



STIRLING TUITION
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Revision Booklet 3

Name: _____

Topic	Completed
Addition Speed Test (5 mins)	
Subtraction Speed Test (5 mins)	
Multiplication Speed Test (5 mins)	
Division Speed Test (5 mins)	
Basic Operations	
Inverse Operations	
Number Work	
Fraction/Decimal/% Equivalents	
Convert Between Fraction/ Decimal/ %	
Doubling/Halving/ $\div 10$ / $\times 10$	
Conversions/ 3D shapes/ Maths Facts	
Multiply/ Divide by 10,100,1000	
Temperature Change	
Patterns	
Function Machines	
Grammar	
Synonyms	
Grammar and Spelling	

The Reasoning behind this booklet

Maths

In maths the **6 pillars** include:

- Times tables
- Basic Operations (with and without decimals)
- Inverse Operations
- Number Work
- Equivalent Fractions/ Decimals/ %
- \times/\div by 10,100,1000, Doubling/ Halving

The booklet starts by practicing these essential maths skills (6 Pillars). These are the foundation that all other maths topics are built upon. **The importance of quick recall of these 6 pillars cannot be stressed enough.** (Like going to the gym, this will only improve with repetition!)

This is followed by an introduction/ explanation to mathematical topics tested in the AQE. This is coupled with practice questions for revision.

English

The English aspects of the test are very predictable in this format.

- Poem Comprehension/ Grammar (9 marks)
- 5 Mistakes Text (5 Marks)
- Poem Comprehension/ Grammar (9 marks)
- Fiction Text Comprehension/ Grammar (9 marks)

From analysis of the past AQE papers the common questions which arise include:

- Identifying noun, adjective, verb, adverb
- Past/ Present Tense
- Singular/ Plural
- Homophones
- Apostrophe use
- Synonyms (www.freerice.com great website to work on synonyms!!!)
- Spelling
- Comprehension

There is an explanation for all the above topics included in the revision booklet, along with practice questions for revision.

The English sections are the **easiest** (not as many topics to revise) **and hardest** (The people who prepare the test have almost unlimited words to choose from!) **to prepare for**. The biggest indicator of success in the English is how much a child reads. This exposes them to a range of vocabulary, sentence structures, knowledge which just cannot be covered solely in school. **Get them Reading!!!**

