28   **e.** $22\frac{1}{2}$ **f.** $\frac{1}{2}$
   g. $\frac{1}{4}$ **h.** 188   **i.** £144   **j.** 43   **k.** 268   **l.** $44\frac{1}{2}$
  m. £18.75   **n.** £63.30

2. a. 760   **b.** 1 700   **c.** 630   **d.** 188   **e.** 113   **f.** 164
   g. 1 040   **h.** 1 300   **i.** 452   **j.** 156   **k.** 156   **l.** 144