Maths at Ravensdale Juniors

RAVENSDALE
EST. 1964
JUNIORS

POWER MATHS

Fully Recommended by the DfE!

The whole-class mastery approach that works for every child

Created in partnership with White Rose Maths | Pearson

At the heart of *Power Maths* is the belief that all children can achieve. It's built on an exciting growth mindset and problem-solving approach.

Pearson

Key aims of *Power Maths*

Keeping the whole class progressing together

Providing rich problem solving to challenge and engage every child

Practical assessment to reveal misconceptions and inform speedy interventions

Nurturing a growth mindset and building children's confidence in maths

Pearson

In a nutshell …

- An exciting **whole-class mastery approach** for Reception to Year 6
- Written by **mastery experts** and inspired by best practice from around the world
- Fully **recommended by the Department for Education**
- Created specifically for **UK classrooms**
- Makes maths an adventure and helps build a culture of **excitement and confidence**!

Pearson

What is mastery?

“Mastering maths means acquiring a deep, long-term, secure and adaptable understanding of the subject” – NCETM

We achieve this by …

- Carefully sequenced, small step learning
- Representation that expose mathematical structures
- Developing mathematical thinking
- Building fluency

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Growth mindset

Fixed mindset	Growth mindset
"I'm not good at maths – I've never been good at maths"	"I'm finding maths hard now, but I can improve with time and effort"
"I give up – I can't make this any better"	"I can improve if I keep trying"
"If I fail I am a failure"	"Most successful people fail along the way"
"I can't do this – I keep making mistakes"	"Mistakes help me learn"

Pearson

Meet the growth-mindset characters!

Flo

Flo is flexible and creative. She often with new methods to solve problems.

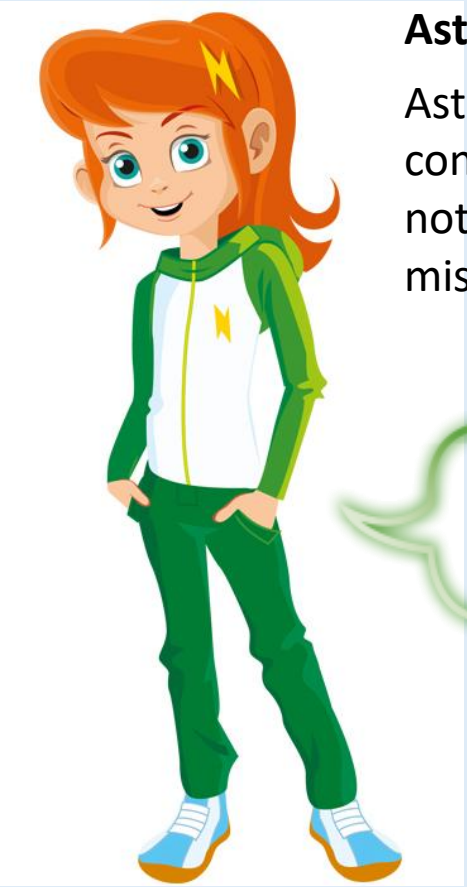
Dexter

Dexter is determined. When he makes a mistake he learns from it and tries again.

Can we do it differently?

Let's try again!

Meet the growth-mindset characters!



Astrid

Astrid is brave and confident. She is not afraid to make mistakes.

I will share my ideas!

Is there a pattern?