Reading List

- David Walliams – eg: Demon Dentist, Awful Aunty, Gangster Granny
 - Sir Arthur Conan Doyle - The Lost World, Sherlock Holmes, The Hound of the Baskervilles
 - Arthur Ransome - Swallows and Amazons and other books in this series
 - C.S Lewis – All of the Narnia Series starting with The Lion, The Witch and the Wardrobe
 - Frances Hodgson Burnett - The Secret Garden, A Little Princess
 - William Golding - Lord of the Flies
 - Brian Jacques – Redwall series
 - J.R.R Tolkein - The Lord of the Ring (3 books: The Fellowship of the Ring, The Two Towers, The Return of the King) The Hobbit
 - Mark Twain - The Adventures of Huckleberry Finn, The Adventures of Tom Sawyer George Orwell – Animal Farm
 - Arthur Ransome – Swallows and Amazons series
 - Gerald Durrell – My family and Other Animals, Birds, Beasts and Relatives, A Zoo in my Luggage, Encounters with Animals
 - Malorie Blackman – Noughts and Crosses Trilogy, Tell Me No Lies, Thief, Pig Heart Boy
 - Susan Coolidge – What Katy Did series
 - Roald Dahl books – e.g. The BFG, Charlie and the Chocolate Factory, James and the Giant Peach and others
 - Anthony Horowitz – Granny, Alex Rider series, Stormbreaker
 - Robin Stevens – Murder Most unladylike
 - Anne Holm – I Am David
 - Lucy Montgomery – Anne of Green Gables and other books in this series
 - Daniel Defoe – Robinson Crusoe
 - Laura Ingalls Wilder – Little House on the Prairie series
 - E. Nesbit – The Railway Children, The Phoenix and the Carpet, Five Children and It, The Wouldbegoods, The Treasure Seekers
 - Michael Morpurgo books – e.g. The Butterfly Lion, War Horse, From Hereabout Hill, Why the Whales Came and others
 - Lee Trenton Stewart - The Mysterious Benedict Society and the Perilous Journey, The Mysterious Benedict Society
 - Louis Sachar – Holes
 - Joan Aiken – Wolves of Willoughby Chase series
 - Nina Bawden – Carrie’s War
 - Carolyn Keene – Nancy Drew mysteries
 - Charles Kingsley – The Water Babies
 - Clive King – Stig of the Dump
 - Jonathan Swift - Gulliver’s Travels
 - Robert Louis Stevenson – Treasure Island, Kidnapped
 - Paul Gallico – The Snow Goose, Scruffy
 - Kenneth Graham – The Wind in the Willows
 - Rudyard Kipling – Jungle Book, Just So Stories
 - Eleanor H. Porter – Pollanna
 - R.M. Ballantyne – Coral Island
 - Anna Sewell – Black Beauty
 - Erich Kästner – Emil and the Detectives (good for boy readers)
 - Elizabeth Goudge – The Little White Horse
 - Johanna Spyri – Heidi
 - Noel Stretford – Ballet Shoes, White Boots (good for girl readers)
 - Ian Serraillier – The Silver Sword
 - Derek Landy – Skulduggery pleasant
 - Mary Norton – The Borrowers and other books in this series
 - Louisa May Alcott – Little Women
 - Lewis Carroll – Alice in Wonderland
 - Hugh Lofting – Dr Dolittle
 - Eva Ibbotson - The Star of Kazan
 - Eoin Colfer - Artemis Fowl series of books
 - Richard Adams – Watership Down
 - Richmal Crompton - Just William books
 - E.B. White – Charlotte’s Web
 - Jules Verne – Journey to the Centre of the Earth, Around the World in 80 days
- Robert O’Brian – Mrs Frisby and the Rats of Nimh series of books
 - Anne Fine books – e.g. The Flour Babies, Madame Doubtfire
 - James Herriot - All Creatures Great and Small
 - Yan Martel – The Life of Pi
 - Mark Haddon - The Curious Incident of the Dog in the Night Time
 - Charlotte Bronte – Jane Eyre
 - H.G. Wells – The Time Machine
 - Charles Dickens – A Christmas Carol
 - D Adams - The Hitchhiker’s Guide to the Galaxy
 - J.K. Rowling – Harry Potter series of books
 - John Boyne – Boy in the Striped Pyjamas
 - Eva Ibbotson - The Star of Kazan
 - Jenny Nimmo – Children of the Red King series of books (Charlie Bone)
 - Helen Dunmore - Ingo adventures series of books
 - Terry Deary – The Fire Thief Fight Back
 - Kate DiCamillo - The Miraculous Journey of Edward Tulane
 - Snicket, Lemony - A Series of Unfortunate Events series of books
 - Jeanne Birdsall - The Penderwicks
 - T.H. White – The Sword in the Stone
 - Philipa Pearce – Tom’s Midnight Garden
 - Susan Coolidge – What Katy Did Next
 - Dick-King Smith books – e.g. The Crowstarver, The Sheep Pig
 - Ted Hughes – How the Whale Became, The Iron Man
 - Robert Muchamore – Cherub book series

Addition Speed Test (5 minutes)

Time: _____

Score: _____/100

$$\begin{array}{r} 11 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ + 4 \\ \hline \end{array}$$

$$\begin{array}{r} 18 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 9 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ + 3 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 0 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 18 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 5 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 13 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 12 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 10 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ + 7 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 7 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 15 \\ + 3 \\ \hline \end{array} \quad \begin{array}{r} 16 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 10 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 8 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ + 8 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 2 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 11 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 3 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} 4 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 10 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 19 \\ + 4 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 17 \\ + 9 \\ \hline \end{array} \quad \begin{array}{r} 1 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} 6 \\ + 6 \\ \hline \end{array} \quad \begin{array}{r} 14 \\ + 8 \\ \hline \end{array}$$

