



# MATHEMATICS



**N.S. Yr. 5 P.65**

**Use known number facts to  
multiply and divide mentally**

## Equipment

Paper, pencil, ruler

# MathSphere

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## **Concepts**

This module consolidates the year 4 on multiplying and dividing mentally. The key concepts are:

1. Multiplying a two or three digit number by 100. (Remember never say 'add a nought' as this leads to real problems when dealing with decimals later!)
2. Dividing a four digit multiple of 100 by 10 or 100 or 1000  
eg  $67\,000 \div 1000 = .$
3. Doubling multiples of 5 up to 500.
4. Halving any three digit multiple of 10.
5. General multiplication of two digits by one, explaining the methods used.

Once again explanations of methods used are crucial to fast, efficient mental methods of calculating - there is often more than one way to do a sum, but usually one way is more efficient than the others - it is this quick method that children should be looking for.

**Multiply by tens and hundreds**

Remember – to multiply by 20, multiply by 10 and then by 2....or the other way round, multiply by 2 and then 10.

To multiply by 30, multiply by 10 and then by 3.

**Complete these written questions:**

1.  $20 \times 600 =$

2.  $30 \times 400 =$

3.  $40 \times 500 =$

4.  $50 \times 200 =$

5.  $60 \times 300 =$

6.  $70 \times 500 =$

7.  $80 \times 400 =$

8.  $90 \times 600 =$

9.  $60 \times$    $= 180\,000$

10.  $40 \times$    $= 160\,000$

11.  $50 \times$    $= 250\,000$

12.  $30 \times$    $= 240\,000$

13.  $70 \times$    $= 490\,000$

14.  $40 \times$    $= 360\,000$

**Multiply by tens and hundreds**

Some pretty big answers here -make sure that you can read the numbers out correctly - most of them are hundreds of thousands.

**Complete these written questions:**

1.  $30 \times 300 =$

2.  $40 \times 600 =$

3.  $50 \times 700 =$

4.  $60 \times 300 =$

5.  $70 \times 400 =$

6.  $80 \times 600 =$

7.  $90 \times 700 =$

8.  $20 \times 800 =$

9.  $70 \times$

$= 420\,000$

10.  $50 \times$

$= 450\,000$

11.  $60 \times$

$= 420\,000$

12.  $40 \times$

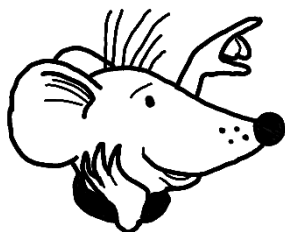
$= 360\,000$

13.  $30 \times$

$= 210\,000$

14.  $90 \times$

$= 540\,000$

**Dividing by 10, 100 and 1 000**

As division is the opposite of multiplication, move each digit one place to the right to divide by 10, two places to divide by 100 and three to divide by 1 000.

Try these:

1.  $3\,400 \div 10 =$        2.  $5\,500 \div 10 =$        3.  $6\,800 \div 10 =$

4.  $8\,400 \div 100 =$        5.  $7\,600 \div 100 =$        6.  $9\,800 \div 100 =$

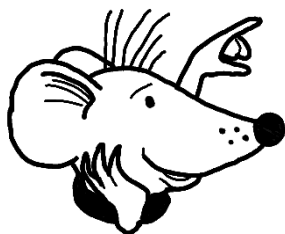
7.  $70\,000 \div 1\,000 =$        8.  $65\,000 \div 1\,000 =$

9.  $45\,000 \div 1\,000 =$        10.  $32\,000 \div 1\,000 =$

11. Find one thousandth of 3 000       12. Find one thousandth of 23 000

13. Find one hundredth of 8 000       14. Find one hundredth of 6 500

15. Find one tenth of 8 400       16. Find one tenth of 6 000

**Dividing by 10, 100 and 1 000**

Remember, move the digits to the right to divide by 10 or 100, or 1 000.

