Dear Year 5 and 6,

Thank you so much to all of you for your continued hard work and thank you to those who have sent work in, I have absolutely loved reading through it all. I am thrilled with how hard you are all working. I am missing you all very much but hope you've all been enjoying your time at home.

This work pack is for the next three weeks and is mainly focused around our end of year cultural topic 'Australia'!

Remember to go on IDL and mathletics as much as possible and try to read everyday.

Here are some other ideas of activities you might also like to try out:

- Joe Wicks is streaming live PE sessions Monday to Friday on his YOUTUBE channel.
- Try https://family.gonoodle.com/ to keep active
- Why not have a go at scratch and do some creative computer programming: http://scratch.mit.edu/explore/projects/games/
- Get out into the garden and become a nature detective and get some ideas at https://naturedetectives.woodlandtrust.org.uk/naturedetectives/
- https://www.bbc.co.uk/bitesize/levels/ has some amazing resources which might help!
- Cosmic kids for yoga and stretching activities
- Search 'peace out' for stories to help you sleep.

Please contact me at any point by email or by phone as I am always here to help. Enjoy and stay safe!

Mrs Stocks

rachael.stocks@swarland.northumberland.sch.uk

Year 5

Grammar

WB 1.6.20 possessive page 39

WB 8.6.20 relative clauses page 40

WB 15.6.20 conditional sentences page 41

Spelling

WB 1.6.20 year 5 spelling words - average, desperate, temperature, vegetable, frequently, equipment

WB 8.6.20 words ending in shul spelt -cial or -tial

WB 15.6.20 year 5 spelling words - bruise, nuisance, recognise, criticise

Please see activity suggestions in guidance handed out in the first week.

Maths

Please find attached three mental arithmetic booklets, one for each week.

WB 1.6.20 converting units of time

Children to practise converting between years, months, weeks, days, hours, minutes and seconds.

How many months/weeks/days are in a year?

How many hours/minutes/seconds are there in a day?

WB 8.6.20 Timetables

Can children have a look at a variety of timetables, such as train and bus timetables and TV guides. Children to work out length of journeys/programmes. Can they have a go at creating their own timetable?

WB 15.6.20 Perimeter, area and volume

https://www.bbc.co.uk/bitesize/topics/zjbg87h

Perimeter - add all the lengths of the square/rectangle up.

Area - To work out the area of a square or a rectangle, multiply the height by the width. If the measurement is cm the answer is **cm². If the height and width are in m, the area is shown in m².**

Volume - You can work out the volume of a shape by multiplying height x width x depth.

Fluent in Five

Daily Arithmetic Practice
Week 9

Year 5

THIRD SPACE LEARNING

Year 5 - Week 9

Please note, we always recommend reading 'Your Guide to Using Fluent in Five' before using these resources with your class.

This week in a nutshell

- Mental multiplication, division addition and subtraction content from the previous 8 weeks is recapped and pupils are introduced to squared numbers for the first time.
- Pupils will also begin to divide multiples of 100 by multiples of 100 mentally for the first time (e.g. 800 ÷ 400).
- Long multiplication features again but with an added challenge from previous weeks as now pupils need to multiply 3-digit numbers by 2-digit numbers.
- Addition and subtraction includes numbers with 4 or more digits.

Fluent in Five - Year 5
Week 9 - Day 1

Name.....

Date.....School.....

Class.....Score.....

1

$$\begin{array}{r} 345 \\ \times\ 13 \\ \hline \end{array}$$

2 marks

2 9 x 12 =

1 mark

3 900 ÷ 300 =

1 mark

4 $9{,}132 + 1{,}584 =$

1 mark

5 $2^2 =$

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 345 x 13 = **4,485** (W)

2. 9 x 12 = **108** (M)

3. 900 ÷ 300 = **3** (M)

4. 9,132 + 1,584 = **10,716** (W)

5. 2^2 = **4** (M)

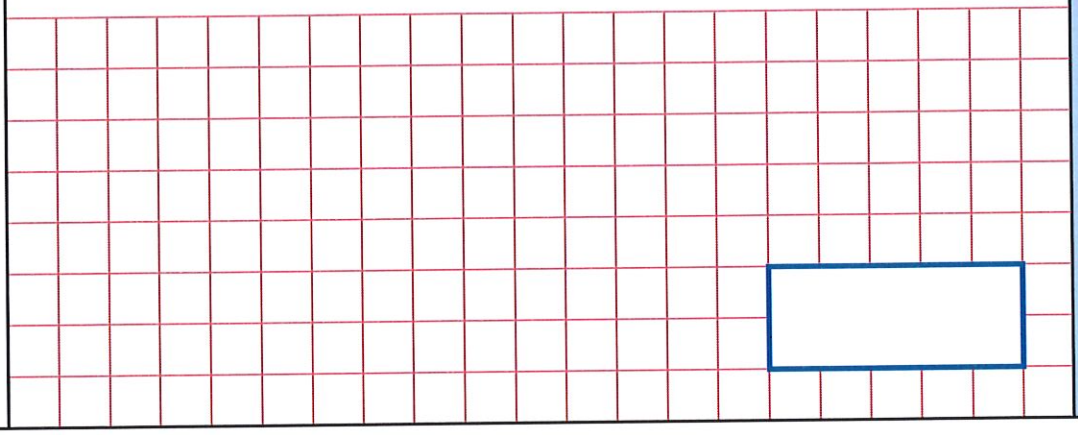
Fluent in Five - Year 5
Week 9 - Day 2

Name.....

Date.....School.....

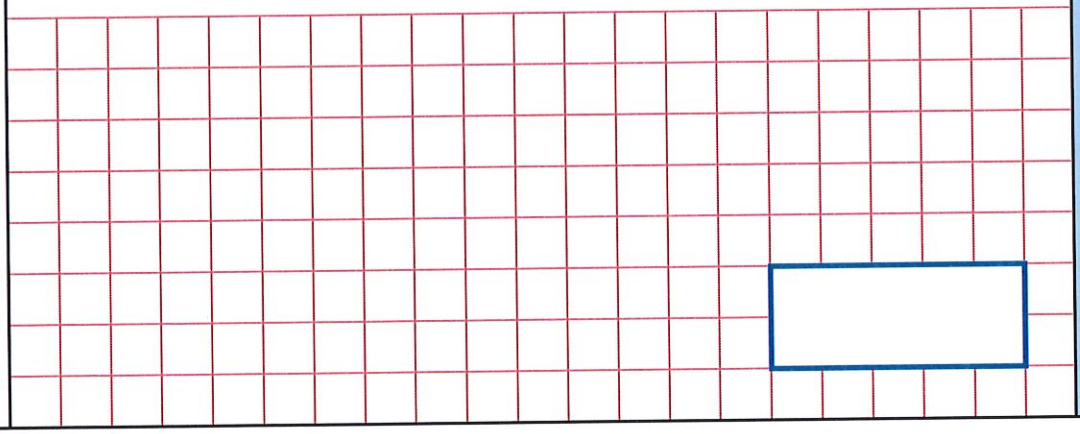
Class.....Score.....

1 $7 \times 9 =$



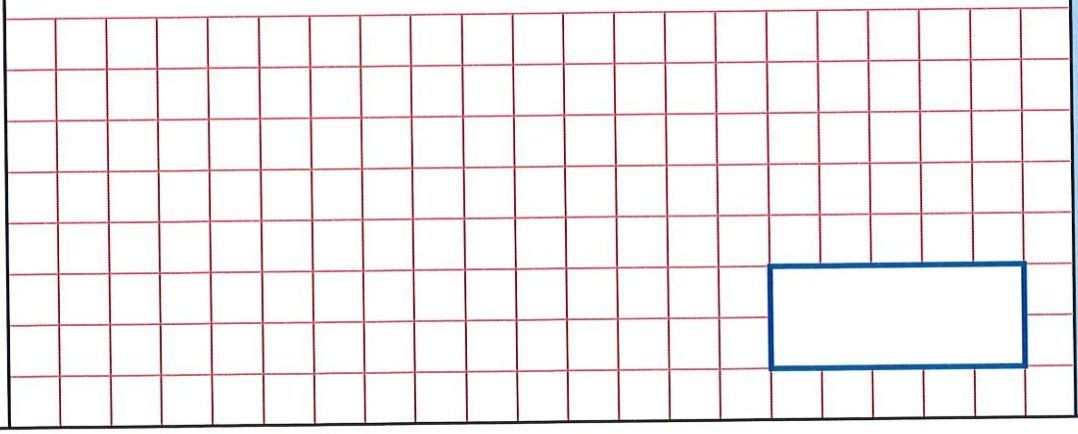
1 mark

2 $983 \times 21 =$



2 marks

3 $400 \div 200 =$



1 mark

Fluent in Five - Year 5
Week 9 - Day 2

4 $4^2 =$

1 mark

5

$$\begin{array}{r} 8\,7\,3\,2 \\ +\ 1\,3\,7\,8 \\ \hline \end{array}$$

1 mark

Answer Sheet

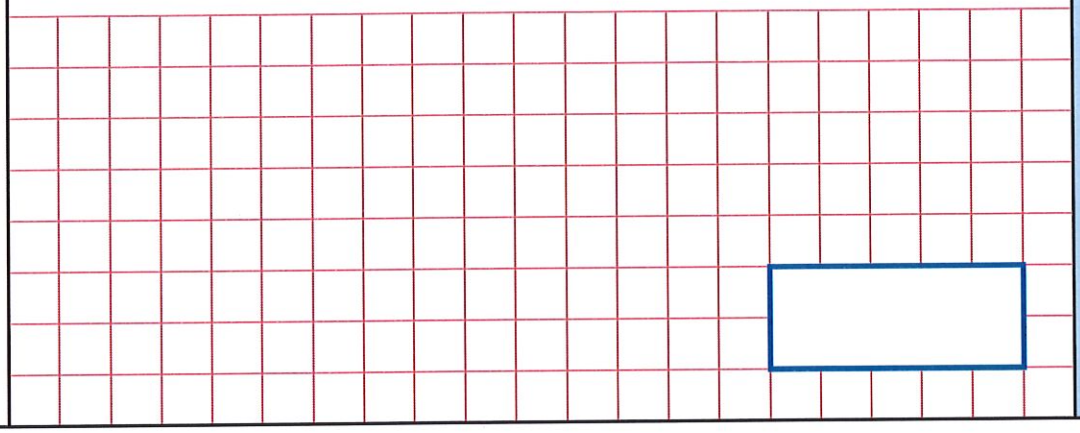
Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $7 \times 9 = \mathbf{63}$ (M)
2. $983 \times 21 = \mathbf{20{,}643}$ (W)
3. $400 \div 200 = \mathbf{2}$ (M)
4. $4^2 = \mathbf{16}$ (M)
5. $8{,}732 + 1{,}378 = \mathbf{10{,}110}$ (W)

Fluent in Five – Year 5
Week 9 – Day 3

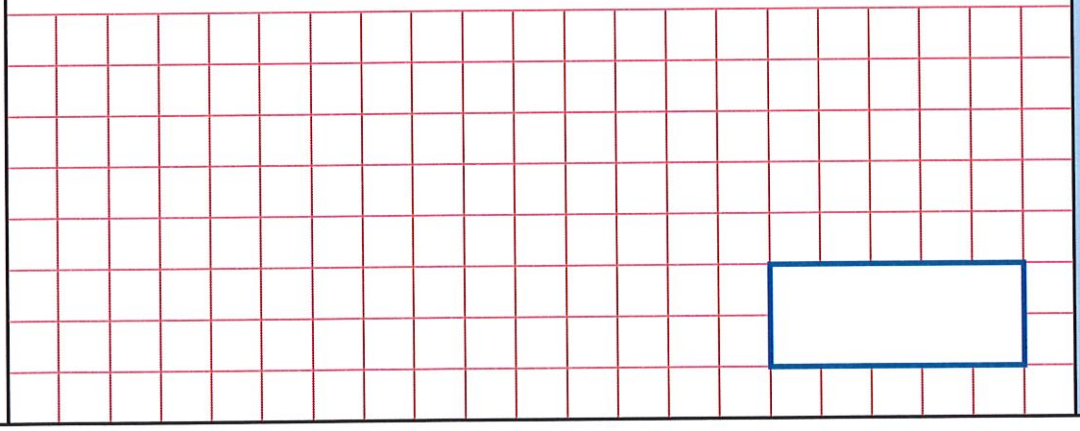
Name.....
Date.....School.....
Class.....Score.....