Ash

Ash is curious and inquisitive. He loves to explore new concepts

See the lesson structure

Arithmetic

Revision

Discover

Think Together

Practice

Deeper Thinking

Arithmetic

1	$\square = 334 + 100$
2	$\square = 438 - 100$
3	$576 + 60 = \square$
4	$358 - 200 = \square$
5	$39 \times 9 = \square$
6	$72 \div 3 = \square$
7	$\frac{1}{3} + \frac{1}{3} = \square$
8	$\frac{9}{11} - \frac{8}{11} = \square$
9	$5595 + 1000 = \square$
10	$7255 - 1000 = \square$

Revision

a)

	Th	H	T	O
	4	2	5	0
–	1	1	4	0

b)

	Th	H	T	O
	4	5	2	5
–	2	1	1	4

c)

	Th	H	T	O
	4	2	5	2
–	2	0	1	1

d)

	Th	H	T	O
	4	5	0	2
–	2	1	0	1

Discover and Share

Concrete-Pictorial-Abstract approach

Unit 7: Multiplication and division (2), Lesson 8

Dividing up to a 4-digit number by a 1-digit number 2

Discover

1 a) How many pieces of litter has each child picked up?

b) Mr Jones has picked up 351 pieces of litter. He shares them equally between 3 bags.

How many pieces of litter are in each bag?

36

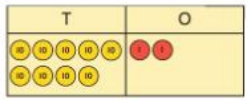
Share

a) 4 children picked up 92 pieces of litter.

They each picked up the same number of pieces.

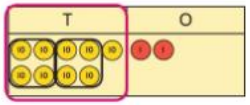
To work this out, I need to divide 92 by 4. I will use the method of short division that we learnt in the last lesson.

$4 \overline{)9\ 2}$



First, lay out the problem.

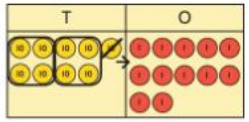
$4 \overline{)9\ 2}$ → 2



How many groups of 4 go into 9 tens?

2 groups of 4 tens with 1 ten left over.

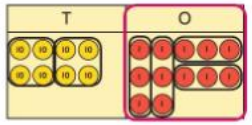
$4 \overline{)9\ 12}$ → 2



Exchange the 1 ten left over for 10 ones.

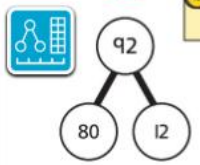
We now have 12 ones.

$4 \overline{)9\ 12}$ → 2 3



How many groups of 4 go into 12 ones?

3 groups of 4 ones.



I used a part-whole model to partition the number into two numbers that divide by 4.

