

## Introduction

1. Tell your pupils that you are going to count from 1 to 5, but you are going to miss out a number. If they listen very carefully they will know which number is missing. You are going to count very quickly. Do this a number of times. Increase the numbers in stages, e.g. 1-5, 1-6, 1-7, 1-8, 1-9.

2. Now explain that you are going to do the same thing, but this time you are going to write the numbers on the board, e.g. 1 2 4 5 6 7 8 9. Have pupils come to the board to correct your “mistakes”.

3. Distribute slips of paper to the class. Have all the pupils write a similar sequence from 1 to 9, missing out one digit. Pupils then take turns in reading out their numbers to the class as quickly as they can to try to fool their friends.

### On the board:

Draw a figure, 5 x 5 boxes, on the board like this:


Ask pupils to come to the board and fill in, anywhere they like, a number of letters according to your commands, e.g.  
Write 3 A's, please.  
Write 2 C's, please.  
Continue until all the boxes have letters in them.

Teacher – Class  
How many A's can you find?  
How many D's can you find?

Class – Teacher  
It is important to activate the class and get them to ask questions. If you answer wrongly now and then, you will soon know who is on the ball and who is merely going through the motions.

Repeat as many times as you find useful.

## Bookwork

1. Read the instructions with the class, but before allowing the pupils to work with the page, have a small Teacher – Class activity:  
How many columns are there?  
How many rows are there?  
Look at the left-hand column, second row.  
How many red patches are there?  
How many blue patches are there? (etc.)

Do this with all the boxes in both rows.

Allow pupils to be “the teacher” by identifying the boxes and asking the class similar questions.

2. Teacher – Class: “Can you find the right box? I spy with my little eye a box with two purple patches. Can you find it?”

Note: There may be more than one answer, but the pupils should answer by giving the row and the column like this:

“I found two purple patches in the fourth row in the right-hand column.”

3. Individual work: pupils work with the page.

4. Pupils make their own figures with 5 x 5 boxes and colour them as they wish. They then work in pairs asking each other questions such as:

- How many red patches do you have?
- How many red patches do I have?
- Who has more red patches, you or I?

## Individual Assessment & Remedial Work

Teacher – Pupil:  
Look at page 4.  
What is this page called?  
Read the instructions to me, please.  
Show me the right-hand column.  
Show me the box in the third row in the left-hand column.  
How many yellow patches are there in the third box in the left-hand column? (etc.)

Find a box with seven black patches.  
Tell me where that box is.

## SumTime 2

## QuickTips: Page 5

## Numbers 2

### Introduction

Write on the board: 1

Ask: What is one times one?

Write:  $1 = 1 \times 1$

Write:  $2 =$

Ask: What is two times one?

Write:  $2 = 2 \times 1$

Ask the class: Who can tell me what 3 is?

Have a pupil come to the board and write:

$$3 = 3 \times 1$$

Continue until you reach  $9 = 9 \times 1$

Explain that 9 is the same as 9 single ones, or nine single units. We use numbers instead of lines to make it easier for us. Make sure they understand that you can never have more than 9 in any one place because  $9 + 1 = 10$ . So you can have 9 single units, but if you get 1 more, you have 10; that is, 1 unit of 10 and no single units!

### On the board:

Demonstrate by writing a number of lines on the board and asking the class to tell you how many there are. Be sure to make the lines “secretly” so that they cannot count as you draw them.

Ask if they agree that the more lines there are, the more difficult it is to count them.

Draw 12, 14, 17, etc. lines to demonstrate how difficult it is to count them quickly.

Show the class how to count using a “tally” system like this:

$$\text{||||} = 5 \quad \text{||||} \text{ ||} = 10$$

If you feel it is appropriate, you might like to show your class how the Ancient Romans wrote their numbers.

$$I = 1, II = 2, III = 3$$

These are easy to understand, but look at this:

$$V = 5$$

$$IV = 4 \text{ because } 5 - 1 = 4$$

$$VI = 6 \text{ because } 5 + 1 = 6$$

Can they guess how the Ancient Romans wrote 8?

$$VIII = 8 \text{ because } 5 + 3 = 8$$

Explain that 9 and 11, like 4 and 6 are different again. Tell your class that  $X = 10$ .

