

Welcome to the Year 5 Maths Workshop



If this is the answer, what is the question?
How many can you think of?

72

You can use all four operations $+$ $-$ \times \div

Aims of the workshop

- To get an insight into age related expectations in Year 5 Mathematics.
- To take away some ideas to support your children at home.
- To work with your child /ren and take part in a variety of maths activities.



What MATHS can you see?

When did you last use maths?

Key aims of national curriculum

Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

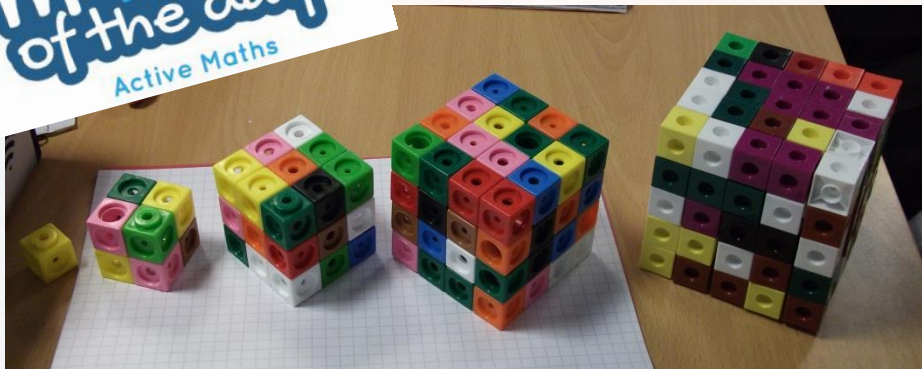
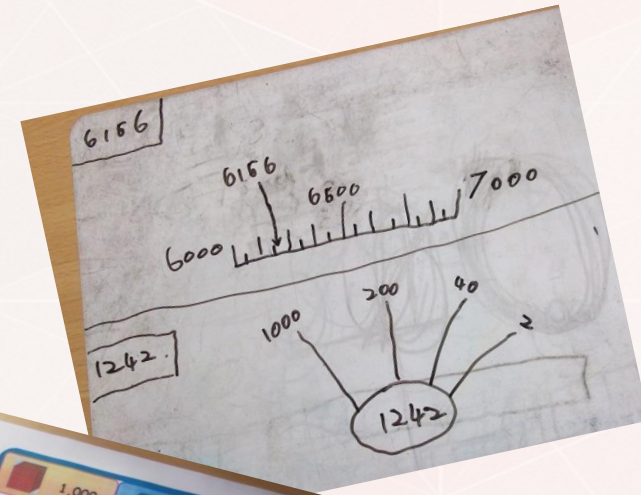
Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

Can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Curriculum coverage

Autumn	Number Place value	Number Addition and subtraction	Number Multiplication and division A	Number Fractions A		
Spring	Number Multiplication and division B	Number Fractions B	Number Decimals and percentages	Measurement Perimeter and area	Statistics	
Summer	Geometry Shape	Geometry Position and direction	Number Decimals	Number Negative numbers	Measurement Converting units	Measurement Volume

Active Maths



Using apparatus and diagrams to aid learning

TIMES TABLES ROCK STARS



The background is a dark blue stage with a horizontal line of spotlights at the top. Several spotlights are on, casting beams of light down. A yellow lightning bolt is in the top left, and another is on the right side. A green plus sign is on the top right, and a black plus sign is in the bottom left. An orange plus sign is in the bottom right. The text is centered in white.

**WHY IS IT HELPFUL
TO KNOW THE
TIMES TABLES?**



Here's how I think
about it. Imagine a
big house...



