## Multiplication tables

| $1 \times 3=3$ | $1 \times 4=4$ | $1 \times 6=6$ |
| ---: | ---: | ---: |
| $2 \times 3=6$ | $2 \times 4=8$ | $2 \times 6=12$ |
| $3 \times 3=9$ | $3 \times 4=12$ | $3 \times 6=18$ |
| $4 \times 3=12$ | $4 \times 4=16$ | $4 \times 6=24$ |
| $5 \times 3=15$ | $5 \times 4=20$ | $5 \times 6=30$ |
| $6 \times 3=18$ | $6 \times 4=24$ | $6 \times 6=36$ |
| $7 \times 3=21$ | $7 \times 4=28$ | $7 \times 6=42$ |
| $8 \times 3=24$ | $8 \times 4=32$ | $8 \times 6=48$ |
| $9 \times 3=27$ | $9 \times 4=36$ | $10 \times 6=54$ |
| $10 \times 3=30$ | $10 \times 4=40$ | $2 \times 90$ |
| $1 \times 7=7$ | $2 \times 8=16$ | $3 \times 9=18$ |
| $2 \times 7=14$ | $3 \times 8=24$ | $4 \times 9=36$ |
| $3 \times 7=21$ | $4 \times 8=32$ | $5 \times 9=45$ |
| $4 \times 7=28$ | $5 \times 8=40$ | $6 \times 9=54$ |
| $5 \times 7=35$ | $6 \times 8=48$ | $7 \times 9=63$ |
| $6 \times 7=42$ | $7 \times 8=56$ | $8 \times 9=72$ |
| $7 \times 7=49$ | $8 \times 8=64$ | $9 \times 9=81$ |
| $8 \times 7=56$ | $9 \times 8=72$ | $10 \times 9=90$ |
| $9 \times 7=63$ | $10 \times 8=80$ |  |
| $10 \times 7=70$ |  |  |


| $\times$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Easy! |  |  |  |  |  |  |  |  |  |
| 2 | Easy! | Square, double |  |  |  |  |  |  |  |  |
| 3 | Easy! | Double | Square |  |  |  |  |  |  |  |
| 4 | Easy! | Double | Double double | Square |  |  |  |  |  |  |
| 5 | Easy! | Easy double | Easy! | Easy! | Easy square |  |  |  |  |  |
| 6 | Easy! | Double | Learn | Double double | Easy! | Square |  |  |  |  |
| 7 | Easy! | Double | Learn | Double double | Easy! | 42 | Square |  |  |  |
| 8 | Easy! | Double | Learn | Double double | Easy! | 48 | 56 | Square |  |  |
| 9 | Easy! | Double | Learn | Double double | Easy! | 54 | 63 | 72 | Square |  |
| 10 | Easy! | Easy double | Easy! | Easy! | Easy! | Easy! | Easy! | Easy! | Easy! | Easy square |

Remember: $0 \times 7=0$
Tricky facts
| Mathematics challenge $\quad$ Resource sheets
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| $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\frac{1}{5}$ |  | $\frac{1}{5}$ |  | $\frac{1}{5}$ |  | $\frac{1}{5}$ |  |  |  |
| $\frac{1}{2}$ |  |  |  |  | $\frac{1}{2}$ |  |  |  |  |
| $\frac{1}{4}$ |  |  | $\frac{1}{4}$ |  | $\frac{1}{4}$ |  |  | $\frac{1}{4}$ |  |
| 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 0.25 |  | 0.25 |  |  | 0.25 |  | 0.25 |  |  |

## Calculator problems

1 Kay bought 22 packets each costing £1.15.
To calculate the total cost, she multiplied 22 by 1.15.
Her calculator showed the answer

## 25.3

(a) Write down the answer you would give. Explain why.
(b) Does the answer look about right? Explain how you know.

2 Colin used his calculator to work out $(228 \div 18) \times 6$.
His calculator showed the answer

### 75.999996

(a) Write down the answer you would give. Explain why.
(b) Does the answer look about right? Explain how you know.

3 Asif had to calculate how many boxes of 12 eggs he could pack from 160 eggs. He calculated $160 \div 12$ and the display on his calculator was

### 13.333333

(a) Write down the answer you would give. Explain why.
(b) Does the answer look about right? Explain how you know.