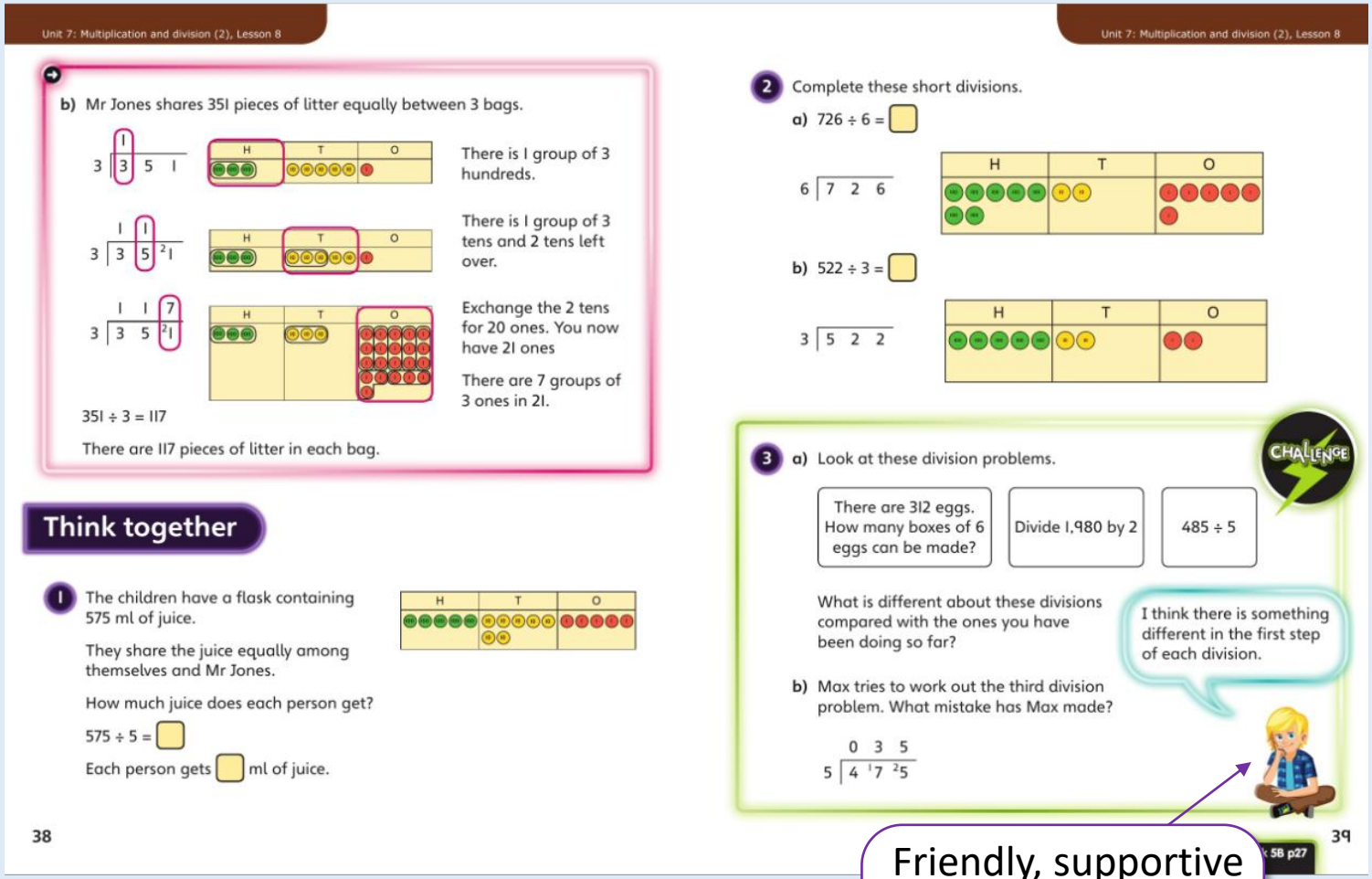
$80 \div 4 = 20$ $12 \div 4 = 3$

$20 + 3 = 23$

$92 \div 4 = 23$, so each child picked up 23 pieces of litter.

Engaging scenarios

Think together



Friendly, supportive characters help children develop a growth mindset.

Practice

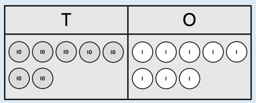
Questions are presented in a logical sequence.

→ Textbook 5B p36

Dividing up to a 4-digit number by a 1-digit number ❷

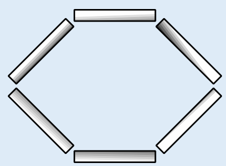
1 Mo is dividing 78 by 3. Complete his working.

3 ⟌ 7 8



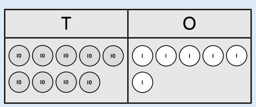
78 ÷ 3 = ☐

2 Olivia is making hexagons with straws, like this:



Olivia has 96 straws. How many hexagons can she make?

6 ⟌ 9 6



Oliva can make ☐ hexagons.

3 Work out these divisions.

a) 642 ÷ 6 = ☐ **b)** 725 ÷ 5 = ☐ **c)** 5,016 ÷ 3 = ☐

6 ⟌ 6 4 2 5 ⟌ 7 2 5 3 ⟌ 5 0 1 6

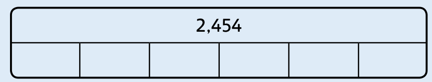
4 Calculate the answers to these divisions.

a) 7,924 ÷ 7 = ☐ **b)** 711 ÷ 3 = ☐ **c)** 916 ÷ 4 = ☐

7 ⟌ 7 9 2 4

5 What division does this bar model model represent?

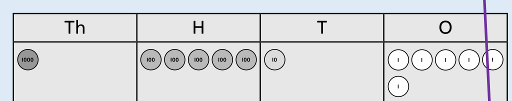
Write the calculation and then solve it.