Division Speed Test (5 minutes)**Time:** _____**Score:** _____/100

$9 \div 1 =$	$54 \div 6 =$	$64 \div 8 =$	$14 \div 2 =$	$72 \div 8 =$
$18 \div 6 =$	$40 \div 8 =$	$9 \div 9 =$	$5 \div 5 =$	$40 \div 10 =$
$84 \div 7 =$	$35 \div 7 =$	$10 \div 10 =$	$12 \div 3 =$	$22 \div 11 =$
$2 \div 2 =$	$110 \div 10 =$	$20 \div 5 =$	$12 \div 12 =$	$44 \div 4 =$
$63 \div 9 =$	$48 \div 12 =$	$48 \div 8 =$	$72 \div 6 =$	$18 \div 2 =$
$6 \div 6 =$	$56 \div 8 =$	$12 \div 6 =$	$16 \div 4 =$	$20 \div 4 =$
$11 \div 11 =$	$30 \div 3 =$	$24 \div 6 =$	$48 \div 6 =$	$108 \div 9 =$
$22 \div 2 =$	$8 \div 4 =$	$96 \div 12 =$	$99 \div 9 =$	$56 \div 7 =$
$54 \div 9 =$	$5 \div 1 =$	$110 \div 11 =$	$27 \div 9 =$	$99 \div 11 =$
$60 \div 5 =$	$66 \div 6 =$	$100 \div 10 =$	$10 \div 2 =$	$20 \div 2 =$
$33 \div 11 =$	$40 \div 4 =$	$9 \div 3 =$	$6 \div 2 =$	$30 \div 10 =$
$45 \div 5 =$	$77 \div 7 =$	$66 \div 11 =$	$24 \div 8 =$	$80 \div 10 =$
$10 \div 5 =$	$50 \div 5 =$	$4 \div 2 =$	$12 \div 2 =$	$108 \div 12 =$
$18 \div 3 =$	$33 \div 3 =$	$42 \div 6 =$	$24 \div 2 =$	$3 \div 1 =$
$12 \div 1 =$	$42 \div 7 =$	$6 \div 3 =$	$4 \div 4 =$	$120 \div 10 =$
$96 \div 8 =$	$40 \div 5 =$	$88 \div 8 =$	$50 \div 10 =$	$27 \div 3 =$
$55 \div 5 =$	$24 \div 3 =$	$18 \div 9 =$	$8 \div 8 =$	$25 \div 5 =$
$44 \div 11 =$	$72 \div 9 =$	$12 \div 4 =$	$80 \div 8 =$	$60 \div 10 =$
$3 \div 3 =$	$15 \div 3 =$	$36 \div 12 =$	$4 \div 1 =$	$16 \div 2 =$
$2 \div 1 =$	$24 \div 12 =$	$55 \div 11 =$	$45 \div 9 =$	$6 \div 1 =$

Basic Operations**Addition**

1) $58092 + 32708 =$ _____

2) $37990 + 3297 =$ _____

Subtraction

1) $8039 - 3789 =$ _____

2) $3002 - 420 =$ _____

Multiplication

1) $583 \times 69 =$ _____

2) $292 \times 54 =$ _____

Division

1) $1912 \div 4 =$ _____

2) $5859 \div 9 =$ _____

Addition

1) $305821 + 3487 =$ _____

2) $92871 + 43979 =$ _____

Subtraction

1) $6030 - 1237 =$ _____

2) $5901 - 429 =$ _____

Multiplication

1) $534 \times 39 =$ _____

2) $492 \times 68 =$ _____

Division

1) $5280 \div 8 =$ _____

2) $5124 \div 7 =$ _____

Inverse Operations**Addition**

1) $9463 + \underline{\hspace{2cm}} = 17825$

2) $\underline{\hspace{2cm}} + 2927 = 6783$

Subtraction (Be careful if the second number is missing in subtraction!)