1 $24 \times 25 =$



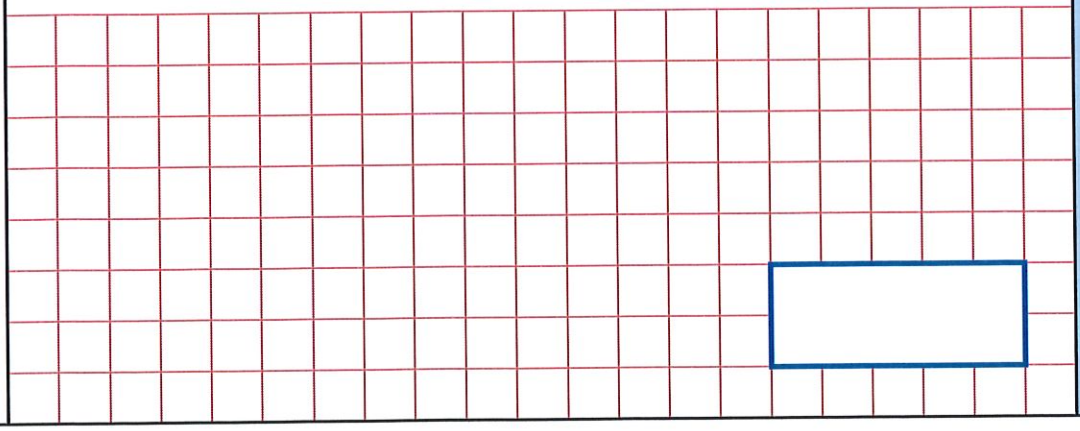
1 mark

2 $9{,}932 - 3{,}876 =$



1 mark

3 $\frac{2}{3} \times 2 =$



1 mark

4 653 x 21 =

2 marks

5 ☐ + 100 = 860

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 24 x 25 = **600** (M)

2. 9,932 – 3,876 = **6,056** (W)

3. $\frac{2}{3}$ x 2 = $\mathbf{\frac{4}{3}}$ *or* $\mathbf{1\frac{2}{3}}$ (M)

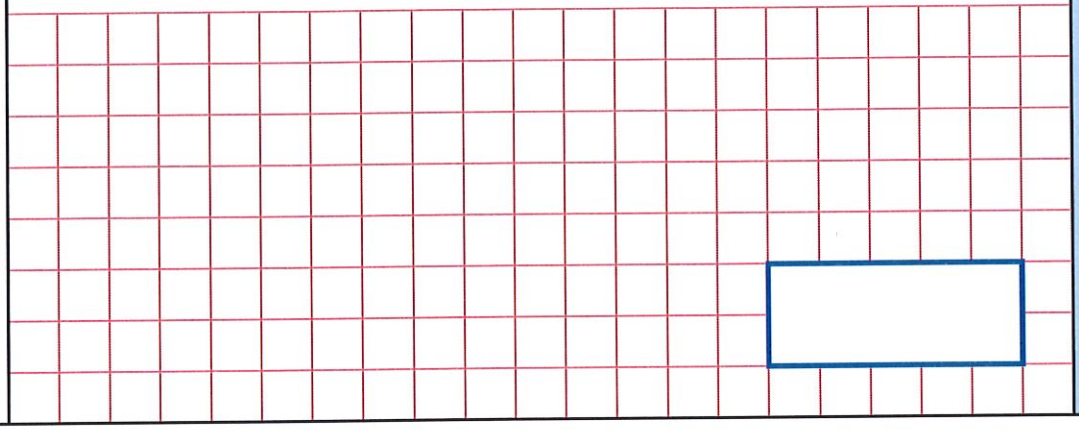
4. 653 x 21 = **13,713** (W)

5. **760** + 100 = 860 (M)

Fluent in Five - Year 5
Week 9 - Day 4

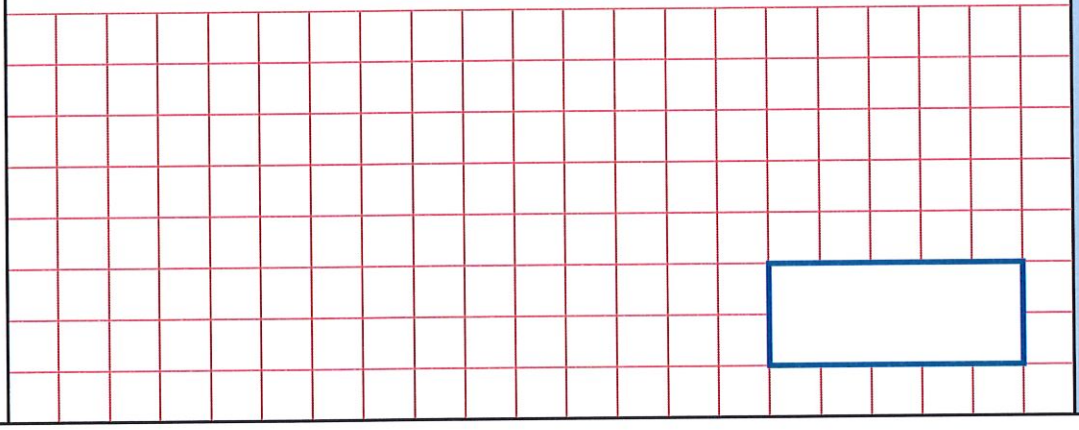
Name.....
Date.....School.....
Class.....Score.....

1 $71,812 + 3,467 =$



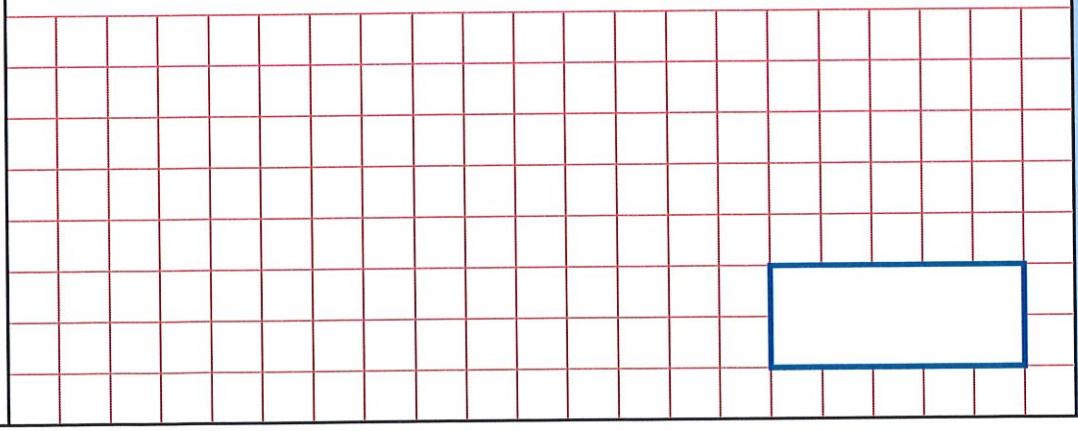
1 mark

2 $56 + 15 =$



1 mark

3 $54 \times 210 =$



2 marks

4 $983 - 183 =$

1 mark

5 $5^3 =$

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 71,812 + 3,467 = **75,279** (W)

2. 56 + 15 = **71** (M)

3. 54 x 210 = **11,340** (W)

4. 983 – 183 = **800** (M)

5. 5^3 = **125** (M)

Fluent in Five - Year 5
Week 9 - Day 5

Name.....
Date.....School.....
Class.....Score.....

1 $\frac{2}{5}$ x 100 =

1 mark

2 87,321 + 9,943 =

1 mark

3 873 x 27 =

2 marks

4 5,652 x 10

1 mark

5 600 ÷ 200 =

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $\frac{2}{5}$ x 100 = **40** (M)
2. 87,321 + 9,943 = **97,264** (W)
3. 873 x 27 = **23,571** (W)
4. 5,652 x 10 = **56,520** (M)
5. 600 ÷ 200 = **3** (M)

Fluent in Five

Daily Arithmetic Practice
Week 10

Year 5

THIRD SPACE LEARNING

Year 5 - Week 10

Please note, we always recommend reading 'Your Guide to Using Fluent in Five' before using these resources with your class.

This week in a nutshell

- Mental multiplication, division, addition and subtraction content from the previous 9 weeks is recapped.
- Pupils are also introduced to the mental division of multiples of 10 by multiples of 10 for the first time (e.g. 240 ÷ 60).
- Pupils are introduced to the addition and subtractions of fractions where the denominators are not the same. For the next few weeks, these questions will always only require a single conversion.
- Written questions continue to focus on addition and subtraction of larger numbers, together with long and short multiplication.

Fluent in Five - Year 5
Week 10 - Day 1

Name.....
Date.....School.....
Class.....Score.....

1 $490 \div 70 =$

1 mark

2 $67{,}532 - 13{,}883 =$

1 mark

3 $943 \times 47 =$

2 marks

4 $3^3 =$

1 mark

5 $\frac{1}{3} + \frac{1}{6} =$

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $490 \div 70 = \mathbf{7}$ (M)

2. $67{,}532 - 13{,}883 = \mathbf{53{,}649}$ (W)

3. $943 \times 47 = \mathbf{44{,}321}$ (W)

4. $3^3 = \mathbf{27}$ (M)

5. $\frac{1}{3} + \frac{1}{6} = \frac{\mathbf{3}}{\mathbf{6}}$ *or* $\frac{\mathbf{1}}{\mathbf{2}}$ (M)

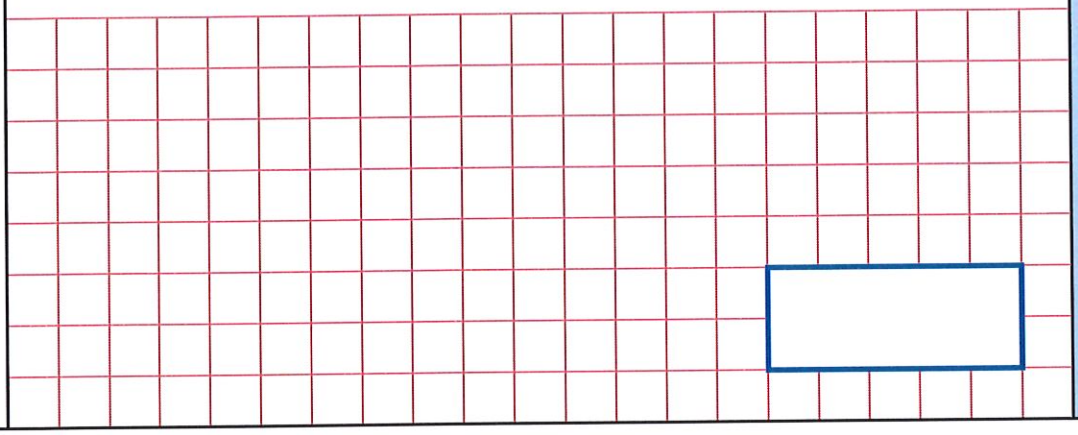
Fluent in Five - Year 5
Week 10 - Day 2

Name.....