Try these:

1.  $4\,400 \div 10 =$        2.  $6\,400 \div 10 =$        3.  $7\,700 \div 10 =$

4.  $4\,500 \div 100 =$        5.  $6\,700 \div 100 =$        6.  $1\,900 \div 100 =$

7.  $80\,000 \div 1\,000 =$        8.  $56\,000 \div 1\,000 =$

9.  $37\,000 \div 1\,000 =$        10.  $23\,000 \div 1\,000 =$

11. Find one thousandth of 2 000       12. Find one thousandth of 14 000

13. Find one hundredth of 7 000       14. Find one hundredth of 5 900

15. Find one tenth of 7 500       16. Find one tenth of 4 000

**Doubling and halving multiples of 5**

Here we have doubling multiples  
of 5 up to 500.  
Good luck!

1. Double 125

2. Double 250

3. Double 235

4.  $155 \times 2 =$ 5.  $245 \times 2 =$ 6.  $105 \times 2 =$ 

7. Halve 350

8. Halve 470

9. Halve 550

10.  $230 \div 2 =$ 11.  $170 \div 2 =$ 12.  $630 \div 2 =$ 

13. Double 175

14. Double 345

15. Double 425

16.  $435 \times 2 =$ 17.  $395 \times 2 =$ 18.  $375 \times 2 =$ 

19. Halve 830

20. Halve 770

21. Halve 490

22.  $790 \div 2 =$ 23.  $970 \div 2 =$ 24.  $870 \div 2 =$ 

If you've got a spare moment  
explain how you did these to  
your teacher or an adult.  
You could also tell a friend  
who finds them hard!



**Doubling and halving multiples of 5**

Here we have doubling multiples  
of 5 up to 500.  
Good luck!

1. Double 105

2. Double 270

3. Double 255

4.  $165 \times 2 =$ 5.  $245 \times 2 =$ 6.  $135 \times 2 =$ 

7. Halve 370

8. Halve 430

9. Halve 590

10.  $210 \div 2 =$ 11.  $190 \div 2 =$ 12.  $670 \div 2 =$ 

13. Double 275

14. Double 445

15. Double 405

16.  $415 \times 2 =$ 17.  $295 \times 2 =$ 18.  $115 \times 2 =$ 

19. Halve 870

20. Halve 710

21. Halve 450

22.  $850 \div 2 =$ 23.  $630 \div 2 =$ 24.  $700 \div 2 =$ 

If you've got a spare moment  
explain how you did these to  
your teacher or an adult.  
You could also tell a friend  
who finds them hard!





**Multiplying three digit multiples of 100**

Multiplying larger numbers,  
especially multiples of 100 - they  
look harder than they really are!

1.  $200 \times 4 =$

2.  $300 \times 5 =$

3.  $400 \times 3 =$

4.  $500 \times 4 =$

5.  $600 \times 5 =$

6.  $700 \times 3 =$

7.  $3 \times$    $= 1\ 200$

8.  $5 \times$    $= 2\ 000$

9.  $400 \times$    $= 3\ 200$

10.  $600 \times$    $= 3\ 600$

11.  $1\ 000 = 400 \times$    $+ 200$

12.  $2\ 000 = 600 \times$    $+ 200$

13.  $3\ 000 = 400 \times$    $+ 200$

14.  $4\ 000 = 700 \times$    $+ 500$

15.  $2\ 000 = 300 \times 6 +$

16.  $4\ 000 = 700 \times 5 +$

17.  $3\ 000 = 400 \times 7 +$

18.  $8\ 000 = 900 \times 8 +$

**Multiplying three digit multiples of 100**

Where do sheep get their hair cut?