3) $\underline{\hspace{2cm}} - 668 = 979$

4) $1365 - \underline{\hspace{2cm}} = 420$

Multiplication

5) $\underline{\hspace{2cm}} \times 6 = 582$

6) $4 \times \underline{\hspace{2cm}} = 224$

Division (Be careful if the second number is missing in division!)

7) $75 \div \underline{\hspace{2cm}} = 25$

8) $\underline{\hspace{2cm}} \div 6 = 532$

Addition

9) $\underline{\hspace{2cm}} + 59742 = 154573$

10) $35872 + \underline{\hspace{2cm}} = 38853$

Subtraction (Be careful if the second number is missing in subtraction!)

11) $6057 - \underline{\hspace{2cm}} = 5558$

12) $\underline{\hspace{2cm}} - 348 = 59$

Multiplication

13) $\underline{\hspace{2cm}} \times 3 = 2835$

14) $52 \times \underline{\hspace{2cm}} = 208$

Division (Be careful if the second number is missing in division!)

15) $\underline{\hspace{2cm}} \div 7 = 351$

16) $24 \div \underline{\hspace{2cm}} = 4$

Number WorkSquare Numbers (First 12)

Cubed Numbers (First 5) Triangular Numbers (First 5)

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Factors of 18 (6)

18

Prime Numbers (First 10)

Multiples of 9 (First 5)

Equivalent Fraction, Decimal, %

Fractions	Decimals	Percentages (%)
	0.5	50%
	1	100%
	0.25	25%
	0.5	50%
	0.75	75%
	1	100%
$1/10$		10%
$2/10 = 1/5$		20%
$3/10$		30%
$4/10 = 2/5$		40%
$5/10 = 2/4 = \frac{1}{2}$		50%
$6/10 = 3/5$		60%
$7/10$		70%
$8/10 = 4/5$		80%
$9/10$		90%
$10/10 = 1$		100%
$\frac{1}{3}$	0.33...	
$2/3$	0.66...	
$3/3 = 1$	1	

Convert Between Fractions, Decimals and Percentages

Refer to Video Tutorial found at:

<https://www.facebook.com/stirlingtuition2017/videos/404719069999568/>

Convert Decimal to Percent

$0.61 =$

$0.25 =$

$0.92 =$

$0.39 =$

$0.19 =$

$0.25 =$

Convert Percent to Decimal

$44 \% =$

$65 \% =$

$27 \% =$

$71 \% =$

$29 \% =$

$50 \% =$

Convert Decimal to Fraction

$0.2 =$

$0.67 =$

$0.1 =$

$0.05 =$

$0.18 =$

$0.8 =$

Convert Fraction to Decimal

$\frac{7}{10} =$

$\frac{4}{10} =$

$\frac{1}{10} =$

$\frac{9}{10} =$

$\frac{12}{50} =$

$\frac{16}{25} =$

Convert Fraction to Percent

$\frac{4}{20} =$

$\frac{8}{10} =$

$\frac{5}{20} =$

$\frac{32}{50} =$

$\frac{46}{50} =$

$\frac{8}{20} =$

Convert Percent to Fraction

$47 \% =$

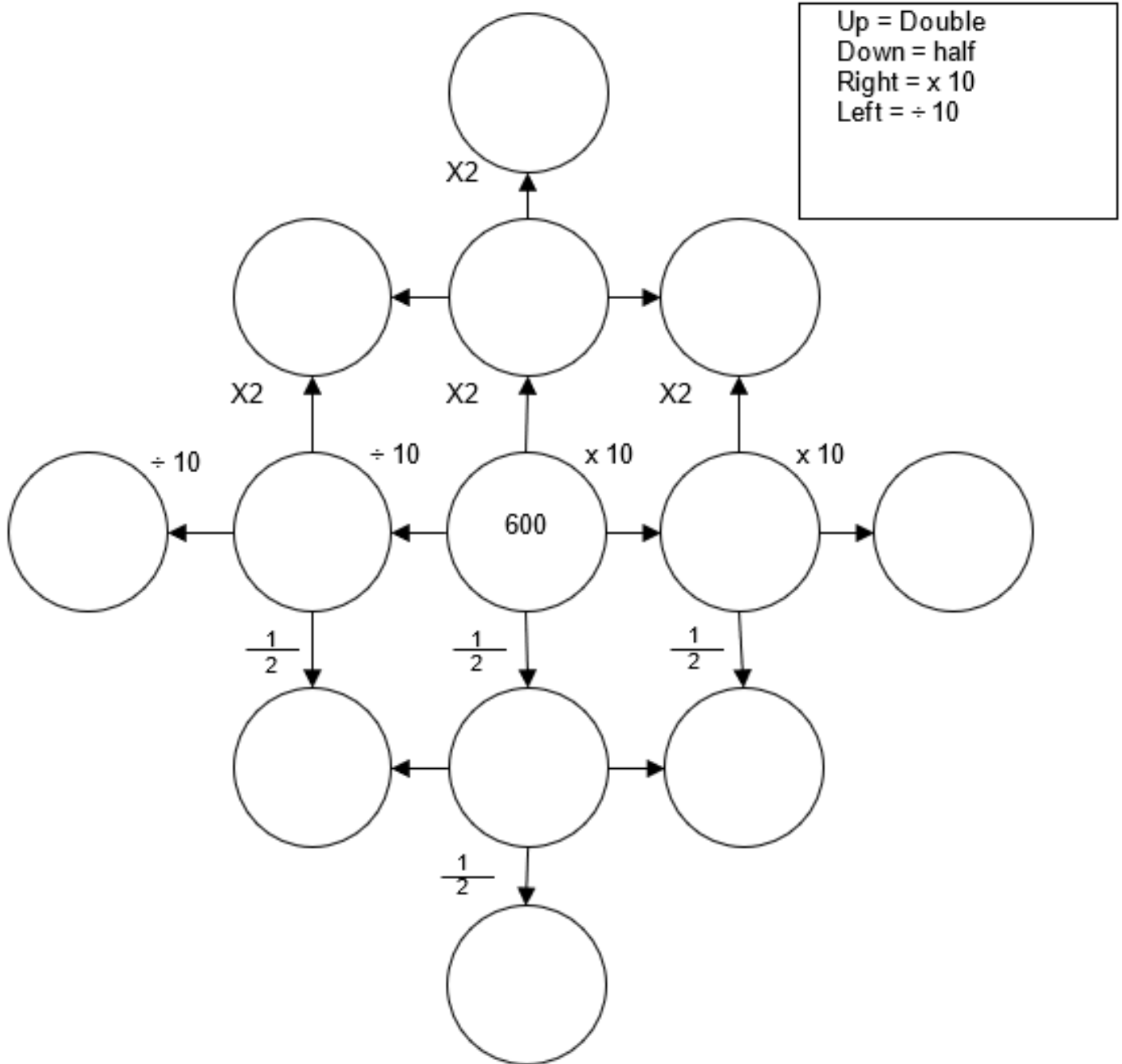
$39 \% =$

$52 \% =$

$26 \% =$

$56 \% =$

$13 \% =$

Doubling/ Halving/ $\div 10$ / $\times 10$ 

Conversions of Measures

_____ Kilogram (kg)	4700 grams (g)
3.4 Litre (L)	_____ millilitres (ml)
_____ Kilometer (km)	9300 meters (m)
7.1 meter (m)	_____ millimeters (mm)
_____ meter (m)	530 centimeters (cm)
9.7 centimeter (cm)	_____ millimeters (mm)