Can they guess how the Ancient Romans wrote the number 9?

$$IX = 9 \text{ because } 10 - 1 = 9$$

And how did they write 11?

$$XI = 11 \text{ because } 10 + 1 = 11$$

Can they guess how the Ancient Romans wrote 12 and 13?

$$XII = 12 \text{ and } XIII = 13$$

But how about 14, 15 and 16?

$$XIV, XV, XVI (10 \& 4, 10 \& 5, 10 \& 6)$$

So how did they write 17 and 18?

$$XVII \& XVIII$$

And how about 19 and 20?

$$XIX \& XX$$

Make a game of this, e.g.

If  $XX = 20$ , how do I write 25 (24,23,26,27,28)?

If  $XX = 20$ , how do I write 30 (29,31,34,35,37,38)?

If  $L = 50$ , how do I write 40 & 60?

If  $C = 100$ , how do I write 90 & 110?

If  $D = 500$ , how do I write 400 & 600?

If  $M = 1000$ , how do I write 900 & 1100?

Play around with the numbers for as long as you and your class think suitable.

If you want to digress and tell your pupils about Ancient Rome, there is an excellent website at [www.rome.mrdonn.org](http://www.rome.mrdonn.org)

Here is a sample of what you can find:

**Rome as a Kingdom:** In early Roman days, kids *did not* go to school. A Roman boy's education took place at home. If his father could read and write, he taught his son to do the same. The father instructed his sons in Roman law, history, customs, and physical training, to prepare for war. Reverence for the gods, respect for law, obedience to authority, and truthfulness were the most important lessons to be taught.

Girls were taught by their mothers. Girls learned to spin, weave, and sew. The rich had tutors for the children, but mostly, the kids were taught at home.

**Rome as a Republic:** About 200 BCE, the Romans borrowed some of the ancient Greek system of education. Although they did not add many subjects, they did begin sending their boys, and some of their girls, with their father's permission, to

school, outside their home, at age 6 or 7. The goal of education in ancient Rome was to be an effective speaker. The school day began before sunrise, as did all work in Rome. Kids brought candles to use until daybreak. There was a rest for lunch and the afternoon siesta, and then back to school until late afternoon. No one knows how long the school year actually was; it probably varied from school to school. However, one thing was fixed. School began each year on the 24th of March!

The children studied reading, writing, and counting. They read scrolls and books. They wrote on boards covered with wax, and used pebbles to do math problems. They were taught Roman numerals, and recited lessons they had memorized. At age 12 or 13, the boys of the upper classes attended "grammar" school, where they studied Latin, Greek, grammar, and literature. At age 16, some boys went on to study public speaking at the rhetoric school, to prepare for a life as an orator.

Did the kids of the poor go to school? At the poorer levels, no. School was not free. Nor should anyone imagine large classes in special buildings. Children, educated outside of the home, were sent to the house of a tutor, who would group-tutor. Children, educated in the home, were taught by intelligent and gifted slaves. Children, in poorer homes, did not have slaves to teach them; they were taught by their parents, as they were in early Roman days. **Rome as an Empire:** During the empire, the Senate lost most of its power. The emperor was all-powerful. Still, education continued as it did during the Republic. Kids studied reading, writing, counting, literature, and how to be an effective speaker.

### Bookwork

Read the page together. Present and explain the word "digit". This word can have several different meanings:

dig·it n

1. a finger or toe of a human
2. a finger, toe, or similar part on a terrestrial vertebrate
3. the width of a finger used as a unit of length, equal to approximately 2 cm/3/4 in. Also called finger
4. any of the ten Arabic numerals, 0 to 9, that are used to represent numbers in the decimal system

5. a symbol that represents a number in any number system.

For individual practice have the pupils analyze and dissect the numbers in writing like this:

5386 is the same as:  
 five thousands  
 three hundreds  
 eight tens  
 and six single units

When they have finished, draw a chart on the board like this:

Thousands	Hundreds	Tens	Single Units
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Write a series of numbers on the board and have pupils come to the front and fill in the information.

