

NUMBERS AND THE NUMBER SYSTEM

Pupils should be taught to:

Recognise odd and even numbers and make general statements about them

Recognise multiples and know some tests of divisibility

As outcomes, Year 4 pupils should, for example:

Make general statements about odd or even numbers and/or give examples that match them.

For example, explore and give some examples to satisfy these general statements:

- the last digit of an even number is 0, 2, 4, 6 or 8;
- the last digit of an odd number is 1, 3, 5, 7 or 9;
- after 1, every second number is odd;
- the numbers on both sides of an odd number are even;
- if you add two odd numbers, the answer is even.

Use, read and write:
multiple, digit...

Recognise multiples in the 2, 3, 4, 5 and 10 times-tables.

Respond to questions such as:

- Ring the numbers in the box that divide exactly by 4.

3	8	20	27	34	36	48	50
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Which numbers in the box are divisible by both 5 and 2?

- Sean counts his books in fours.
He has 1 left over.
He counts his books in fives.
He has 3 left over.
How many books has Sean?
- Use a number grid computer program to highlight multiples.
Use different sizes of grid to explore multiples of 2.
Describe and explain which grids produce 'diagonal' patterns, and which produce 'vertical' patterns.
Try multiples of 3.

As outcomes, Year 5 pupils should, for example:

Make general statements about odd or even numbers and/or give examples that match them.

For example, explore and give some examples to satisfy these general statements:

- the sum of three even numbers is even;
- the sum of three odd numbers is odd;
- the difference between one odd and one even number is odd;
- the difference between two odd or two even numbers is even.

Use, read and write, spelling correctly:
multiple, digit, divisible, divisibility, factor...

Recognise multiples in the 6, 7, 8, 9 times-tables, and in the 11 times-table to 99.

Respond to questions such as:

- Ring the numbers in the box that are divisible by 7 (or have a factor of 7).

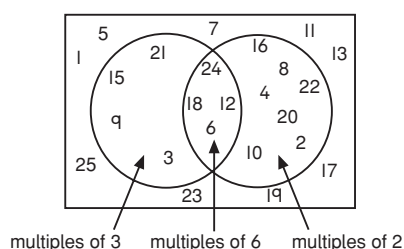
3	18	21	27	36	42	56
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- A line of counters is set out in a pattern: two white, four blue, two white, four blue... What colour is the 49th counter? What position in the line is the 11th blue counter?



- Use a number grid computer program to highlight and explore multiples on different sizes of grid. Describe and explain the patterns produced.

Recognise multiples of more than one number: for example, multiples of both 2 and 3.



Recognise that a whole number is divisible by:

- | | |
|-----|--|
| 100 | if the last two digits are 00; |
| 10 | if the last digit is 0; |
| 2 | if its last digit is 0, 2, 4, 6 or 8; |
| 4 | if the last two digits are divisible by 4; |
| 5 | if the last digit is 0 or 5. |

Use this knowledge to work out, for example, that the year 2004 is a leap year because 2004 is divisible by 4.

As outcomes, Year 6 pupils should, for example:

Make general statements about odd or even numbers and/or give examples that match them.

For example, explore and give some examples to satisfy these general statements:

- the product of two even numbers is even;
- the product of two odd numbers is odd;
- the product of one odd and one even number is even;
- an odd number can be written as twice a number plus one (an example is 21, which is $2 \times 10 + 1$).

Use, read and write, spelling correctly:
multiple, digit, divisible, divisibility, factor...

Recognise multiples to at least 10×10 .

Respond to questions such as:

- Ring the numbers in the box that are divisible by 12 (or have a factor of 12).

24	38	42	60	70	84	96
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- A line of counters is set out in a pattern: five white, four blue, five white, four blue... What colour is the 65th counter? What position in the line is the 17th blue counter?



- Ring the numbers that are divisible by 7.

210	180	497
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Find the smallest number that is a common multiple of two numbers such as:

- 8 and 12
- 12 and 16
- 6 and 15

Recognise that a whole number is divisible by:

- | | |
|----|--|
| 3 | if the sum of its digits is divisible by 3; |
| 6 | if it is even and is also divisible by 3; |
| 8 | if half of it is divisible by 4, or if the last three digits are divisible by 8; |
| 9 | if the sum of its digits is divisible by 9; |
| 25 | if the last two digits are 00, 25, 50 or 75. |

See also tests of divisibility (page 73).