3D Shapes Table

Shape	Faces	Edges	Vertices
Cube			
Cuboid			
Triangular Prism			
Cylinder			
Square based Pyramid			
Triangular based pyramid			
Sphere			
Cone			

Maths Facts

How do work out the area of a triangle? _____

What is the size of an angle in a Full Circle = _____

What is the size of an angle on a straight-line = _____

What is the size of the angles in Triangle = _____

What is a quadrilateral? _____

What is the size of the angles in a quadrilateral = _____

What does Percent mean? _____

How do you work out the fraction of a number? _____

How do you work out volume? _____

Multiply and Divide by 10,100,1000

1) $26 \div 1000$

Answer: _____

2) 31.5×10

Answer: _____

3) $19 \div 100$

Answer: _____

4) 19.5×100

Answer: _____

5) $10.5 \div 100$

Answer: _____

6) 38.5×1000

Answer: _____

7) $42.5 \div 10$

Answer: _____

8) 25.5×1000

Answer: _____

9) $33 \div 1000$

Answer: _____

10) 39.5×100

Answer: _____

11) $20 \div 100$

Answer: _____

12) 36.5×10

Answer: _____

Temperature Change

Explanation of Temperature change:

Children will be expected to calculate changes in temperature **above and below 0°C**.

Different types of questions include:

- 1) **Difference in temperature.**
- 2) **Increase in temperature.**
- 3) **Decrease in temperature.**

The best method is to draw a vertical number line (**Vertical helps with the association to a thermometer**) and use zero as a middle number to jump to.

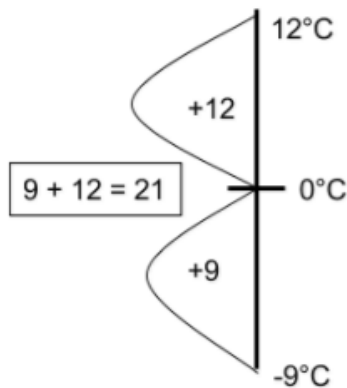
Examples:

Difference in Temperature

First Temp: 12°C

Second Temp: -9°C

Difference: 21°C

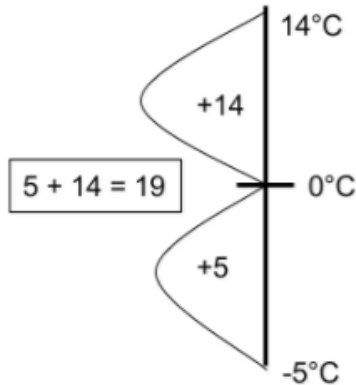


Increase in Temperature

Temp: -5°C

Increase in Temp: 19°C

New Temp: 14°C

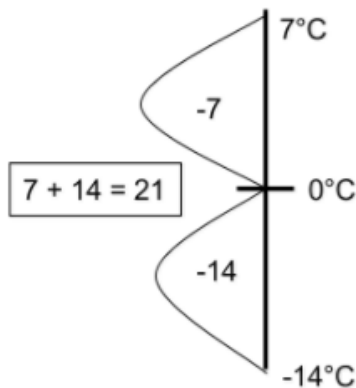


Decrease in Temperature

Temp: 7°C

Decrease in Temp: 21°C

New Temp: -14°C



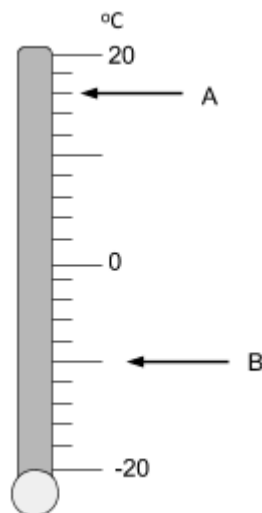
1. The temperature in Estonia is -16°C and the temperature in Mexico is 5°C . How much **lower** is the temperature in Estonia than in Mexico? Write your answer in the space below.