After a while, encourage the pupils to invent their own numbers for the next person to analyze and dissect.

### Individual Assessment & Remedial Work

It is not necessary to assess each pupil each time, but make sure you give individual assessments to every pupil at least once a week, even the most ambitious ones; they need encouragement too!

Make a series of 10 individual cards, each one bearing a number, like this

43	52	94
781	123	974
9287	8713	6504

Showing one card at a time, ask:  
 How many units of ten are there in this number?  
 How many single units are there?  
 How many units of a hundred are there?  
 Etc.

Showing two cards at a time, ask like this:

Which of these numbers has two units of ten?  
 Which of these numbers has five units of ten?  
 Etc.

Ask the pupil to read the page aloud and show you that he or she understands by following the instructions and explanations given on the page.

## Introduction

Make sure your class knows the difference between even numbers and odd numbers. Give each child in the class a number, i.e. if you have 30 children, number them 1 to 30. If the children are sitting in pairs, it is easy to remember who is odd and who is even. Play a game or two, e.g.

## Odds & Evens

Even numbers, stand up!  
Odd numbers, put one hand up!  
Even numbers, sit down! Etc.

## Jumbled numbers

Keeping the same numbers, have the children leave their seats and stand wherever they like in the classroom. Encourage them to spread around the class. Explain that when you give the signal, you want all the even numbers to go as quickly as they can to the front of the classroom and all the odd numbers to go as quickly as they can to the back of the classroom. Then give the signal: Ready, Steady, Go! Once the two groups have assembled in their correct places, ask each child for his or her number to check whether or not they are in the right group.

Then explain that you want each group to line itself up in the right order from the lowest number to the highest number. See which group is faster?  
Ready, Steady, Go!

## Skip Counting

Have the pupils sit in their normal places. Explain they are going to count from 1 to 30 (if there are 30 pupils in the class). They have to stand up as they count. The only problem is: only the multiples of 2 (2,4,6,8,10,12,14, etc.) are allowed to say their numbers. All other numbers have to say Toot Toot! It goes like this:

Pupil 1 says: Toot Toot!            Pupil 2 says: Two  
Pupil 3 says: Toot Toot!            Pupil 4 says: Four.

If they make a mistake they have to start counting again, but they start from where the mistake was made, e.g.

Pupil 5 stands up: Five  
Teacher: That's wrong!  
Pupil 5 stands up: Toot Toot!  
Pupil 6 stands up: Two.  
Etc. until they finally reach the required number.

Skip counting can be done with any multiple. Try it with multiples of three also.

## Bookwork

Have your pupils look at page 6, Numbers 3, in their books. If you have played skip counting by two with your class, you can demonstrate what multiples of two are like this:  
Have the "twos" stand in a row in ascending order. Have them call out their numbers, e.g. 2,4,6,etc. Explain that these are the multiples of two.  
Ask: What is (or are if you prefer) 3 times 2?  
Pupil number 6 should reply "6". Continue in the same way with more multiples of two.

## The chart

Look at the top row. Do all your pupils understand that the numbers are all multiples of two?  
Look at the first column. Do all your pupils understand that these are the numbers you must multiply two with?  
Follow the green line to show that 4 times 2 = 8.  
Do more examples but vary the grouping, e.g.  
Teacher-Class  
Class – Teacher            Pupil (as teacher) – Class  
Class – Pupil (as teacher) Pupil – Pupil

Work with the chart showing the multiples of 3 in the same way.

## Individual Assessment & Remedial Work

Work with individual pupils with the charts. It is a good idea to have a pair of pupils work with the chart while you monitor their progress because the one asking the questions (e.g. What's 4 x 2?) has to be aware of the answer in order to respond "That's right" or "That's wrong. Try again."

Assessment: Write 12 test items on the board with mixed multiples of 2 and 3. Then have pupils volunteer to write the answers on the board.

Have each pupil write 12 test items of their own in similar fashion. They exchange their "tests" with a friend, fill in the answers, hand them back and correct them. Then they compare each other's scores. This way the pupils produce items, answer other items, and correct the answers to the items they originally produced themselves!



