



MATHEMATICS



N.S. Yr. 2 P.65

Investigate general statements

Equipment

Paper, pencil, ruler

MathSphere

© MathSphere P.O. Box 1234 Worthing BN13 2UJ www.mathsphere.co.uk

Concepts

This is an unusual module in that there is little like it found in traditional textbooks.

It asks children to investigate statements by finding as many examples as they can that satisfy it.

Eg “I can make 10 by adding three numbers” can lead to a large number of addition sums with the answer ten.

As children develop they should begin to work in a more systematic way – they could be encouraged to find all the ways when the first number is a 1, then a 2 and so on.

Again much of this work can be done orally, with the teacher making the statement and then the children responding with examples, leading to a child making a statement and the rest of the class finding examples – a good game to play when there is five minutes left at the end of the lesson or during the plenary.

(It should be noted that providing numerous examples of a statement does not prove that statement to be correct – an important idea when studying maths at a higher level.)

Making 10

I can make 10 by
adding three
numbers.



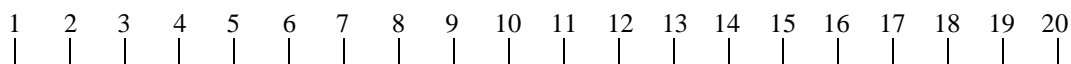
How many ways can you add three numbers to make 10 ?

Write them down:

Can you make 10 by adding four numbers ?

Making 20

I can make 20 by
adding two
numbers.



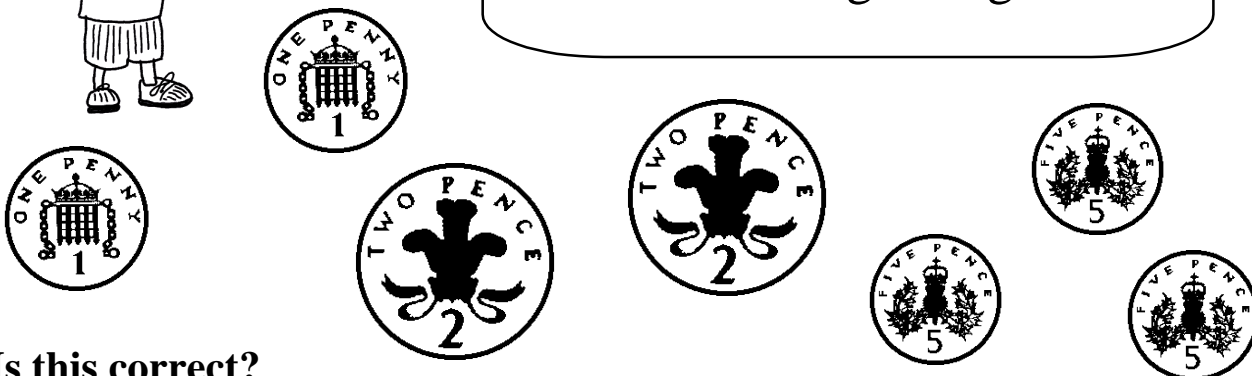
How many ways can you add two numbers to make 20 ?

Write them down:

Can you make 20 by adding three numbers ?

Paying for anything!

If I have these coins I can pay for anything up to 20p without needing change.



Is this correct?

Write down all the ways you can of paying from 1p to 20p with these seven coins.

I can pay 1p with

I can pay 2p with

or

I can pay 3p with

I can pay 4p with

or

I can pay 5p with

or

I can pay 6p with

or

Carry on, on your own, on a separate sheet.

**Paying for anything!**

If I have one 1p coin, two 2p coins a 5p coin and a 10p coin I can pay for anything from 1p up to 20p.



Is this correct?

Write down all the ways you can of paying from 1p to 20p with these five coins.

I can pay 1p with

I can pay 2p with

I can pay 3p with

I can pay 4p with

I can pay 5p with

I can pay 6p with

Carry on, on your own, on a separate sheet.

Adding ten

When I subtract 10 from a number the units digit stays the same.

Is this correct? Write some examples below:

$$11 - \square = \square$$

$$12 - \square = \square$$

$$13 - \square = \square$$

$$14 - \square = \square$$

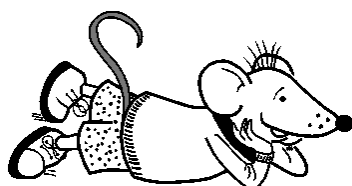
$$15 - \square = \square$$

$$16 - \square = \square$$

$$17 - \square = \square$$

0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

Now try to carry on with this pattern on your own.

Adding 9

I can add 9 by adding 10 and then taking away 1.

Eg: $14 + 9 = 14 + 10 - 1 = 24 - 1 = 23$

Does this always work?

Show some examples:

Even numbers

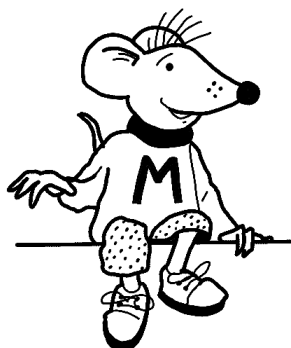
If a number ends in
2 it is even.

How many numbers can you find that end in 2 ?
Are they all even?



If a number ends in
3 it is odd.

How many numbers can you find that end in 3 ?
Are they all odd?

Dividing by ten

If a number ends in 0
then it divides exactly
by ten.

Which of these numbers divide exactly by 10.
Colour the shapes which do.

15

20

35

99

15

40

17

1

2

44

50

33

46

60

80

90

89

Can you find any other numbers which divide exactly by 10?



Dividing odd numbers

When I share an odd number into half I always get one left over.
This is called the remainder.
 $7 \div 2 = 3$ remainder 1

Does this always happen?

Make some **dividing by two** sums which have a **remainder of one**?

$$\boxed{} \div 2 = \boxed{} \text{ remainder } \boxed{}$$

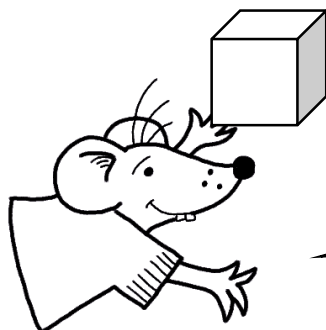
$$\boxed{} \div 2 = \boxed{} \text{ remainder } \boxed{}$$

$$\boxed{} \div 2 = \boxed{} \text{ remainder } \boxed{}$$

$$\boxed{} \div 2 = \boxed{} \text{ remainder } \boxed{}$$

$$\boxed{} \div 2 = \boxed{} \text{ remainder } \boxed{}$$

How many more can you make?

A cube has six square faces

A cube has six faces and
each face is square.

Colour the drawings of cubes below. Leave all the other shapes uncoloured.