Date.....School.....

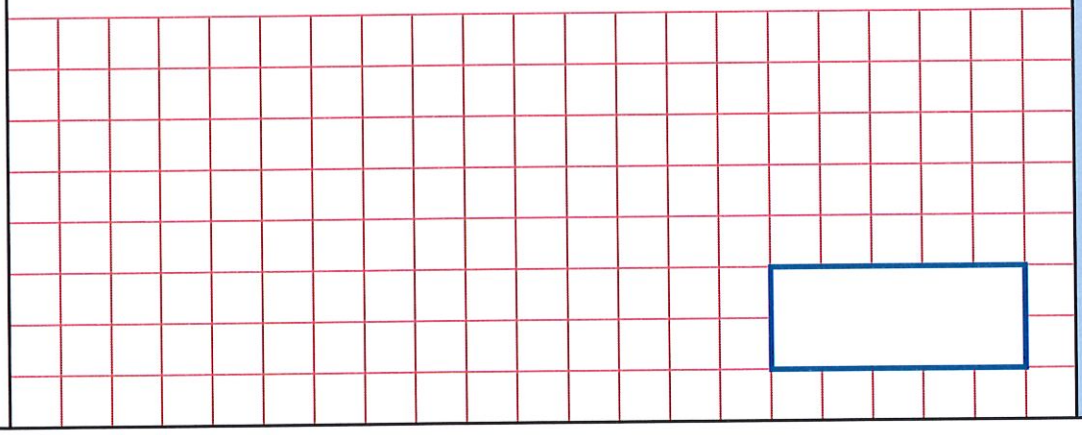
Class.....Score.....

1 $2^3 =$



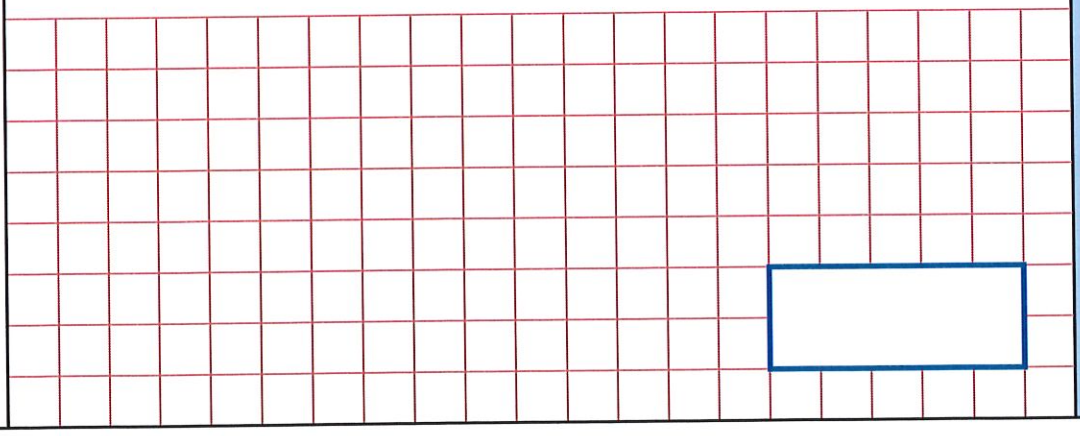
1 mark

2 $550 \div 110 =$



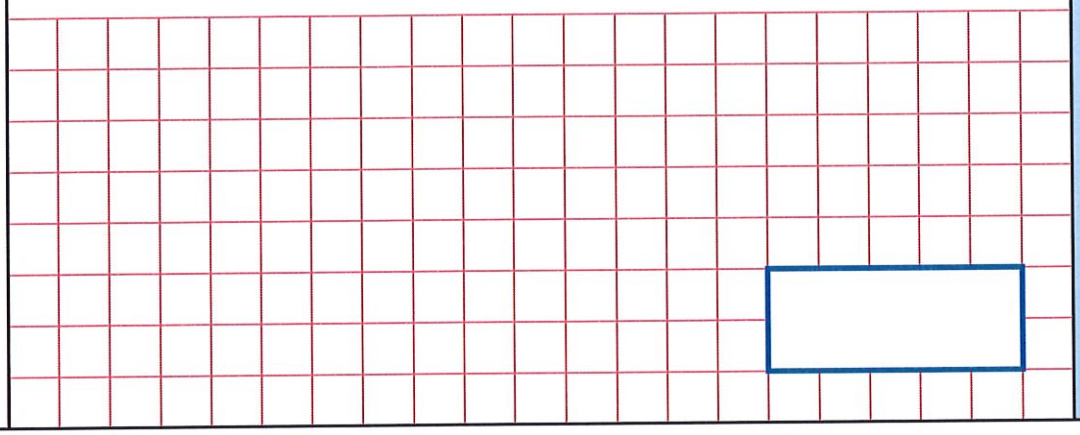
1 mark

3 $\frac{1}{5} + \frac{1}{10} =$



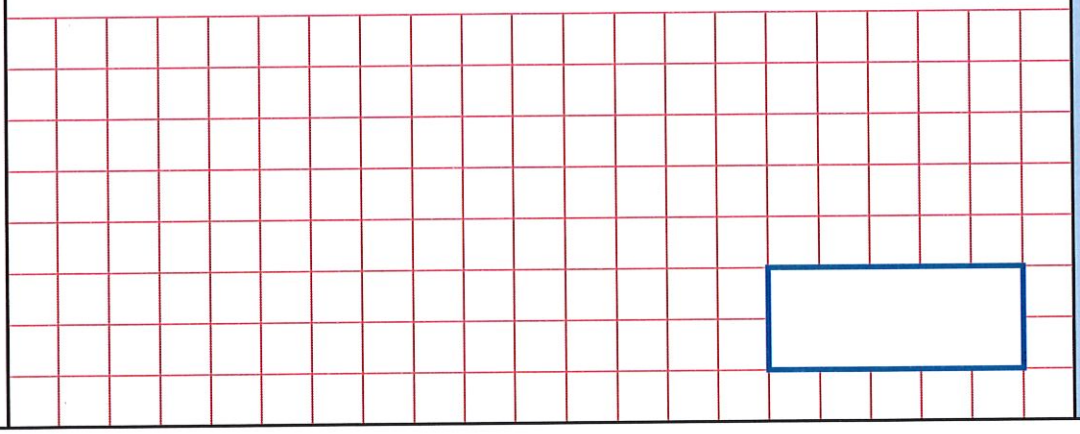
1 mark

4 87,493 – 38,428 =



1 mark

5 543 x 76 =



2 marks

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $2^3 = \mathbf{8}$ (M)
2. $550 \div 110 = \mathbf{5}$ (M)
3. $\frac{1}{5} + \frac{1}{10} = \mathbf{\frac{3}{10}}$ (M)
4. $87{,}493 - 38{,}428 = \mathbf{49{,}065}$ (W)
5. $543 \times 76 = \mathbf{41{,}268}$ (W)

Fluent in Five – Year 5
Week 10 – Day 3

Name.....
Date.....School.....
Class.....Score.....

1 $\frac{1}{6} + \frac{1}{3} =$

1 mark

2 $60 \div 30 =$

1 mark

3

$$\begin{array}{r} 456 \\ \times \quad 9 \\ \hline \end{array}$$

1 mark

4 $45{,}321 + \square = 84{,}324$

1 mark

5 $6^2 =$

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $\frac{1}{6}+\frac{1}{3}=\frac{\mathbf{3}}{\mathbf{6}}$ *or* $\frac{\mathbf{1}}{\mathbf{2}}$ (M)

2. 60 ÷ 30 = **2** (M)

3. 456 x 9 = **4,104** (W)

4. 45,321 + **39,003** = 84,324 (W)

5. 6^2 = **36** (M)

Fluent in Five - Year 5
Week 10 - Day 4

Name.....
Date.....School.....
Class.....Score.....

1 $780 \div 100 =$

1 mark

2 $943 \times 3 =$

1 mark

3 $1^3 =$

1 mark

4 $\square$ + 8,432 = 19,322

1 mark

5 $\frac{3}{5} + \frac{1}{15} =$

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $780 \div 100 = \mathbf{7.8}$ (M)

2. $943 \times 3 = \mathbf{2{,}829}$ (W)

3. $1^3 = \mathbf{1}$ (M)

4. $\mathbf{10{,}890} + 8{,}432 = 19{,}322$ (W)

5. $\frac{3}{5} + \frac{1}{15} = \frac{\mathbf{10}}{\mathbf{15}}$ *or* $\frac{\mathbf{1}}{\mathbf{3}}$ (M)

Fluent in Five - Year 5
Week 10 - Day 5

Name.....

Date.....School.....

Class.....Score.....