ALL THE EVEN MORE FUN STUFF

GRAPHS, SHAPES & ALGEBRA

IF MATHS

FRACCTIONS & PERCENTAGE

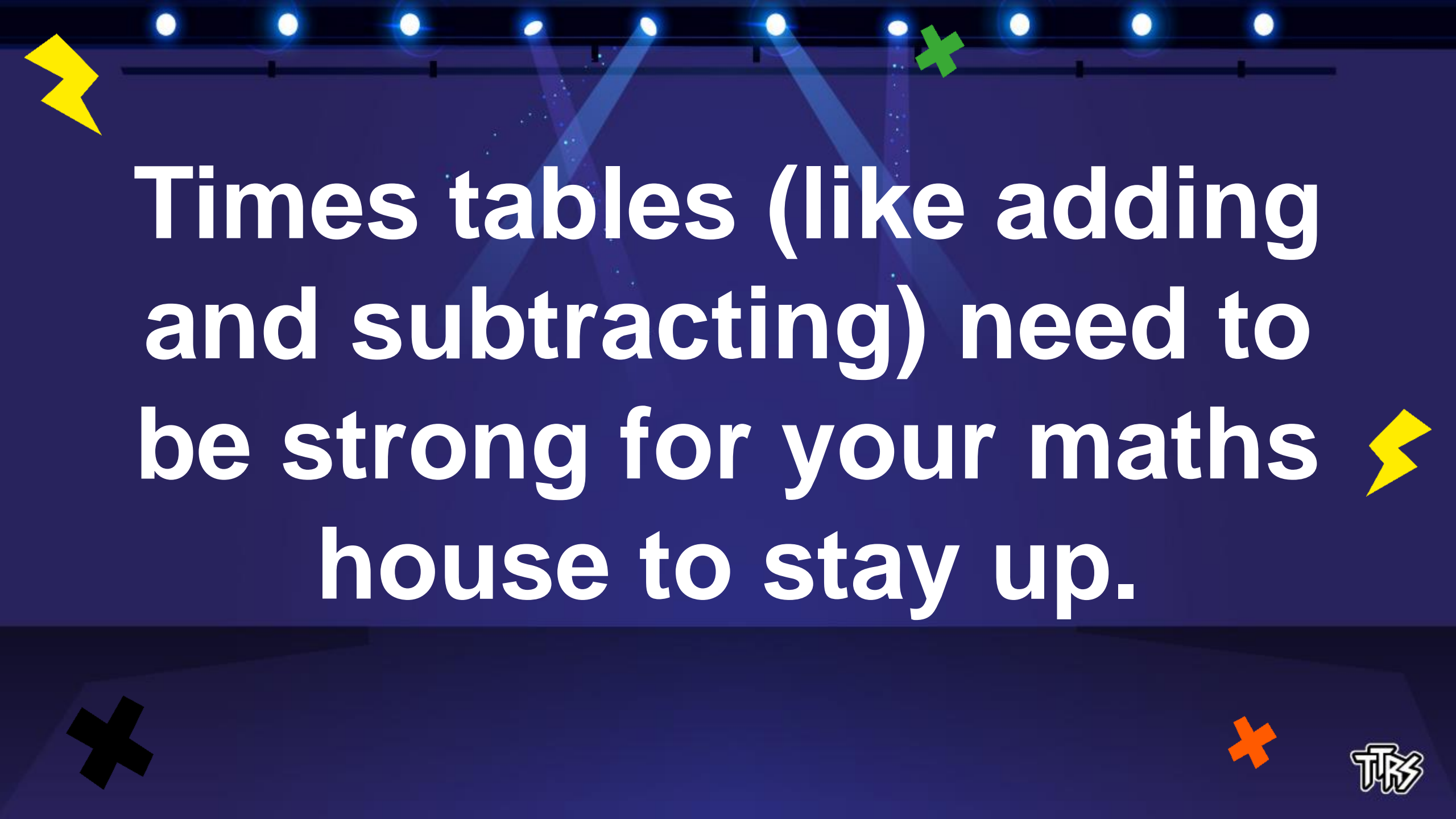
WHEREA

HOUSE


+ -

COUNTING





Times tables (like adding and subtracting) need to be strong for your maths house to stay up.





SINGLE PLAYER



MULTIPLAYER



JAMMING

Take it easy



GIG

Perform once a month



GARAGE

Complete your heatmap



STUDIO

Get a rock status



SOUNDCHECK

Beat the clock



FESTIVAL

Race the world



ARENA

Race your class



ROCKSLAM

Challenge someone

STREET FIGHTER IN 8



DISSENTING

GENERAL INVESTIGATIVE DIVISION

ALBERT EINSTEIN

GEACORP INVESTMENT RESEARCH

GAVIE MODES!