### Introduction

Explain the word “factor”. A factor is one of two or more numbers that can be multiplied together to give another number, e.g.  $2 \times 3 = 6$  so the factors are 2 and 3, but there are always two other factors, 1 and the number itself; in this case, 1 and 6.

### On the board

Let’s see how many different ways, using multiplication, we can make these numbers. We are only going to use whole numbers, no halves. Ask the class to help you.

2	=	2 x 1	
3	=	3 x 1	
4	=	4 x 1	2 x 2
5	=	5 x 1	
6	=	6 x 1	3 x 2
7	=	7 x 1	
8	=	8 x 1	4 x 2
9	=	9 x 1	3 x 3
10	=	10 x 1	5 x 2
11	=	11 x 1	
12	=	12 x 1	6 x 2 4 x 3

How many numbers have only 2 factors? These numbers have a special name. We call them Prime Numbers. Which are they? 2, 3, 5, 7, 11

We’ll talk more about them in another lesson soon. But let’s look at the other numbers now.

$4 = 4 \times 1$  which is the same as  $1 + 1 + 1 + 1$

This sign, =, is called equals.  
 “Equals” means “which is the same as”.  
 So  $4 = (\text{equals}) 4 \times 1$  means 4 is the same as  $4 \times 1$ .

$4 = 2 \times 2 = 2 + 2$   
 You can say: 4 equals two times two, or 4 is the same as two times two.

$6 = 6 \times 1$	=	$1 + 1 + 1 + 1 + 1 + 1$
$6 = 3 \times 2$	=	$2 + 2 + 2$
$6 = 2 \times 3$	=	$3 + 3$
$8 = 8 \times 1$	=	$1 + 1 + 1 + 1 + 1 + 1 + 1 + 1$
$8 = 4 \times 2$	=	$2 + 2 + 2 + 2$
$8 = 2 \times 4$	=	$4 + 4$

We only use the word “factors” when we talk about multiplication. So the factors of 8 are 1, 8, 2, 4. We can say:  $8 \times 1$  or  $1 \times 8$ . They are both the same.

### Bookwork

Have your pupils look at page 8, Numbers 5. Ask them to read the short text at the top of the page silently, then ask someone to read it to the class. Then ask:

- What number is this page?
- What is this page called?
- What is this page all about?
- What is a factor?
- What are the factors of 2? 2 & 1
- What are the factors of 4? 4 & 1, 2 & 2
- What are the factors of 5? 5 & 1
- What are the factors of 6? 6 & 1, 2 & 3

Look at the chart.  
 Find  $2 \times 8$ . How much is  $2 \times 8$ ? 16  
 How much is  $4 \times 4$ ? 16  
 How much is  $8 \times 2$ ? 16  
 So you see:  
 2, 8, 4, and of course 16 & 1 are all factors of 16.

Let’s look at the first row.  
 Who can read out the numbers for me?  
 How much is  $2 \times 2$ ? 4  
 So we can say: the factors of 4 are 4 & 1 and 2 & 2.  
 Let’s colour  $2 \times 2 = 4$  by filling in the first box under the number 4.

Who can find  $2 \times 9$ ? How much is  $2 \times 9$ ?  
 Let’s colour  $2 \times 9 = 18$ .

Who can find  $5 \times 4$ ? How much is  $5 \times 4$ ?  
 Let’s colour  $5 \times 4 = 20$

### Individual Assessment & Remedial Work

While the rest of the class is filling in the page by colouring the correct number of boxes, work with a small group or individual pupils to make sure they understand.

When the class has completed the colouring exercise, make sure they can visualize the factors by pointing out that 3 bands of colour end under 16, so we can safely say that the factors of 16 are  $2 \times 8$ ,  $4 \times 4$ ,  $8 \times 2$  and, of course,  $1 \times 16$  and  $16 \times 1$ .