1 $81 \times 2 =$

1 mark

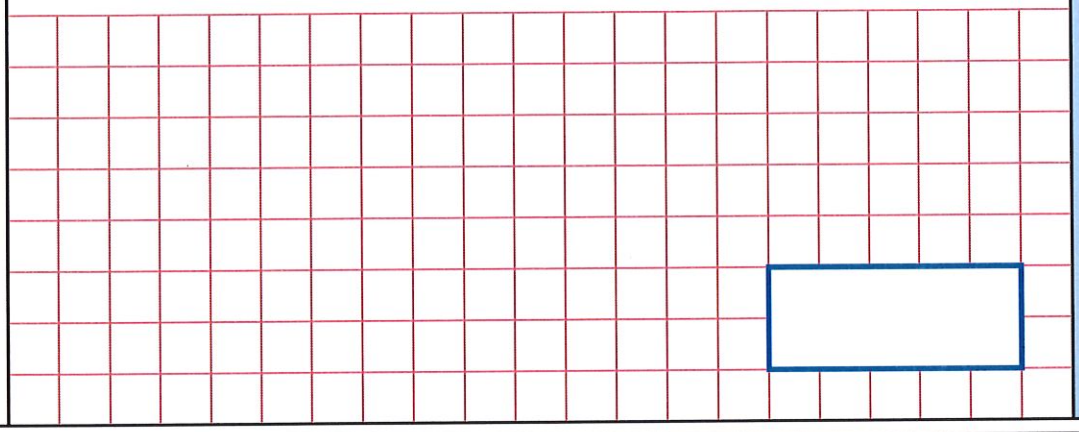
2 $3^3 =$

1 mark

3 $43 \times 32 =$

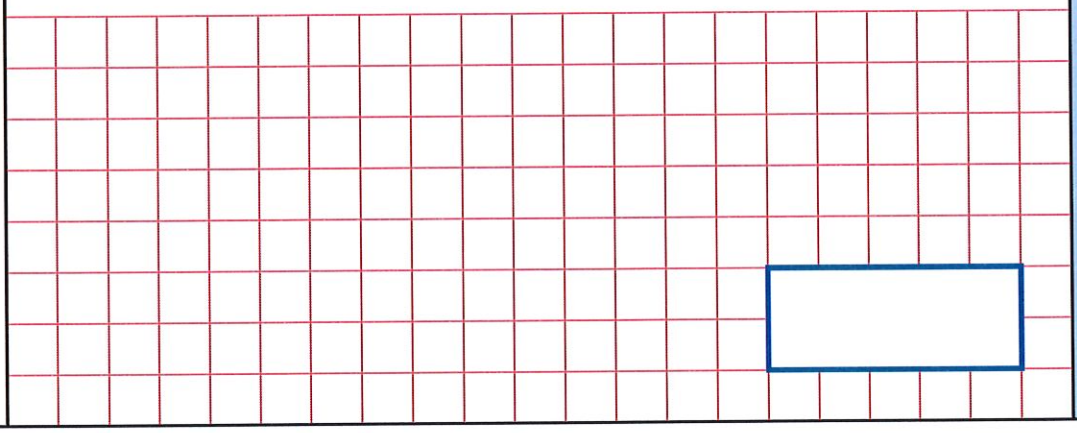
2 marks

4 $65,485 - 8,489 =$



1 mark

5 $720 \div 80 =$



1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $81 \times 2 = \mathbf{162}$ (M)

2. $3^3 = \mathbf{27}$ (M)

3. $43 \times 32 = \mathbf{1{,}376}$ (W)

4. $65{,}485 - 8{,}489 = \mathbf{56{,}996}$ (W)

5. $720 \div 80 = \mathbf{9}$ (M)

Fluent in Five

Daily Arithmetic Practice
Week 11

Year 5

THIRD SPACE LEARNING

Year 5 - Week 11

Please note, we always recommend reading 'Your Guide to Using Fluent in Five' before using these resources with your class.

This week in a nutshell

- Mental multiplication, division, addition and subtraction content from the previous 9 weeks is recapped.
- Pupils are introduced to the mental addition of single-digit decimals for the first time.
- Questions feature the addition of fractions which do not have the same denominators.
- Written questions continue to focus on addition and subtraction of larger numbers, together with long and short multiplication.

Fluent in Five - Year 5
Week 11 - Day 1

Name.....
Date.....School.....
Class.....Score.....

1 $85{,}434 - \square = 6{,}944$

1 mark

2 $45 \times 32 =$

2 marks

3 $360 \div 6 =$

1 mark

4 $1.3 + 1.3 =$

1 mark

5 $\frac{1}{5} + \frac{3}{10} =$

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 85,434 – **78,490** = 6,944 (W)

2. 45 x 32 = **1,440** (W)

3. 360 ÷ 6 = **60** (M)

4. 1.3 + 1.3 = **2.6** (M)

5. $\frac{1}{5} + \frac{3}{10} = \frac{\mathbf{5}}{\mathbf{10}}$ *or* $\frac{\mathbf{1}}{\mathbf{2}}$ (M)

Fluent in Five - Year 5
Week 11 - Day 2

Name.....
Date.....School.....
Class.....Score.....

1 $5.2 + 1.6 =$

1 mark

2 $653 \div 8 =$

1 mark

3 $\frac{5}{12} + \frac{1}{3} =$

1 mark

4 $784 - 220 =$

1 mark

5

$$\begin{array}{r} 839 \\ \times \quad 18 \\ \hline \end{array}$$

2 marks

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $5.2 + 1.6 = \mathbf{6.8}$ (M)

2. $653 \div 8 = \mathbf{81\ r\ 5}$ *or* $\mathbf{81\frac{5}{8}}$ (W)

3. $\frac{5}{12} + \frac{1}{3} = \mathbf{\frac{9}{12}}$ *or* $\mathbf{\frac{3}{4}}$ (M)

4. $784 - 220 = \mathbf{564}$ (M)

5. $839 \times 18 = \mathbf{15{,}102}$ (W)

Fluent in Five – Year 5
Week 11 – Day 3

Name.....
Date.....School.....
Class.....Score.....

1 $8^2 =$

1 mark

2 $5 \overline{)8\,7\,4}$

1 mark

3 $5.6 + 1.5 =$

1 mark

4 $\frac{1}{4} + \frac{1}{20} =$

1 mark

5 7,584 + 19,848 =

1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $8^2 = \mathbf{64}$ (M)

2. $874 \div 5 = \mathbf{174\ r\ 4}$ *or* $\mathbf{174\frac{4}{5}}$ (W)

3. $5.6 + 1.5 = \mathbf{7.1}$ (M)

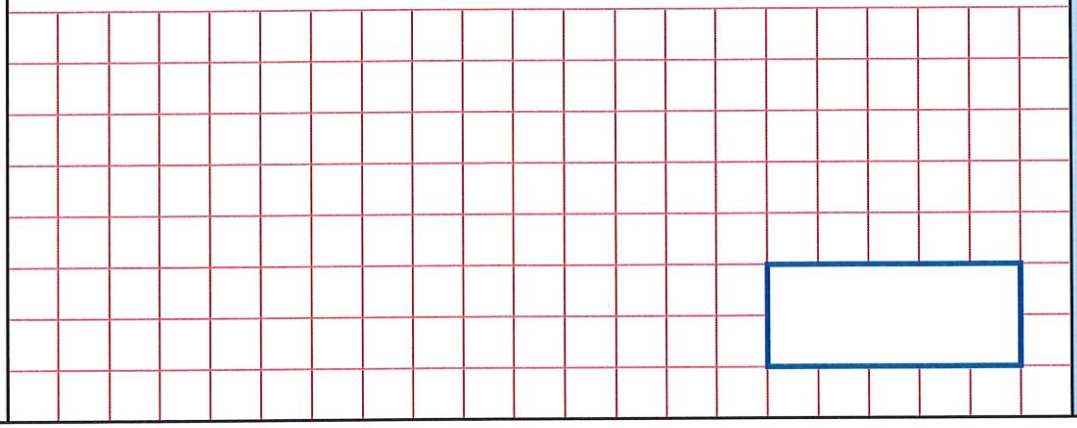
4. $\frac{1}{4} + \frac{1}{20} = \mathbf{\frac{6}{20}}$ *or* $\mathbf{\frac{3}{10}}$ (M)

5. $7{,}584 + 19{,}848 = \mathbf{27{,}432}$ (W)

Fluent in Five - Year 5
Week 11 - Day 4

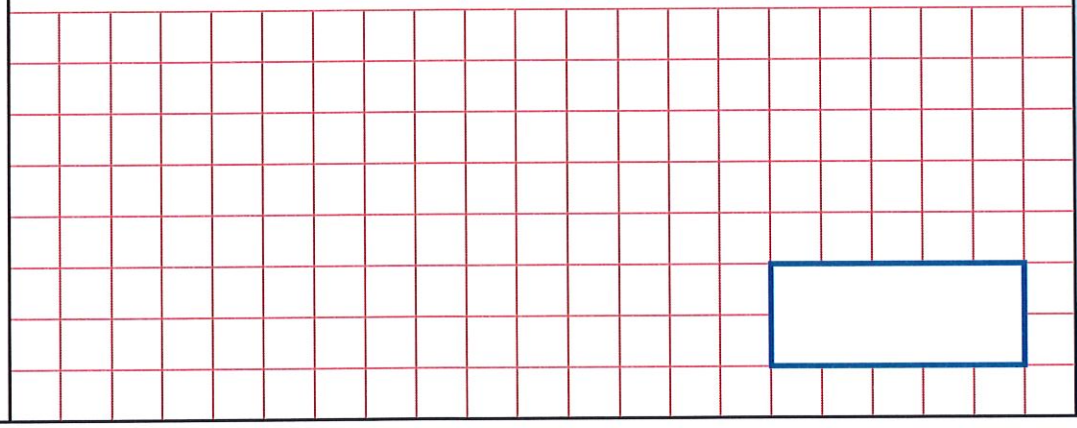
Name.....
Date.....School.....
Class.....Score.....