Pupil View

Avg Daily Mins

4m 29s

last 7 days

Coins Earned

1,587

last 7 days

Correct Answers

405

last 7 days

Minutes played in October 2022

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
					1 6m 57s	2 8m 24s
3 7m 27s	4	5	6	7	8	9
10	11	12	13	14	15	16

Average per Table

How quickly Charlie correctly answers each table. Measured in seconds per question. Under 3s/q is considered to be automatic recall.

10 ×	2 ×	5 ×	3 ×	4 ×	8 ×	6 ×	7 ×	9 ×	11 ×	12 ×
2.7s	3.1s	3.6s	3.9s	8.7s	5.0s	5.4s	5.5s	4.6s	4.9s	9.6s

Heatmap

How quickly Charlie correctly answers each individual question. The greener the faster.

2-12× 2-20× heatmap as of 03 Oct 2022

	10	2	5	3	4	8	6	7	9	11	12
10	10 × 10	10 × 2	10 × 5	10 × 3	10 × 4	10 × 8	10 × 6	10 × 7	10 × 9	10 × 11	10 × 12
2	2 × 10	2 × 2	2 × 5	2 × 3	2 × 4	2 × 8	2 × 6	2 × 7	2 × 9	2 × 11	2 × 12
5	5 × 10	5 × 2	5 × 5	5 × 3	5 × 4	5 × 8	5 × 6	5 × 7	5 × 9	5 × 11	5 × 12
3	3 × 10	3 × 2	3 × 5	3 × 3	3 × 4	3 × 8	3 × 6	3 × 7	3 × 9	3 × 11	3 × 12
4	4 × 10	4 × 2	4 × 5	4 × 3	4 × 4	4 × 8	4 × 6	4 × 7	4 × 9	4 × 11	4 × 12
8	8 × 10	8 × 2	8 × 5	8 × 3	8 × 4	8 × 8	8 × 6	8 × 7	8 × 9	8 × 11	8 × 12
6	6 × 10	6 × 2	6 × 5	6 × 3	6 × 4	6 × 8	6 × 6	6 × 7	6 × 9	6 × 11	6 × 12
7	7 × 10	7 × 2	7 × 5	7 × 3	7 × 4	7 × 8	7 × 6	7 × 7	7 × 9	7 × 11	7 × 12
9	9 × 10	9 × 2	9 × 5	9 × 3	9 × 4	9 × 8	9 × 6	9 × 7	9 × 9	9 × 11	9 × 12
11	11 × 10	11 × 2	11 × 5	11 × 3	11 × 4	11 × 8	11 × 6	11 × 7	11 × 9	11 × 11	11 × 12
12	12 × 10	12 × 2	12 × 5	12 × 3	12 × 4	12 × 8	12 × 6	12 × 7	12 × 9	12 × 11	12 × 12



Gig 2 - Result Breakdown

	Table	Score ⓘ	Avg. Speed ⓘ	
Passed	× 10	10 / 10	1.7 s / q	▼
Passed	× 2	10 / 10	1.8 s / q	▼
Passed	× 5	10 / 10	2.7 s / q	▼
Passed	× 3	10 / 10	4.6 s / q	▼
Failed	× 4	6 / 10	6.9 s / q	▼
Failed	× 8	4 / 10	3.0 s / q	▼
Failed	× 6	5 / 10	4.0 s / q	▼
Failed	× 7	4 / 10	3.3 s / q	▼
Failed	× 9	1 / 10	1.4 s / q	▼
Failed	× 11	0 / 5	-	
Failed	× 12	0 / 5	-	

× 4 Suggested table for Evan to practise.

You can explore which times tables your child is finding tricky or is taking more thinking time for them to answer. These can be targeted in your own screen free games.

Dice Games

Multiples of 4 Game

You will need:

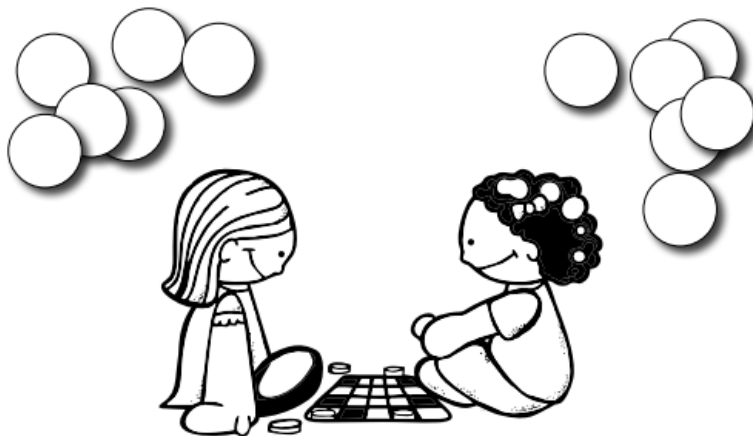
- A game board
- 2 dice
- 2 sets of coloured counters (one set per player)