What are the factors of 18?  
 Your pupils should have coloured  $2 \times 9$ ,  $3 \times 6$ ,  $6 \times 3$   
 Explain that not all the combinations of factors are on the chart. The missing ones are  $9 \times 2$ ,  $1 \times 16$ ,  $16 \times 1$

### Introduction on the board

Write 5 simple equations on the board like this:

$$2 + 4 = \quad 3 + 2 = \quad 4 + 1 = \quad 5 + 2 = \quad 4 + 3 =$$

Explain that you are going to do these sums in your head. Every time you give an answer, the class has to say “True” or “False”.

Of course, when you get the answer wrong, you will have to ask the class to give you the right answer.

Write 5 new equations on the board and repeat the game. Do this several times until the class is satisfied. Keep your answers below  $9 + 9 = 18$ .

### Bookwork

Have your pupils open their books at page 9, Numbers 6. Ask for a volunteer to read the first four lines in column one.

Explain that you are going to play the same game again so they have to tell you whether you are right or wrong, but no writing yet!

**Teacher – Class:** Go through the whole first column with the class,

**Pupil – Class:** Ask for a volunteer to be the teacher. Work only with the first column again. Explain that it is ok to make mistakes because the class will correct the teacher, but no writing yet!

**Pupil – Pupil:** The whole class works in pairs with the first column. Explain that it is ok to make mistakes because they can correct each other, but no writing yet.

### Individual Assessment & Remedial Work

While the class is working in pairs, take the opportunity to help or check on weaker couples or individuals, but do not forget to spend time with the faster ones too.

### Speed Check

After the class has had time to work with the first column thoroughly, explain that you are going to do the first column again, but this time you are going to do it as fast as you can. Every time they hear a

mistake, they have to bang on their desks to stop you. But they must be careful; if they bang to stop you, they have to give the correct answer.

### Individual work

Have your pupils fill in the correct answers in column one. Take time to help where necessary.

### Column Two: Back to Front

Repeat the process with the second column, but explain that you are going to start in a different way. You are going to start “Back-to-Front” by giving them the answers and they have to find the correct combinations.

Warn them that they have to be careful because there is usually more than one answer, e.g.

$$9 + 4 = 13 \quad \text{and} \quad 6 + 7 = 13$$

Ask for other combinations that make 13. e.g.  $12 + 1$ ,  $11 + 2$ ,  $10 + 3$ ,  $8 + 5$ ,  $7 + 6$ , etc.

### Column Two: Find the partners

Ask: How much is 6 plus 3?

Answer: 9

Ask: Can you find a partner for  $6 + 3$ ?

Answer:  $5 + 4$  (or any other correct combination)

### Individual work

Have your pupils fill in the correct answers in column two. Take time to help where necessary.

### Time Trial 1

If you have a stopwatch, let pupils come to the front and try to read out the **completed** equations as quickly as they can to see who can read them fastest.

### Time Trial 2

Divide the class into teams. Download or print out the appropriate number of copies of page 9 (without answers). Each pupil fills in one answer and passes the paper on to the next team member. The first team to complete all answers correctly is the winner.

### Time Trial 3

If you have a stopwatch, let pupils come to the front and try to read out and **complete the uncompleted** equations as quickly as they can to see who can read and complete them fastest.

# SumTime 2

# QuickTips: Page 10

# Numbers 7

### Bookwork

For this page, we need no pre-book introduction. Instead, we can go straight to the book. Have your pupils look at page 10, Numbers 7. Ask them to read the short text at the top of the page silently; then ask someone to read it to the class.

Then ask:

- What are the factors of 2?
- Can you see where we have written the factors?
- How many factors does 2 have?
- So what sort of number is it, a Prime Number or a Composite Number?

Do the same for 3, 4 & 5. The answers are already given. Continue:

I think that 6 is a composite number. So does 6 have only 2 factors or, more than two factors?  
 What are the factors of 6?  
 Write the factors (1, 6, 2, 3) in the box.

I think that 7 is a prime number. So does 7 have only 2 factors, or more than two factors?  
 What are the factors of 7?  
 Write the factors (1, 7) in the box.