1 $1.3 + 3.9 =$



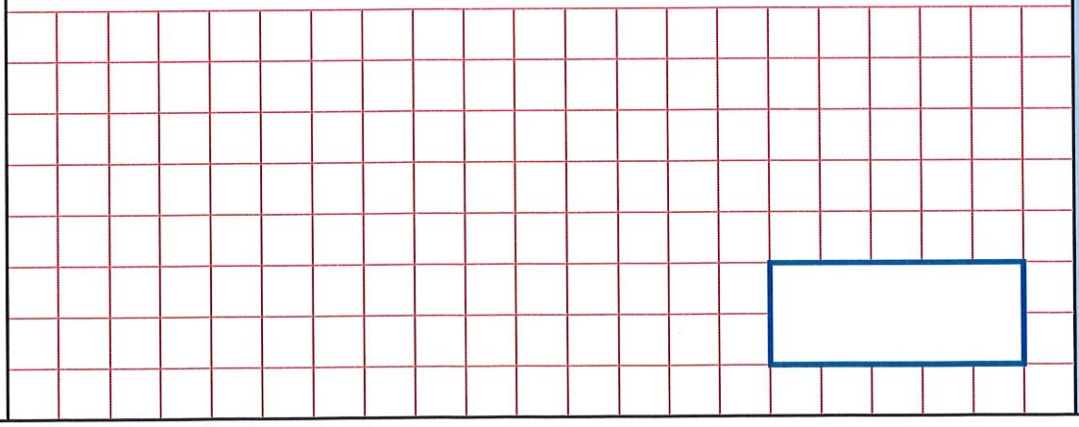
1 mark

2 $98{,}384 + 12{,}843 =$



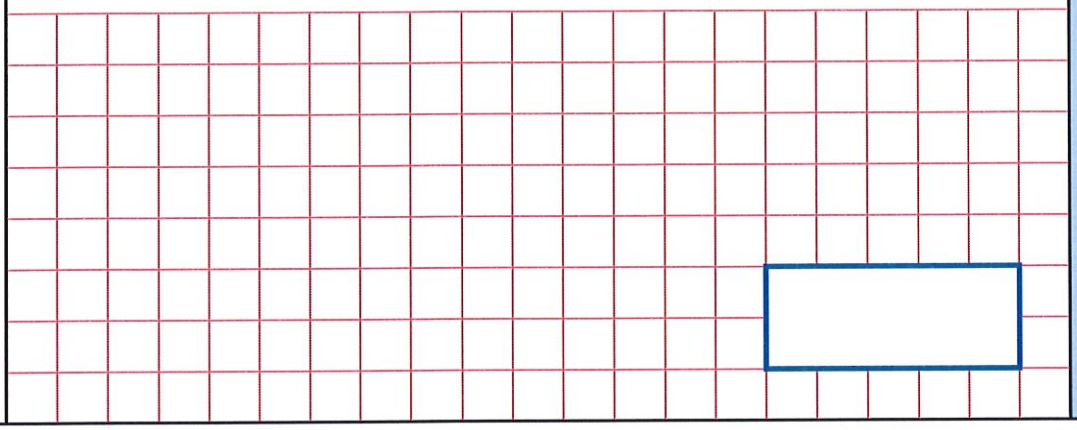
1 mark

3 $24 \times 4 =$



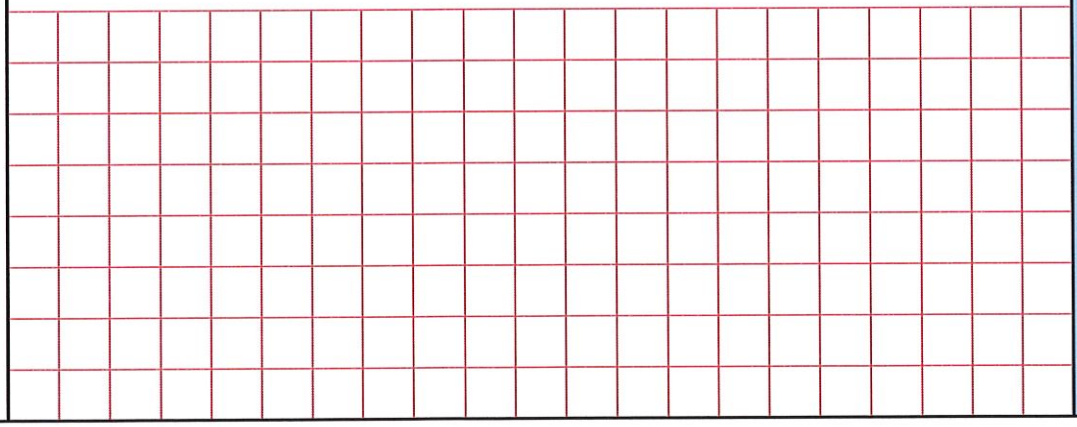
1 mark

4 $563 \times 9 =$



1 mark

5 $10 \times$ ☐ $= 578.4$



1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. 1.3 + 3.9 = **5.2** (M)

2. 98,384 + 12,843 = **111,227** (W)

3. 24 x 4 = **96** (M)

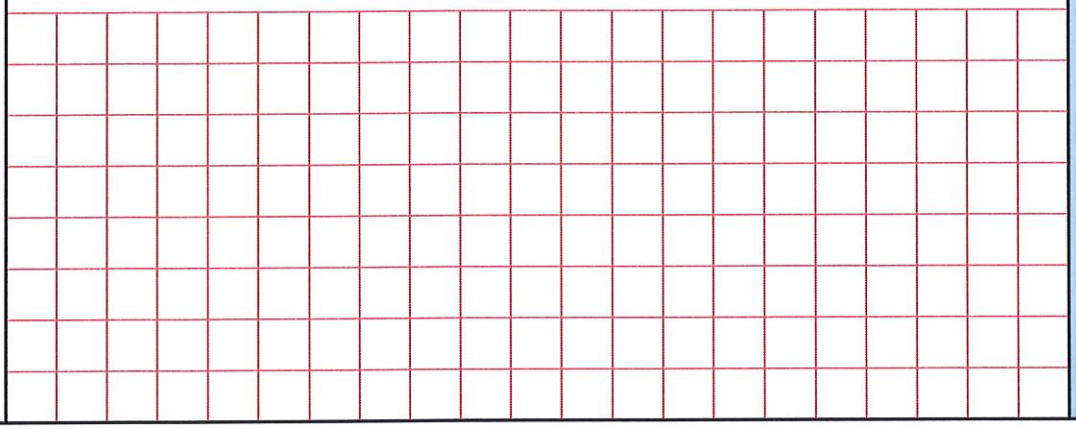
4. 563 x 9 = **5,067** (W)

5. 10 x **57.84** = 578.4 (M)

Fluent in Five - Year 5
Week 11 - Day 5

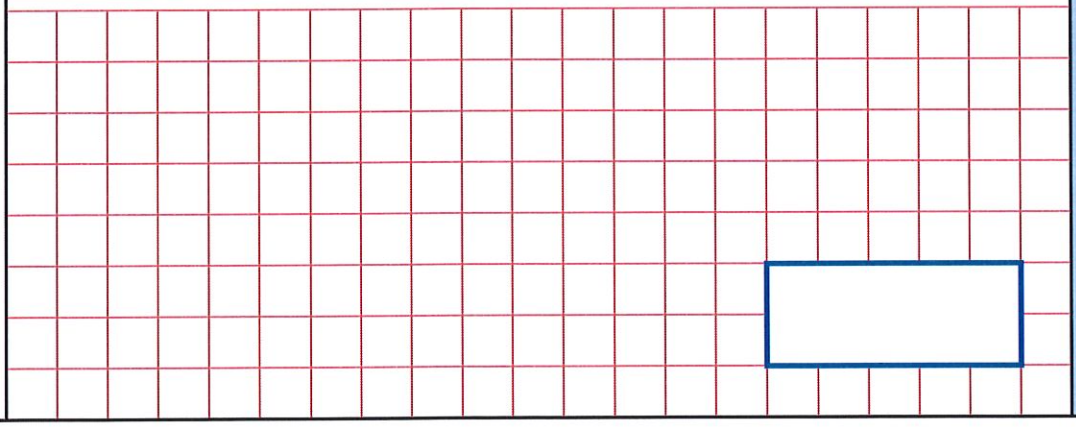
Name.....
Date.....School.....
Class.....Score.....

1 $\frac{3}{5}$ x 50 =



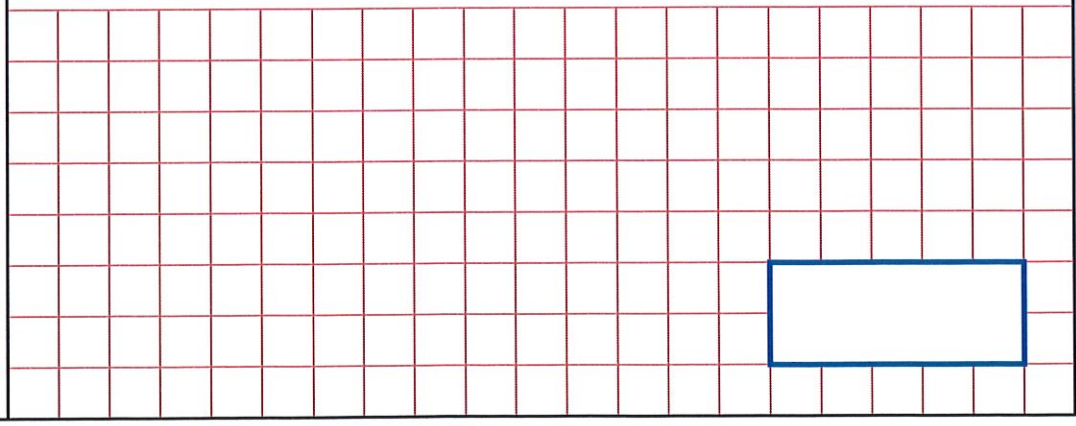
1 mark

2 98,432 – 18,384 =



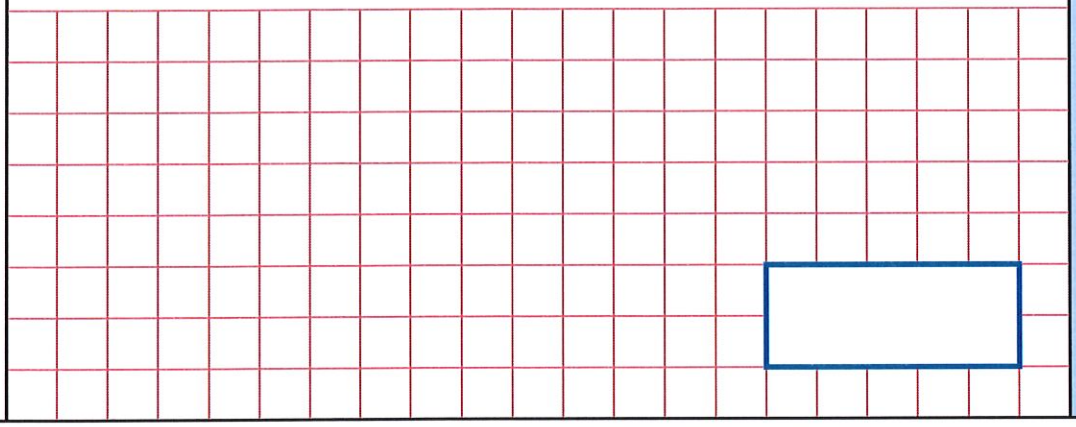
1 mark

3 110 ÷ 11 =



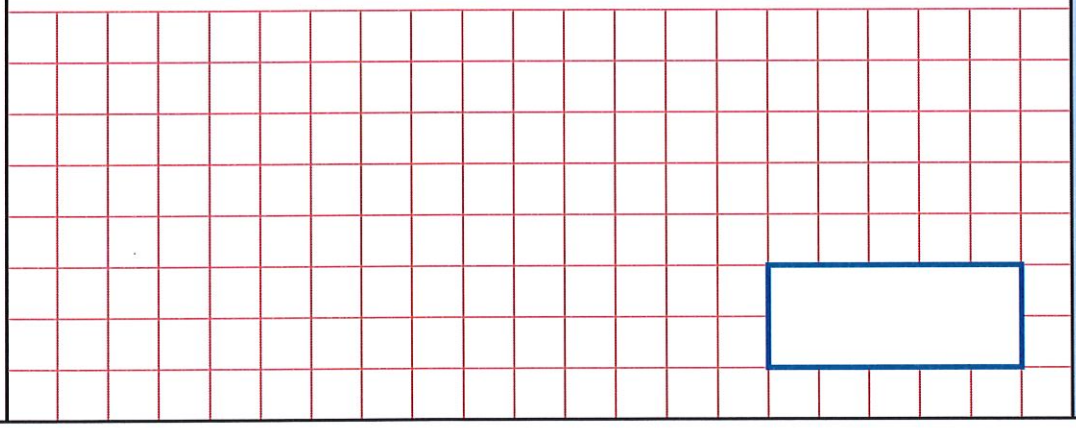
1 mark

4 $674 \times 13 =$



2 marks

5 $5.6 + 0.8 =$



1 mark

Answer Sheet

Remember, (M) is written next to those questions you should have tried to solve mentally first. (W) means a written method is usually more efficient for this question.

1. $\frac{3}{5}$ x 50 = **30** (M)

2. 98,432 – 18,384 = **80,048** (W)

3. 110 ÷ 11 = **10** (M)

4. 674 x 13 = **8,762** (W)

5. 5.6 + 0.8 = **6.4** (M)

Converting Units of Time

5

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Activity 1 Converting Units of Time

Complete the conversions.

1 year = ☐ months

☐ years = 60 months

3 years 2 months = ☐ months

☐ years ☐ months = 75 months

☐ years = 24 months

25 years = ☐ months

?

How many months are there in a year?