*The baa baas!*

1.  $300 \times 6 =$

2.  $400 \times 4 =$

3.  $500 \times 2 =$

4.  $600 \times 3 =$

5.  $700 \times 4 =$

6.  $800 \times 6 =$

7.  $4 \times$    $= 1\,600$

8.  $6 \times$    $= 3\,000$

9.  $500 \times$    $= 3\,500$

10.  $700 \times$    $= 2\,800$

11.  $1\,000 = 300 \times$    $+ 100$

12.  $3\,000 = 400 \times$    $+ 200$

13.  $4\,000 = 700 \times$    $+ 500$

14.  $5\,000 = 900 \times$    $+ 500$

15.  $6\,000 = 700 \times 8 +$

16.  $7\,000 = 900 \times 7 +$

17.  $1\,000 = 600 \times 1 +$

18.  $3\,000 = 800 \times 3 +$

**Explaining!**

These sums can all be done in your head, but can you write down how you did them?

eg  $24 \times 4 = 96$



20 times 4 is 80  
and 4 times 4 is 16.

Add the answers to make 96

Or even quicker:  
Double 24 and  
double again.

**Explain in the box how you did the sum.**

1.  $26 \times 5 =$

2.  $91 = 7 \times$

3.  $45 \times 3 =$

4.  $140 = 28 \times$

5.  $53 \times 4 =$

6.  $96 = 6 \times$

7.  $27 \times 5 =$

8.  $81 = 3 \times$

**Explaining!**

These sums can all be done in your head, but can you write down how you did them?

eg  $28 \times 5 = 140$



20 times 5 is 100  
and 8 times 5 is 40.

Add the answers to make 140

Or even quicker:  
Multiply 28 by 10 = 280  
and halve the answer 140

**Explain in the box how you did the sum.**

1.  $29 \times 5 =$

2.  $207 = 9 \times$

3.  $39 \times 4 =$

4.  $78 = 3 \times$

5.  $39 \times 5 =$

6.  $119 = 7 \times$

7.  $36 \times 5 =$

8.  $180 = 12 \times$

**Answers****Page 3**

1. 12 000      2. 12 000      3. 20 000      4. 10 000      5. 18 000      6. 35 000  
 7. 32 000      8. 54 000      9. 3 000      10. 4 000      11. 5 000      12. 8 000  
 13. 7 000      14. 9 000

**Page 4**

1. 9 000      2. 24 000      3. 35 000      4. 18 000      5. 28 000      6. 48 000  
 7. 63 000      8. 16 000      9. 6 000      10. 9 000      11. 7 000      12. 9 000  
 13. 7 000      14. 6 000

**Page 5**

1. 340      2. 550      3. 680      4. 84      5. 76      6. 98      7. 70      8. 65  
 9. 45      10. 32      11. 3      12. 23      13. 80      14. 65      15. 840      16. 600

**Page 6**

1. 440      2. 640      3. 770      4. 45      5. 67      6. 19      7. 80      8. 56  
 9. 37      10. 23      11. 2      12. 14      13. 70      14. 59      15. 750      16. 400

**Page 7**

1. 250      2. 500      3. 470      4. 310      5. 490      6. 210      7. 175      8. 235  
 9. 275      10. 115      11. 85      12. 315      13. 350      14. 690      15. 850      16. 870  
 17. 790      18. 750      19. 415      20. 385      21. 245      22. 395      23. 485      24. 435

**Page 8**

1. 210      2. 540      3. 510      4. 330      5. 490      6. 270      7. 185      8. 215  
 9. 295      10. 105      11. 95      12. 335      13. 550      14. 890      15. 810      16. 830  
 17. 590      18. 230      19. 435      20. 355      21. 225      22. 425      23. 315      24. 350

**Page 9**

1. 800      2. 1 500      3. 1 200      4. 2 000      5. 3 000      6. 2 100      7. 400      8. 400  
 9. 8      10. 6      11. 2      12. 3      13. 7      14. 5      15. 200      16. 500      17. 200      18. 800

**Page 10**

1. 1 800      2. 1 600      3. 1 000      4. 1 800      5. 2 800      6. 4 800      7. 400      8. 500  
 9. 7      10. 4      11. 3      12. 7      13. 5      14. 5      15. 400      16. 700      17. 400      18. 600

**Page 11**

1. 130      2. 13      3. 135      4. 5      5. 212      6. 16      7. 135      8. 27

**Page 12**

1. 145      2. 23      3. 156      4. 26      5. 195      6. 17      7. 180      8. 15