The aim of the game is to be the player with the most coloured counters on the board when the timer runs out. **Play for 10 minutes.**

How to play:

1. Player 1 rolls both of the dice. They add the numbers on the dice together and then multiply that number by 4.
2. Player 1 then finds a square on the grid containing this product and covers it using one of their coloured counters.
3. Player 2 takes their turn by following steps 1 and 2.
4. Players take turns until the timer runs out.
5. If there are no more squares left containing their product, play passes to the other player.
6. When the timer runs out, count up who has the most coloured counters on the game board. This player is the winner.



Multiples of 4 Game

20	16	24	32	28	40
32	28	44	36	20	24
12	24	40	28	16	32
36	48	20	24	36	12
28	16	32	8	28	44
40	24	28	20	36	32



I spy times tables





Number plate game



I can see...

10

I can see...

52

Can you work out what
calculations have been done to reach
each answer?

Is there more than one way?

EA64 BDZ

I can see...

20

I can see...

25



Number plate game



I can see...

I can see...

Challenge!

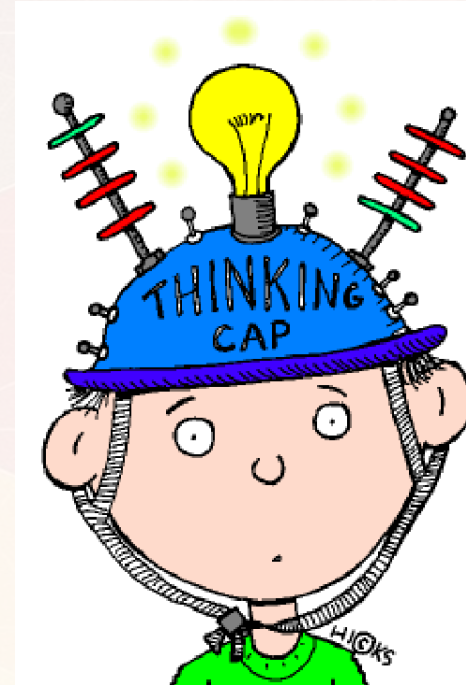
Create your own number plate problems for a friend to solve.

I can see...

I can see...

What do reasoners do?

- Think before doing
- Notice things
- Make decisions based on what they notice, know and understand



Maths Talk

This reasoning mat is to help you explain your ideas to others.
Select the sentence starter that best fits what you want to say.

I realised
this couldn't
be right
because...

The connection I
think is important
is...

The thing that
helped me see the
connection was...

The thing I
noticed
was...

When I got stuck I
decided to try...

I know this is
true
because...

I already knew...so
this helped me work
out...

The strategy I used
was...I choose this
strategy because...

The way I would
describe the
pattern is...

I wondered
what would
happen if...

I thought the
answer looked
right because...

When I saw this
it made me
think about...

What do you notice?

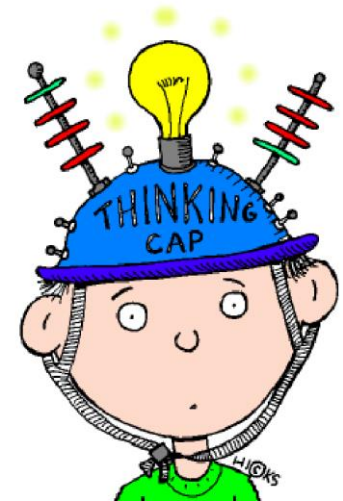
You have been food shopping at the supermarket and noticed some deals.



Calculate how much it would cost to buy:

5 pints of milk

3 loaves of bread and 5 bars of chocolate



I can see that each item is £1 or over.

Mental strategy

I know 5 times £1 equals £5.