Activity 1 Converting Units of Time

Complete the conversions.

1 year = 12 months

5 years = 60 months

3 years 2 months = 38 months

6 years 3 months = 75 months

2 years = 24 months

25 years = 300 months

Activity 1 Converting Units of Time

Complete the conversions.

1 year = _____ months

_____ years = 24 months

72 months = _____ years

2.5 years = _____ months

2 years and 4 months = _____ months

_____ years and _____ months = 53 months

Activity 1 Converting Units of Time

Complete the conversions.

1 year = 12 months

2 years = 24 months

72 months = 6 years

2.5 years = 30 months

2 years and 4 months = 28 months

4 years and 5 months = 53 months

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
42 days	
	5 weeks and 5 days
	10 weeks and 5 days
100 days	

?

Can 21 days be written in weeks? Explain your answer.

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
42 days	6 weeks
40 days	5 weeks and 5 days
75 days	10 weeks and 5 days
100 days	14 weeks and 2 days

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
36 days	
	4 weeks and 2 days
	5 weeks and 6 days
	10 weeks and 1 day
	9 weeks

Activity 2 Converting Units of Time

Complete the table.

Days	Weeks/Weeks and Days
36 days	5 weeks and 1 day
30 days	4 weeks and 2 days
41 days	5 weeks and 6 days
71 days	10 weeks and 1 day
63 days	9 weeks

Activity 3 Converting Units of Time

Use this information to complete the conversions.

$\frac{1}{3}$ hour = ☐ minutes

3 ☐ and 24 ☐ = 204 ☐

1.5 minutes = ☐ seconds

1.05 minutes = ☐ seconds

?

Is 0.75 hours the same as 75 minutes? Why or why not?

Activity 3 Converting Units of Time

Use this information to complete the conversions.

$\frac{1}{3}$ hour = 20 minutes

3 hours and 24 minutes = 204 minutes

1.5 minutes = 90 seconds

1.05 minutes = 63 seconds

Activity 3 Converting Units of Time

Use this information to complete the conversions.

75 minutes = 1 _____ and 15 minutes

90 minutes = 1 _____ and 30 minutes

240 _____ = 4 minutes

3 _____ and 24 _____ = 204 _____

Activity 3 Converting Units of Time

Use this information to complete the conversions.

75 minutes = 1 hour and 15 minutes

90 minutes = 1 hour and 30 minutes

240 seconds = 4 minutes

3 hours and 24 minutes = 204 minutes

Reasoning 1 Converting Units of Time

Rosie

Rosie's birthday is in January.

Malachi

Malachi's birthday is in February.

Rosie is 96 hours older than Malachi.

What dates could Malachi and Rosie's birthdays be?

Reasoning 1 Converting Units of Time

Rosie

Rosie's birthday is in January.

Malachi

Malachi's birthday is in February.

Possible answers:

28th January and 1st February

29th January and 2nd February

30th January and 3rd February

31st January and 4th February

Reasoning 2 Converting Units of Time

Three children are running a race.

Esin

Esin finishes the race in 2 minutes 5 seconds.

Zach

Zach finishes the race in 195 seconds.

Leanna

Leanna finishes the race in 145 seconds.

Who finishes the race first?

Reasoning 2 Converting Units of Time

Three children are running a race.

Esin

Esin finishes the race in 2 minutes 5 seconds.

Zach

Zach finishes the race in 195 seconds.

Leanna

Leanna finishes the race in 145 seconds.

Esin: 2 minutes and 5 seconds

Zach: 3 minutes and 15 seconds

Leanna: 2 minutes and 25 seconds

Esin finishes the race first.

Discussion

Converting Units of Time

How many months/weeks/days are there in a year?

How many hours/minutes/seconds are there in a day?

Can 21 days be written in weeks? Can 25 days be written in weeks? Explain your answers.

Is 0.75 hours the same as 75 minutes? Why or why not?

Timetables

5

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Activity 1 Timetables

Use the timetable to answer the questions.

Bus Timetable					
Halifax Bus Station	06:05	06:35	07:10	07:43	08:15
Shelf Roundabout	06:15	06:45		07:59	08:31
Shelf Village Hall	06:16	06:46	07:35	08:00	08:32
Woodside	06:21	06:50	07:28		
Odsal	06:26	06:55	07:33	08:15	08:45
Bradford Interchange	06:40	07:10	07:48	08:30	09:00

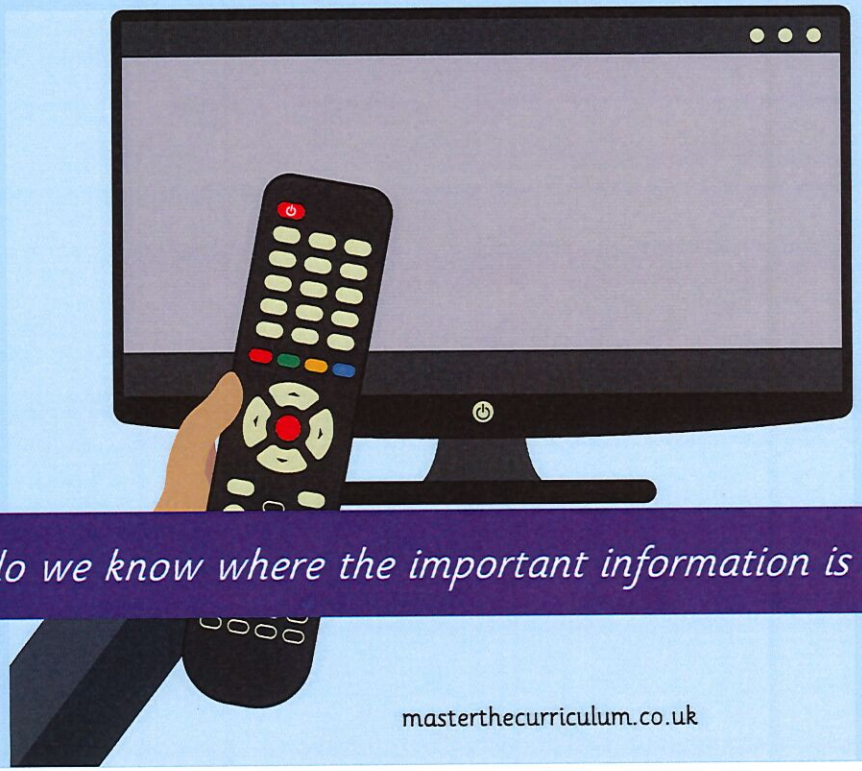
Is the time to get from Shelf Roundabout to Bradford Interchange the same for every bus? Why might the time not always be the same? Why are some of the times blank?

?

When do we use timetables in everyday life?

Activity 2 Timetables

There are five TV programmes on between 17:00 and 23:00. The news starts at 6 p.m. and lasts for 45 minutes. *Mindless* is on for 1 hour and ends at 18:00. *Junk Collectors* is on for 75 minutes and starts straight after *The News*. *Catch Up* is on for 300 seconds and starts at 20:00. *The Thirsty Games* is on for 175 minutes and ends at 23:00. Make a timetable for the evening TV.



? *How do we know where the important information is on the timetable?*

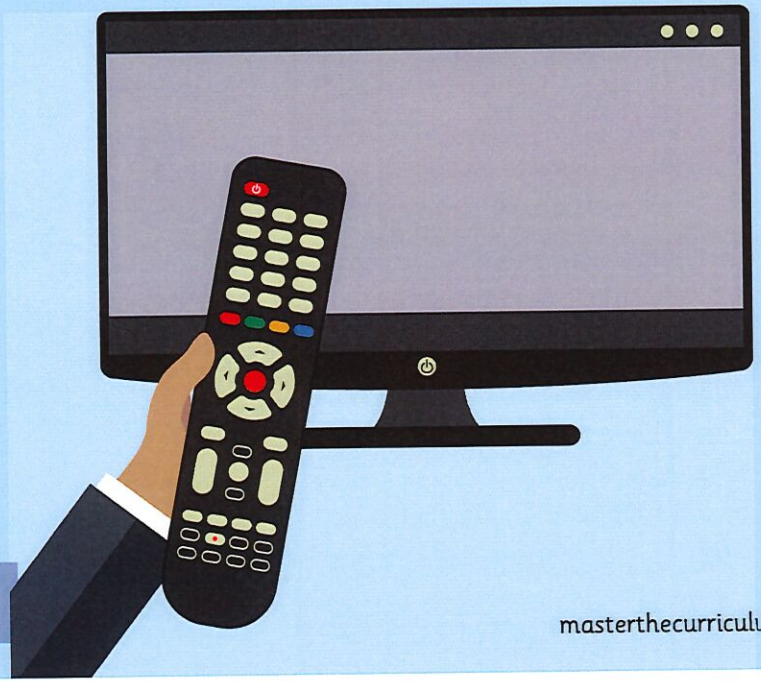
Activity 2 Timetables

There are five TV programmes on between 17:00 and 23:00. The news starts at 6 p.m. and lasts for 45 minutes. *Mindless* is on for 1 hour and ends at 18:00. *Junk Collectors* is on for 75 minutes and starts straight after *The News*. *Catch Up* is on for 300 seconds and starts at 20:00. *The Thirsty Games* is on for 175 minutes and ends at 23:00. Make a timetable for the evening TV.

TV programmes		
Mindless	5:00	6:00
The News	6:00	6:45
Junk Collectors	6:45	8:00
Catch Up	8:00	8:05
The Thirsty Games	8:05	11:00

Activity 2 Timetables

There are five TV programmes on between 17:00 and 22:00. *The News* starts at 6pm and lasts for 45 minutes. *North Enders* is on for 30 minutes and ends at 18:00. *Animal Wildlife* is on for 30 minutes and starts before *North Enders*. *Live Updates* is on for 900 seconds and starts at 18:45. *Barry Potts* is on for 180 minutes, starts after *Live Updates* and finishes at 22:00. Make a timetable for the TV programmes.



Activity 2 Timetables

There are five TV programmes on between 17:00 and 22:00. *The News* starts at 6pm and lasts for 45 minutes. *North Enders* is on for 30 minutes and ends at 18:00. *Animal Wildlife* is on for 30 minutes and starts before *North Enders*. *Live Updates* is on for 900 seconds and starts at 18:45. *Barry Potts* is on for 180 minutes, starts after *Live Updates* and finishes at 22:00. Make a timetable for the TV programmes.