Continue in the same way with the rest of the second row (**8**: 1, 8, 2, 4; **9**: 1, 9, 3; **10**: 1, 10, 2, 5)

### Multiplication

Say: Let's take a break from prime numbers and composite numbers and practise multiplication instead.  
 Look at the third row. What's 3 x 4?  
 (Expect the answer 12)  
 Okay, 3 x 4 = 12, so we know that 3 & 4 are factors of 12. Write 3 & 4 in the 12 box.

Continue in the same way:

What's	Write in box	Factors
2 x 7	14	2, 7
5 x 3	15	3, 5
6 x 2	12	3, 4, 6, 2

So if we add the factors that we always have, i.e. 11, 1; 12, 1; 13, 1; 14, 1; 15, 1, which of these numbers (11 – 15) are primary numbers and which are composite numbers?

What are the factors of 11?  
 What are the factors of 15?

Continue with a few more examples until you are sure the whole class understands what has to be done. But before you do this, ask the class to fill in the factors that always exist, i.e. 9 x 1, 32 x 1, etc. in each box.

What's	Write in box	Factors
2 x 9	18	2, 9
6 x 7	42	6, 7
6 x 3	18	2, 9, 6, 3
21 x 2	42	6, 7, 21, 2
3 x 8	24	3, 8
3 x 14	42	6, 7, 21, 2, 3, 42

### Individual Assessment & Remedial Work

Work like this until you feel comfortable that the class can work on its own. You may feel that it is advantageous for pupils to work in pairs by asking each other questions similar to those you asked, e.g. What's 5 x 5? Write 5 in the 25 box.  
 What's 4 x 9? Write 9 in the 36 box.

While the rest of the class is filling in the page by filling in the correct numbers in the correct boxes, work with a small group or individual pupils to make sure they understand.

### Assessment

Work with individual pupils and ask:

- What's 4 x 6?      What's 3 x 6?
- What's 3 x 8?      What's 24 x 1?
- What's 12 x 3?    What's 2 x 12?

What are the factors of 24? (1, 2, 3, 4, 6, 8, 12, 24)

- What's 4 x 9?      What's 6 x 9?
- What's 6 x 7?      What's 12 x 4?
- What's 12 x 3?    What's 2 x 18?

What are the factors of 36? (1, 2, 3, 4, 6, 12, 18, 36)

# SumTime 2

# QuickTips: Page 11

# Numbers 8

### Introduction

Practise the two-times table round the class from 1 x 2 to as high as they can manage – but not more than 50 x 2; 12 x 2 is probably enough.

Teacher – Class: Ask random questions on the two-times table, e.g. What’s:

3 x 2    9 x 2    6 x 2    4 x 2, etc.

Then do the same with the three-times table.

### Bookwork

Have your pupils look at page 11, Numbers 8.

Ask them to read the short text at the top of the page silently; then ask someone to read it aloud to the class.

Explain or ask why 2 is a prime number: it only has two factors, 1 & 2.

Explain or ask why 4 is a composite number: it has more than two factors, 1, 2, 4.

Help your pupils visualize the two-times table by locating the multiples of 2 (2, 4, 6, 8, etc.)

What are the factors of:

4?      2 x 2, 1 x 4

6?      3 x 2, 1 x 6

8?      4 x 2, 1 x 8

10?     5 x 2, 1 x 10

4, 6, 8 & 10 are composite numbers because they have more than two factors.

What about the numbers in the first row that we have not talked about? (3, 5, 7, 9)

What are the factors of:

3?      1 x 3

5?      1 x 5

7?      1 x 7

9?      1 x 9


These are prime numbers because they have only two factors. A prime number can be divided only by 1 and itself.

You might like to demonstrate that multiplication and division are related.

3 x 2 = 6      

2 x 3 = 6      

6 ÷ 3 = 2      

6 ÷ 2 = 3      

By the way, and just in case you are interested, here are the first 50 prime numbers. There seems to be an infinite number of prime numbers. 2 & 3 is the

only pair of numbers; there are no groups of three prime numbers.

2	3	5	7	11
13	17	19	23	29
31	37	41	43	47
53	59	61	67	71
73	79	83	89	97
101	103	107	109	113
127	131	137	139	149
151	157	163	167	173
179	181	191	193	197
199	211	223	227	229

We will try to use these numbers in different ways during the course of our studies, e.g. a little test:

Find the prime number in each group.