6 Isla has made a number and then divided her number by 4 using short division.

What mistake has Isla made?

0 8 7 9
4 ⟌ 1 ^{3}5 ^{3}1 ^{3}6



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7 Fill in the missing numbers in these short divisions.

a)
2
4 ⟌ ^{1}7 2

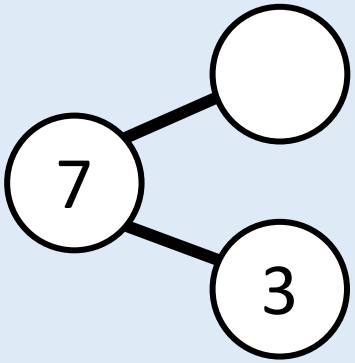
b)
2 2
3 ⟌ 8 7 3

c)
6
5 ⟌ ^{1} ^{3}0

Calculations are connected so that children think about the underlying concepts.

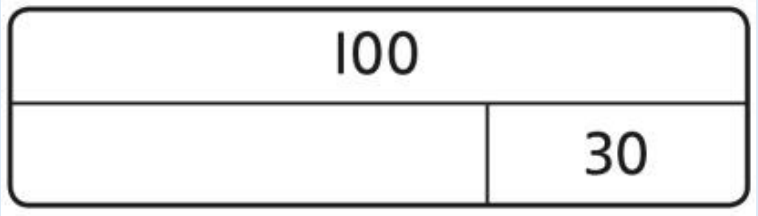
Models and representations

Part-whole models



Shows how numbers can be split into parts. Helps show the connection between addition and subtraction.

Bar models



Helps show the maths problem as a picture.