TV programmes		
Animal Wildlife	5:00	5:30
North Enders	5:30	6:00
The News	6:00	6:45
Live Updates	6:45	7:00
Barry Potts	7:00	10:00

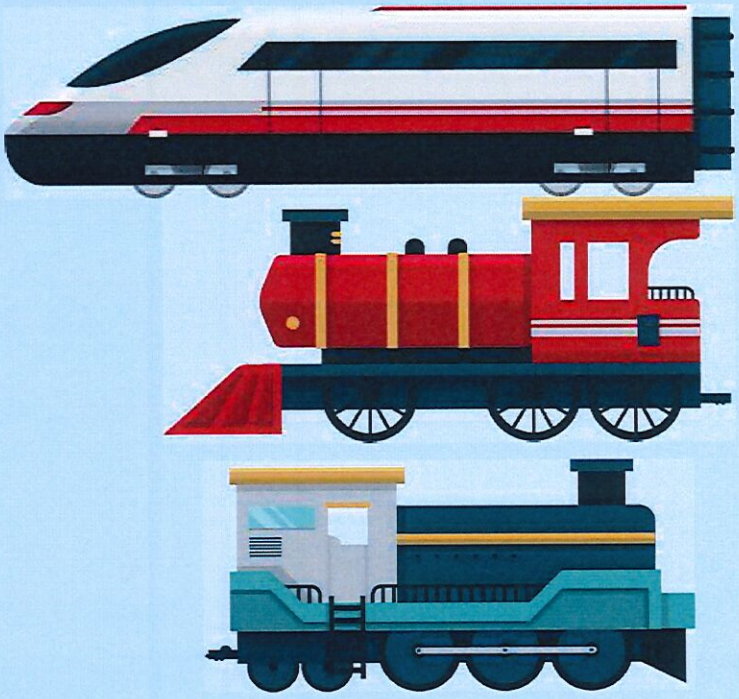
Reasoning 1 Timetables

Three trains travel from Halifax to Leeds on the same morning: the express train, the slow train and the cargo train.

The express train leaves Halifax 15 minutes after the slow train, but arrives at Leeds 15 minutes before.

The slow train takes 55 minutes to reach Leeds and arrives at 10:35.

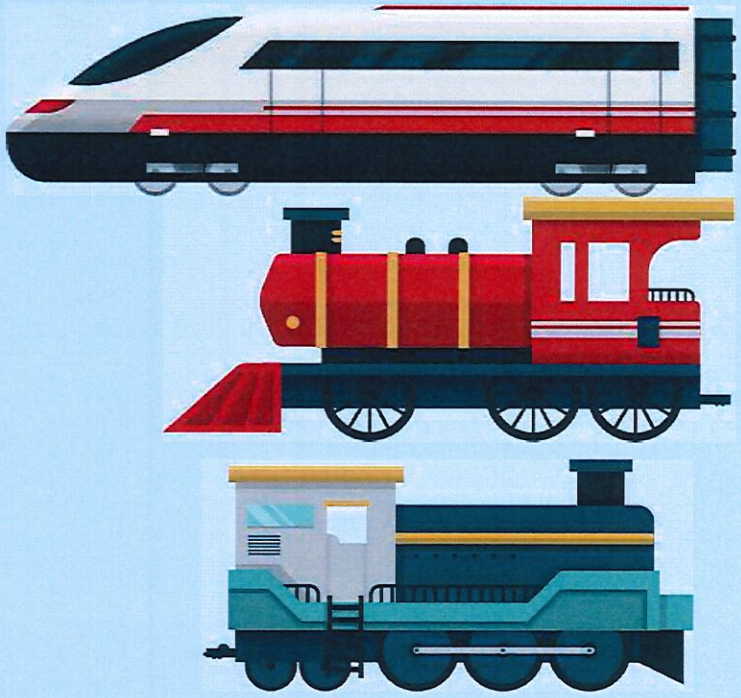
The cargo train leaves 20 minutes before the slow train and arrives in Leeds 40 minutes after the express train.



What time does each train leave Halifax and what time does each train arrive at Leeds station?

Reasoning 1 Timetables

Three trains travel from Halifax to Leeds on the same morning: the express train, the slow train and the cargo train.



The express train leaves Halifax 15 minutes after the slow train, but arrives at Leeds 15 minutes before.

The slow train takes 55 minutes to reach Leeds and arrives at 10:35.

The cargo train leaves 20 minutes before the slow train and arrives in Leeds 40 minutes after the express train.

The slow train leaves Halifax at 9:40 and arrives in Leeds at 10:35. The express train leaves Halifax at 9:55 and arrives in Leeds at 10:20. The cargo train leaves Halifax at 9:20 and arrives in Leeds at 11:00.

Reasoning 2 Timetables

Make a timetable of your school day.

Calculate how many hours each week you spend on each subject. Can you convert this into minutes? Can you convert this into seconds?

If this is an average week, how many hours a year do you spend on each subject? Can you convert the time into days?

Reasoning 2 Timetables

Make a timetable of your school day.

Calculate how many hours each week you spend on each subject. Can you convert this into minutes? Can you convert this into seconds?

Answers will vary depending on the school day.

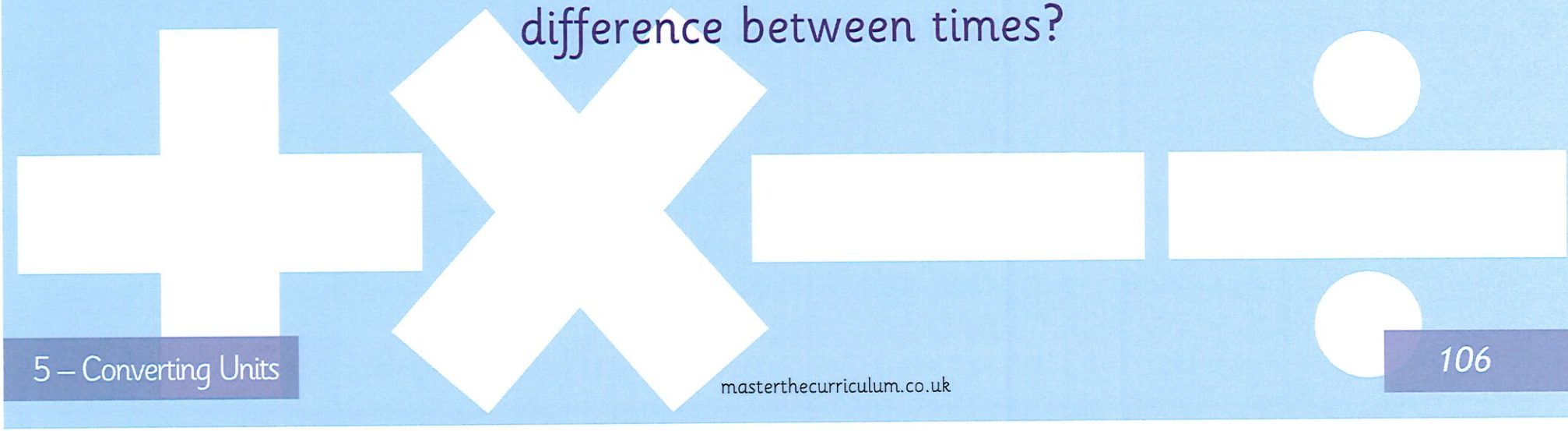
Discussion

Timetables

When do we use timetables in everyday life?

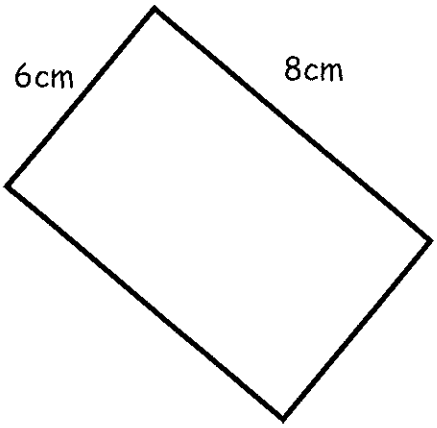
How do we know where the important information is on the timetable?

When does column method not work for finding the difference between times?

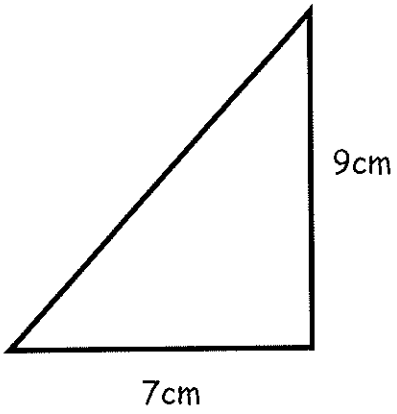


WALT: Calculate the area of shapes (including compound shapes) (M)

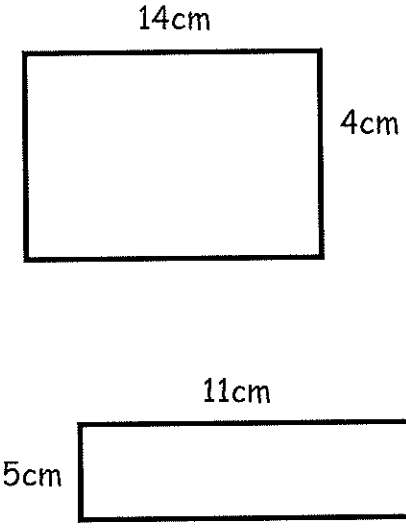
What is the area of this rectangle?



Find the area of this triangle. (Remember that we find the area of the rectangle then divide this by 2!)

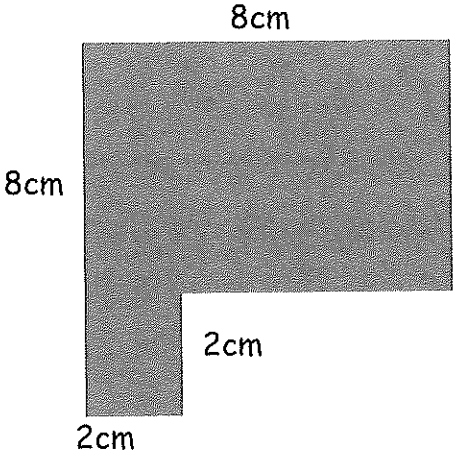


What is the **total area** of these 2 shapes?

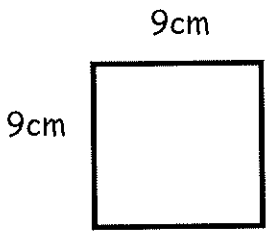


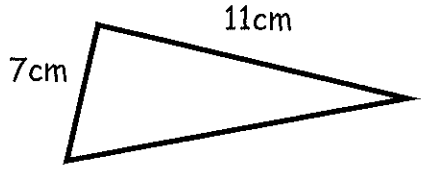
Draw accurately with a ruler, a rectangle with width 9cm, and length of 6cm and calculate its area.

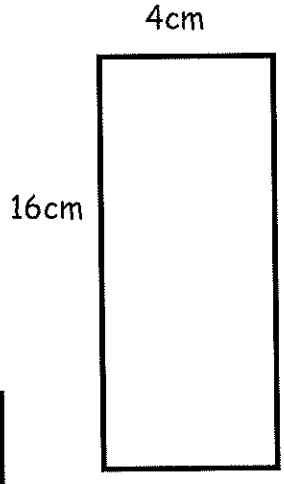
What is the area of this compound shape?

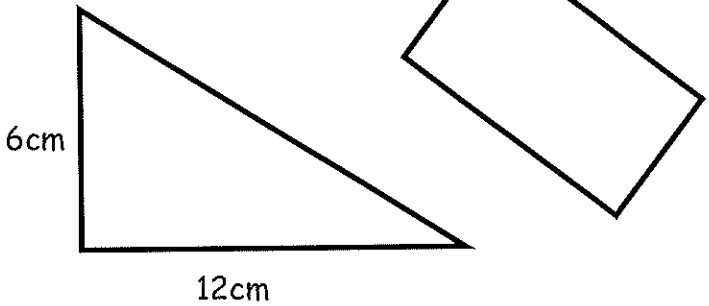


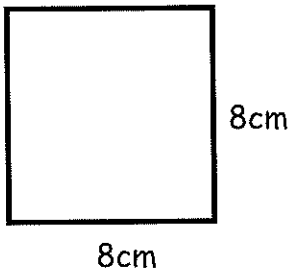
Colour the shape/shapes which have an area of $64cm^2$.