I can use my 5 times tables to work out 5 times 9p equals 45p. So the total cost of 5 pints of milk is £5.45.

Written strategy

X

1	.	0	9				
			5				
<hr/>							
5	.	4	5				
		4					

5 pints of milk =

£5.45

You have been food shopping at the market and noticed some deals.



£1.12



First of all, I need to calculate the price of 5 pints of milk.

Calculate how much it would cost to buy:

5 pints of milk

3 loaves of bread and 5 bars of chocolate

The next thing I need to do is calculate the cost of 3 loaves of bread and 5 bars of chocolate.

Mental strategy

I know 3 times £1 equals £3.

I can use my 3 times tables to work out 3 times 12p equals 36p. So the total cost of 3 pints of milk is £3.36.

$$\begin{array}{r} 1.12 \\ \times 3 \\ \hline 3.36 \end{array}$$

Calculate how much it would cost to buy:

Bars of chocolate

$$\begin{array}{r} 1.00 \\ \times 5 \\ \hline 5.00 \end{array}$$

3 loaves of bread and 5 bars of chocolate



I now need to add the 2 together.

$$\begin{array}{r} 3.36 \\ + 5.00 \\ \hline 8.36 \end{array}$$

The total cost
is £8.36



£1.09



£1.12



£1.00



Calculate how much it would cost to buy:

5 pints of milk

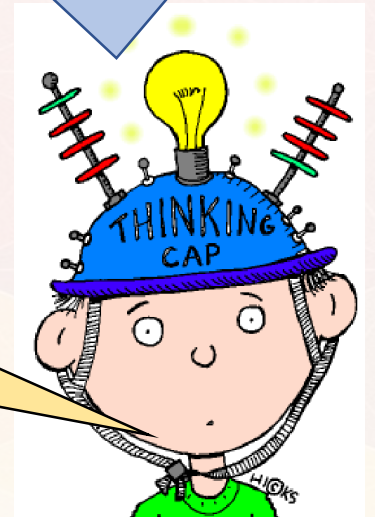
3 loaves of bread and 5
bars of chocolate

Mr Fisher's age is a multiple of 8 and 12
His age is one away from a multiple of 7
He is younger than 50 years old.
How old is Mr Fisher?

Which times tables will help you?

What are your first steps?

Use the reasoning mats to help you discuss and solve this problem



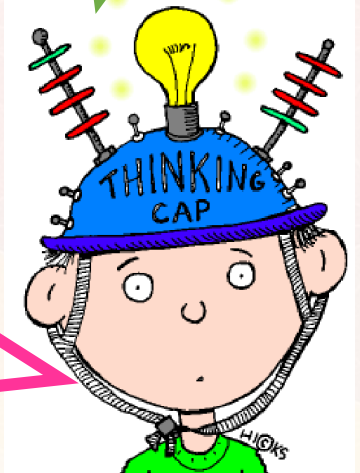
Mr Fisher's age is a multiple of 8 and 12
His age is one away from a multiple of 7
He is younger than 50 years old.
How old is Mr Fisher?

8, 16, **24**, 32, 40, **48**,

12, **24**, 36, **48**,

The strategy I used was to list the multiples of 8 and 12 first. I choose this strategy because it would help me find common multiples that are in both times tables

I already knew he age was less than 50 so this helped me work out that I only needed to go up to 6×8 which is 48 and 4×12 which is 48



Mr Fisher's age is a multiple of 8 and 12
His age is one away from a multiple of 7
He is younger than 50 years old.
How old is Mr Fisher?

8, 16, **24**, 32, 40, **48**,

12, **24**, 36, **48**,

7, 14, 21, 28, 35, 42, **49**

I wondered what
would happen if I then
listed the multiples of 7
to find a number that
was one away from
either 24 or 48.

The answer must be
48. I know this because
 7×7 is 49 which is one
more than 48 and still
less than 50.



Useful Websites

<https://www.bbc.co.uk/sport/supermovers/42612499>

<https://www.topmarks.co.uk/maths-games/hit-the-button>

<https://nrich.maths.org/primary>

<https://ttrockstars.com/>

<https://www.mymaths.co.uk/>

Please refer to the support for learning pages in the back of the home link books.



**Please take your pack of resources
with you.**