4 Sandip had £2399.50 in her bank account.
She spent £924.35 and wanted to know how much she had left.
She meant to calculate 2399.50-924.35. Her calculator showed

### 2069.15

(a) Write down the answer you would give. Explain why.
(b) Does the answer look about right? Explain how you know.
(c) What error do you think Sandip made?

## Word problems

For each question:

- decide which numbers are important;
- decide which calculation you need to do;
- decide how you will work out the answer;
- work out the answer;
- check that the answer is sensible.

1 Mike, who is 27 years old, has 342 model cars and 129 model planes. How many models does he have altogether?

2 Nasima works for 42 days and is paid £63 a day.
How much is she paid altogether?
If she pays $£ 423$ in tax, work out how much money she has left after paying tax.

3 Apples cost 68p a kilogram. Pears cost $£ 1.23$ a kilogram.
Oranges are 21 p each.
Kathy buys 2 kg of pears and 6 oranges.
How much does she pay altogether?

4 Ravi has to pack chocolate eggs into boxes.
Each box contains 8 eggs and costs £1.25.
How many boxes can Ravi fill if he has 960 eggs?

5 Neville travels 1250 miles in March and 2319 miles in April.
How many more miles does he travel in April compared with March?

## Bus passes

Anne made a graph of buses passing her school in one hour.


Which number bus passed most often in the hour?
How many times did a Number 27 bus pass in the hour?
How many times did a Number 8 bus pass in the hour?
How many more Number 8 buses pass in the hour than Number 11 buses?
Anne says: 'Bus Number 39 passed least often in the hour.'
Explain how the graph shows that she is correct.

## Favourite fruit drinks

This pictogram shows the results of a class survey on favourite fruit drinks.

|  | Flavour | Number of children |
| :---: | :---: | :---: |
|  | blackcurrant | (\%) (\%) \% (\%) |
| (®) 2 children <br> (-) <br> 1 child | apple |  |
|  | grapefruit | (\%) (\%) \% \% |
|  | orange |  |
|  | pineapple | (\%) |

How many children chose apple flavour?
How many chose orange flavour?
How many more children chose apple than pineapple flavour?
Which were the two most popular flavours?
How many children altogether chose the three most popular flavours?

Make up your own question about the results of the class survey.

## How far is it to ...?

This table shows the distances in kilometres between five cities.


How far is it from London to Manchester?
How far is it from Newcastle to London?
Which is further, London to Cardiff or Manchester to Newcastle?
Jane goes from Newcastle to Birmingham, and then on to Cardiff. How many kilometres does she travel?

Why are some of the squares shaded?

## Temperature chart

Gavin was ill in March.


This is his temperature chart.


What was Gavin's temperature on the 13th?
What was his temperature on the 6th?
Did his temperature go up or down between the 8th and 9th of March?
Which day was his temperature lowest?
Estimate his lowest temperature.
For how many days was his temperature marked as more than $37^{\circ} \mathrm{C}$ ?
Estimate Gavin's highest temperature shown on the chart.

## Calendar dates

This is a calendar for August 1998.


On which day of the week was 4th August 1998?
On which day was 27th August?
What was the date of the second Friday in the month?
How many days are there in August?
Simon's birthday is on August 20th. In 1998 he had a party on the Sunday after his birthday. What was the date of his party?

On which day of the week was 1st September 1998?
Tina's birthday is on September 9th. On which day of the week was her birthday in 1998?

## Shop sales



A camping shop sells tents, sleeping bags and backpacks.
This chart shows how many of each they sold in June.


How many backpacks did the shop sell in June?
How many tents did they sell in June?
How many more backpacks than tents did they sell?
How many sleeping bags did they sell in June?
The shop had 20 sleeping bags at the start of June. How many sleeping bags did they have left at the end of June?

In July, the shop sold three times as many tents as in June. How many tents did the shop sell in July?

## Playgroup pie charts

There are 50 children altogether in a playgroup.


How many of the children are girls?
How many of the children are boys?
How many more boys are there than girls?

How would you show the following information on the diagram below?
25 of the children have brown eyes.
20 of the children have blue eyes.
5 of the children have green eyes.


## Pets pie chart

The children in class 7M own these animals.


There are 10 cats.
How many dogs are there?
How many rabbits are there?
How many hamsters are there?
How many more rabbits than hamsters are there?
Which is the most popular pet?

## Angle maker



## Shapes