Volume and Capacity Challenges

Aim: To measure and compare volume and capacity.

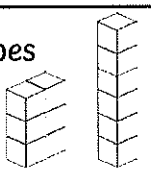
Counting Cubes

You will need connecting cubes for this activity.

Make different cuboid shapes using interlocking cubes but keeping the same volume. Record your findings in the table.

Challenge: Which number of cubes do you think will make the most different cuboid shapes?

I think _____ cubes will make the most number of cuboid shapes.

Number of Cubes	How many different cuboid shapes I can make?	What did the shapes look like? Write or draw your cuboid shapes.
6 cubes	2	1 × 6 cubes and 2 × 3 cubes 
8 cubes		
12 cubes		
15 cubes		
16 cubes		
24 cubes		
31 cubes		

A Variety of Volumes

You will need a variety of containers with different capacities, water and a measuring container for this activity.

Using a variety of containers, predict which will hold the least to the most capacity of water by arranging them in order. Number the containers and predict the volume of water each will hold. Record your predictions in the table. Using a measuring jug, accurately measure the volume of water that each container holds and record that in the table.

Challenge: Calculate the difference between your prediction and the actual measurement.

Container Order	Prediction of volume of water held (ml).	Actual volume of water held (ml).	Difference (+ or - ml)
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml
Number _____			_____ ml

Volume and Capacity Challenges Answers

Counting Cubes

Number of Cubes	How many different cuboid shapes I can make?	What did the shapes look like? Write or draw your cuboid shapes.
6 cubes	2	1 × 6 cubes and 2 × 3 cubes
8 cubes	2 to 3	1 × 8, 2 × 4, 2 × 2 × 2 (3 arrangements)
12 cubes	4	1 × 12, 2 × 6, 3 × 4 (3 arrangements)
15 cubes	2	1 × 15, 3 × 5 (2 arrangements)
16 cubes	3	1 × 16, 2 × 8, 4 × 4 (3 arrangements)
24 cubes	4	1 × 24, 2 × 12, 3 × 8, 4 × 6 (4 arrangements)
31 cubes	1	1 × 31 (1 arrangement)

A Variety of Volumes.

Answers will vary. Check for accuracy of estimation and measuring capacity.

Volume and Capacity Challenges

Aim: To estimate, measure and scale volume and capacity.

What is the Volume of the Classroom?

You will need measuring equipment for this activity.

Your task is to estimate the volume of your class room, then to measure and calculate it.

Record your estimations in the table. You may need to section your room if it is a compound shape.

Length estimation	Width estimation	Height estimation

What will help you to measure? A 30cm ruler? A metre stick? A tape measure? A trundle wheel?

Record your measurements in the table. You may need help from an adult to measure the height of your room.

Length	Width	Height

Challenge: Calculate the volume of the classroom using the formula; length × width × height. Think about how to do this if your class room is a compound shape.

It's a Matter of Scale

Imagine that you wanted to make scale models of your classroom. Calculate the dimensions and scaled volume based on the following scale adjustments.

Scale adjustment	Scaled dimensions	Scaled volume
Your classroom is half the original size	l = _____ w = _____ h = _____	_____ m^3
Your classroom is 5 times the original size	l = _____ w = _____ h = _____	_____ m^3
Your classroom is a quarter the original size	l = _____ w = _____ h = _____	_____ m^3
Your classroom is a tenth the original size	l = _____ w = _____ h = _____	_____ m^3

Volume and Capacity Challenges
Answers

What is the Volume of the Classroom?

Answers will vary. Check for accuracy of estimation and measuring. Suggest repeat measuring if necessary.

Remind pupils of strategies for measuring compound shapes if necessary.

It's a Matter of Scale

Recorded measurements from activity one should be scaled as follows:

Multiplied by 2, divided by 2, multiplied by 5, divided by 4. Volume should then be calculated using scaled dimensions.

Volume and Capacity Challenges

Aim: To estimate, construct, compare and calculate the volume of cuboids using formulae.

Growing Cubes

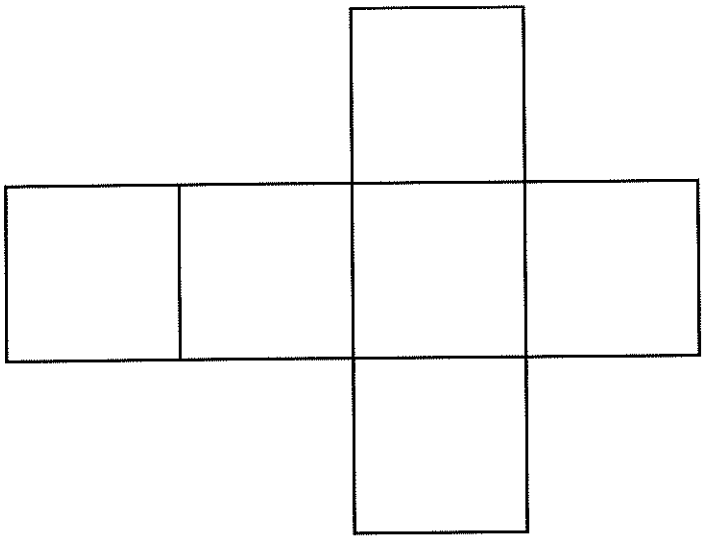
You will need squared paper, scissors and tape for this activity.

Your task is to make cubes of different sizes and to investigate what happens to the volume as the size of the cube increases.

Complete you estimations in the table before you begin and calculate the volume for each cube after you have made the model. Calculate the difference between your estimation and the actual volume.

Cube	**Volume estimation**	**Volume calculation**	**Difference** (actual measurement and +, - or = prediction)
1cm			
2cm			
3cm			
4cm			
5cm			
6cm			
7cm			
8cm			
9cm			
10cm			

Here is a diagram of how to make a net of a cube. You will need to plan your net carefully in order to construct your cubes. Be sure to add tabs.



Challenge

I have a container that is 10cm long, 10cm wide and 15cm high. I want to fill it with water. How much water do I need? Record your answer in ml and l. Show your workings here.

_____ l _____ ml

Volume and Capacity Challenges
Answers

Growing Cubes

Cube	Volume estimation	Volume calculation	**Difference** (actual measurement and +, - or = prediction)
1cm	$1cm^3$	$1cm^3$	=
2cm		$8cm^3$	
3cm		$27cm^3$	
4cm		$64cm^3$	
5cm		$125cm^3$	
6cm		$216cm^3$	
7cm		$343cm^3$	
8cm		$512cm^3$	
9cm		$729cm^3$	
10cm		$1000cm^3$	

Challenge

$10 \times 10 \times 15 = 1500cm^3$ $1l = 1000cm^3$; so $1500cm^3 = \underline{1.5l}$

There are 1000ml in every litre so $1500cm^3 = \underline{1500ml}$

Cross curricular topic based on Australia

You will need to carry out some research to get to know Australia before you start:

1) Locate Australia on a world map. Make note of its hemisphere, latitude, longitude and countries and oceans surrounding it. Is it an island or a landlocked country?

2) Make comparisons of Australia's size, population, terrains, and climate to those of the UK's.

3) List each of the States of Australia, and the State Capital City of each.

Your next task is to produce a Tourism Marketing Video to promote Australia using an iPad or iPhone.

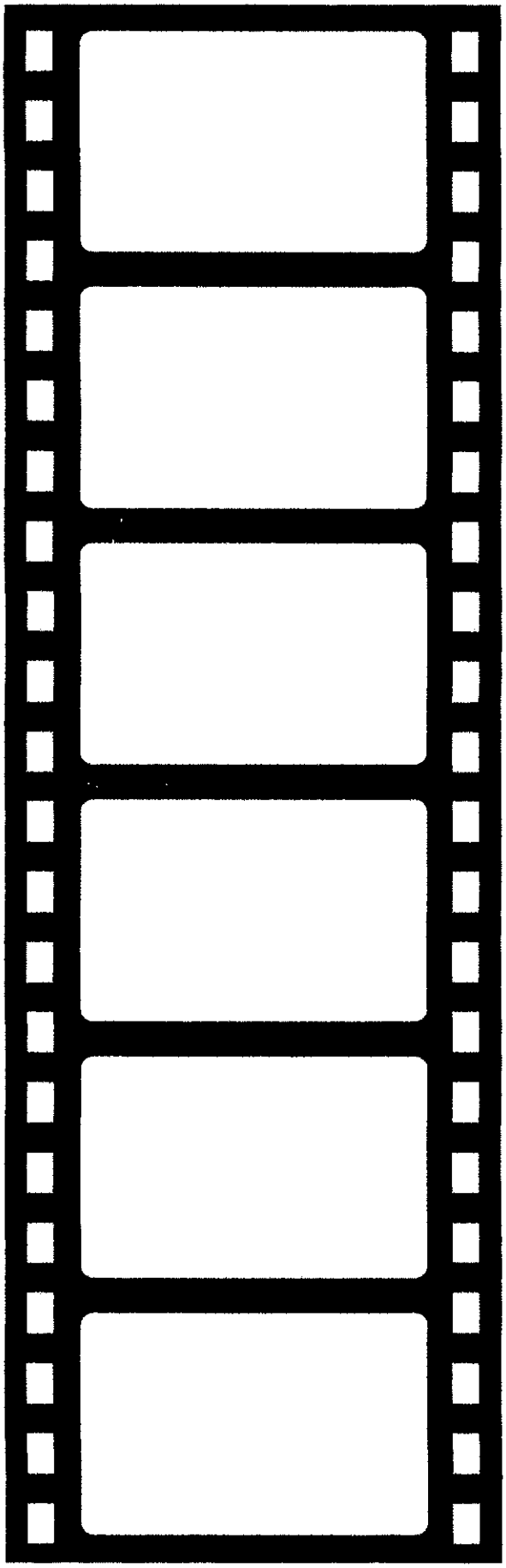
To achieve this you will need to:

- Watch a sample of existing videos.

Youtube search: Chile is waiting for you – Find your Chile.
Indonesia – A wonderful World
Greece, a 365-Day destination
Japan. A short travel film

- Note - What do all these videos have in common? What is included? What appeals to travellers? Do you want to go there? – How do they entice you? How long are the videos?
- Consider what is unique about Australia. - List examples of outdoor activities, beautiful natural landscapes, art, culture, past, food, sport, animals.
- Collect images to include in your movie. (Save/Copy into Camera Roll)
- Use the Trailer Story board or Film strip to plan the sequence of scenes.
- Prepare a script if you want to narrate or commentate on your movie. What will you say? What image will it accompany?
- Video any presentations.
- Locate background music. YouTube search: Royalty Free Music.
- Explore iMovie software. Discover how to insert, edit and layer images, video clips and audio.
- Collate pictures, video clips, audio together. Edit where necessary.
- Save and share your work. Either email it to school or share with family.

A Trailer About _____



My Trailer Storyboard