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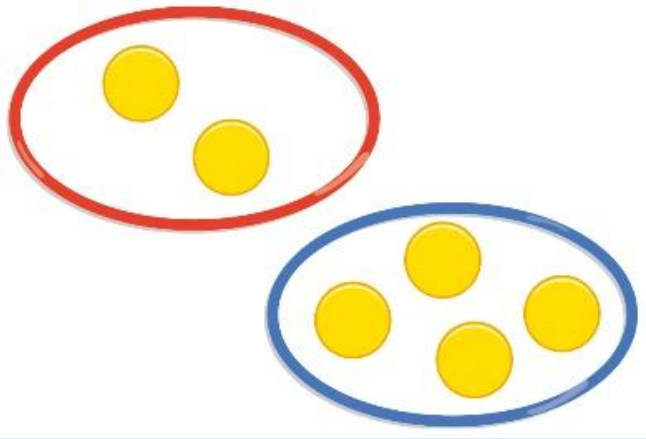
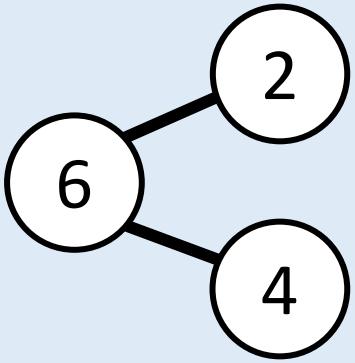
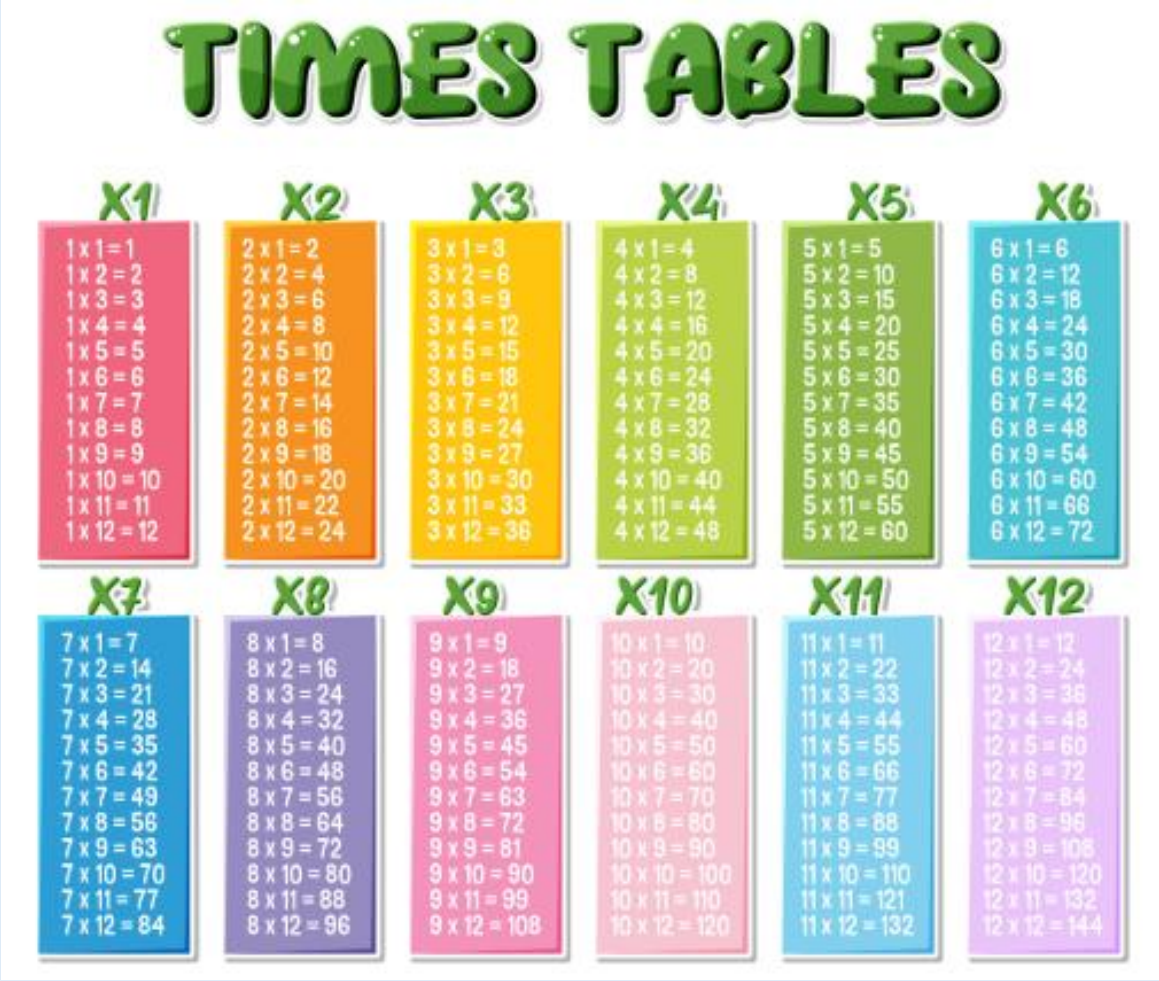
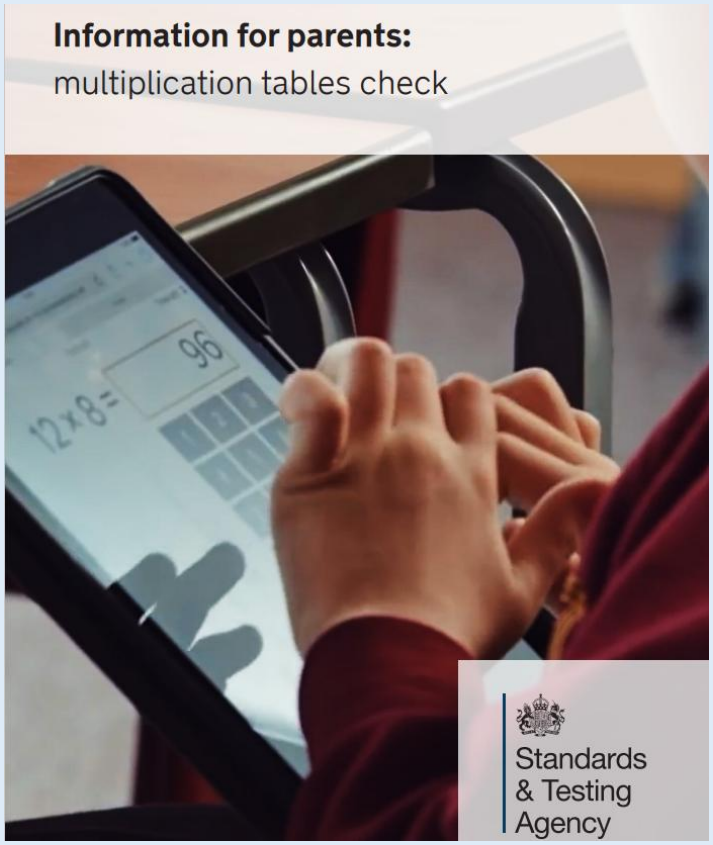
Models and representations