- 6    9    2    10
- 11    18    12    34
- 21    27    25    23
- 74    77    73    78
- 39    36    31    30
- 45    46    47    48
- 60    61    62    63
- 50    51    52    53
- 86    87    88    89
- 94    95    96    97

### Individual Assessment & Remedial Work

Work with individual pupils or a small group with sets of 4 number cards, e.g. 6, 8, 9, 11.

Place the number cards on the desk and say:

Show me

3 x 2    4 x 2    3 x 3    2 x 4    2 x 3  
 3 x 1    11 x 1    2 x 3    1 x 9    11 x 1

Tell me what is

3 x 2    4 x 2    3 x 3    2 x 4    2 x 3  
 3 x 1    11 x 1    2 x 3    1 x 9    11 x 1

Tell me how many ways you can make

6      8      9      11

Show me the prime number.

11 of course! 11 x 1 or 1 x 11, it’s all the same!

## Introduction on the board

Write 5 simple equations on the board like this:

$$4 - 2 = \quad 3 - 2 = \quad 4 - 1 = \quad 5 - 2 = \quad 4 - 3 =$$

Explain that you are going to do these sums in your head. Every time you give an answer, the class has to say “True” or “False”.

Of course, when you get the answer wrong, you will have to ask the class to give you the right answer.

Write 5 new equations on the board and repeat the game. Do this several times until the class is satisfied. Keep your answers below  $20 - 1 = 19$ .

## Bookwork

Have your pupils open their books at page 12, Numbers 9. Ask for a volunteer to read the first four lines in column one.

Explain that you are going to play the same game again so they have to tell you whether you are right or wrong, but no writing yet!

**Teacher – Class:** Go through the whole first column with the class,

**Pupil – Class:** Ask for a volunteer to be the teacher. Work only with the first column again. Explain that it is ok to make mistakes because the class will correct the teacher, but no writing yet!

**Pupil – Pupil:** The whole class works in pairs with the first column. Explain that it is ok to make mistakes because they can correct each other, but no writing yet.

## Individual Assessment & Remedial Work

While the class is working in pairs, take the opportunity to help or check on weaker couples or individuals, but do not forget to spend time with the faster ones too.

## Speed Check

After the class has had time to work with the first column thoroughly, explain that you are going to do the first column again, but this time you are going to do it as fast as you can. Every time they hear a

mistake, they have to bang on their desks to stop you. But they must be careful; if they bang to stop you, they have to give the correct answer.

## Individual work

Have your pupils fill in the correct answers in column one. Take time to help where necessary.

## Column Two: Back to Front

Repeat the process with the second column, but explain that you are going to start in a different way. You are going to start “Back-to-Front” by giving them the answers and they have to find the correct combinations.

Warn them that they have to be careful because there is usually more than one answer, e.g.

$$15 - 9 = 6 \quad \text{and} \quad 13 - 7 = 6$$

Ask for other combinations that make 13. e.g.  $14 - 1$ ,  $15 - 2$ ,  $16 - 3$ ,  $18 - 5$ ,  $19 - 6$ , etc.

## Column Two: Find the partners

Ask: How much is  $15 - 9$ ?

Answer: 6

Ask: Can you find a partner for  $15 - 9$ ?

Answer:  $13 - 7$  (or any other correct combination)

## Individual work

Have your pupils fill in the correct answers in column two. Take time to help where necessary.

## Time Trial 1

If you have a stopwatch, let pupils come to the front and try to read out the **completed** equations as quickly as they can to see who can read them fastest.

## Time Trial 2

Divide the class into teams. Download or print out the appropriate number of copies of page 12 (without answers). Each pupil fills in one answer and passes the paper on to the next team member. The first team to complete all answers correctly is the winner.

## Time Trial 3

If you have a stopwatch, let pupils come to the front and try to read out and **complete the uncompleted** equations as quickly as they can to see who can read and complete them fastest







**SumTime 2**

**QuickTips: Page 14**

**Numbers 11**