$2 + 4 = 6$


TIMES TABLES
X1
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10
1 x 11 = 11
1 x 12 = 12
X2
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20
2 x 11 = 22
2 x 12 = 24
X3
3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15
3 x 6 = 18
3 x 7 = 21
3 x 8 = 24
3 x 9 = 27
3 x 10 = 30
3 x 11 = 33
3 x 12 = 36
X4
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
4 x 11 = 44
4 x 12 = 48
X5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
5 x 11 = 55
5 x 12 = 60
X6
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60
6 x 11 = 66
6 x 12 = 72
X7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
7 x 11 = 77
7 x 12 = 84
X8
8 x 1 = 8
8 x 2 = 16
8 x 3 = 24
8 x 4 = 32
8 x 5 = 40
8 x 6 = 48
8 x 7 = 56
8 x 8 = 64
8 x 9 = 72
8 x 10 = 80
8 x 11 = 88
8 x 12 = 96
X9
9 x 1 = 9
9 x 2 = 18
9 x 3 = 27
9 x 4 = 36
9 x 5 = 45
9 x 6 = 54
9 x 7 = 63
9 x 8 = 72
9 x 9 = 81
9 x 10 = 90
9 x 11 = 99
9 x 12 = 108
X10
10 x 1 = 10
10 x 2 = 20
10 x 3 = 30
10 x 4 = 40
10 x 5 = 50
10 x 6 = 60
10 x 7 = 70
10 x 8 = 80
10 x 9 = 90
10 x 10 = 100
10 x 11 = 110
10 x 12 = 120
X11
11 x 1 = 11
11 x 2 = 22
11 x 3 = 33
11 x 4 = 44
11 x 5 = 55
11 x 6 = 66
11 x 7 = 77
11 x 8 = 88
11 x 9 = 99
11 x 10 = 110
11 x 11 = 121
11 x 12 = 132
X12
12 x 1 = 12
12 x 2 = 24
12 x 3 = 36
12 x 4 = 48
12 x 5 = 60
12 x 6 = 72
12 x 7 = 84
12 x 8 = 96
12 x 9 = 108
12 x 10 = 120
12 x 11 = 132
12 x 12 = 144



Only Year 4

What is the multiplication tables check?

- It is an on-screen check consisting of 25 times table questions.
- They will then have 6 seconds to answer each question.
- On average, the check should take no longer than 5 minutes to complete.

TIMES TABLES ROCK STARS


TIMES
TABLES
ROCK
STARS