_____ $^{\circ}\text{C}$

2. The temperature in **Tokyo** is 5°C . The **difference** between the temperature in **Tokyo** and **Moscow** is 8°C . There are **two possible** values for the temperature in Moscow which fit these facts. What are the two possible temperatures in Moscow? Write your answer in the spaces below.

_____ $^{\circ}\text{C}$ or _____ $^{\circ}\text{C}$

3. Look at the thermometer below. What is the **difference** in temperature between temperature **A** and temperature **B**? Write your answer in the space below.



_____ $^{\circ}\text{C}$

4. The table below shows the temperature in Bangor at different times of the day. There are **3 temperatures missing** from the table.

Time	6 am	9 am	12 noon	3 pm	8 pm
Temperature in °C	-5			12	

You are given the following information. It will help you to fill in the blank spaces in the table.

- The temperature **increased** by **3°C** between **6am** and **9am**.
- The temperature **increased** by **7°C** between **9am** and **12 noon**.
- The temperature **decreased** by **3°C** between **3pm** and **8pm**.

Use this information above to **complete** the table above.

5. The temperature at noon on **Monday** is **-12°C**. The temperature **increases by 2°C every 24 hours**. What is the temperature at **noon** on **Thursday**? Write your answer in the space below.

_____ °C

6. Look at the table below. It shows the **melting points** of **three** substances. The three melting points are given in °C.

Substance	Melting Point °C
Mercury	-39
Bromine	-7
Francium	27

Room temperature is **17°C**. **How many degrees** is this **above** the melting point of **Bromine**? Write your answer in the space below.

_____ °C

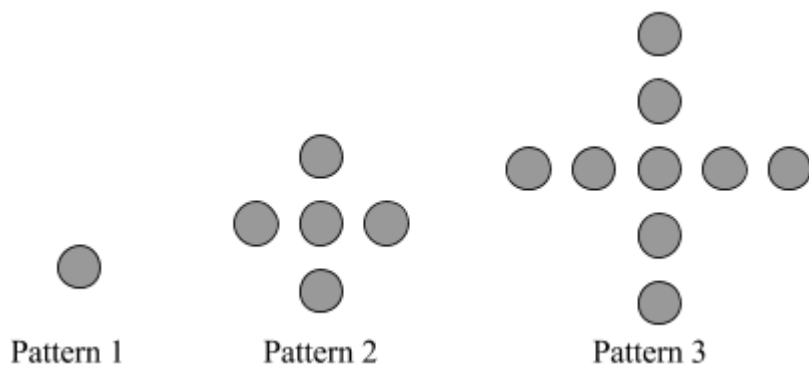
Patterns

Explanation of Pattern:

Treat like a sequence question. **What is happening to the numbers between each of the patterns? Then continue the sequence.**

Example:

Look at the sequence of 3 patterns below. Each pattern is made up of small circles.



Look at the table below. It shows the number of small squares in each pattern.

Pattern	Squares
1	1
2	5
3	9

+4

+4

The rule is +4:

Pattern 4 = 13

Pattern 5 = 17

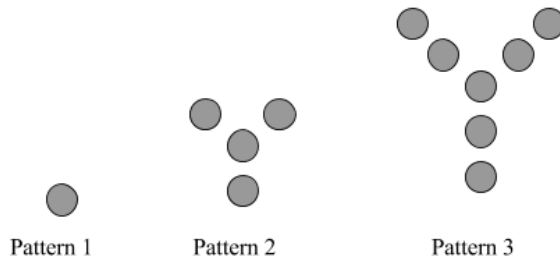
Pattern 6 = 21

How many **circles** are needed to make **Pattern 6**?

Write your answer in the space below.

 21 circles

1. Look at the sequence of 3 patterns below. Each pattern is made up of small circles.



Look at the table below. It shows the number of circles squares in each pattern.

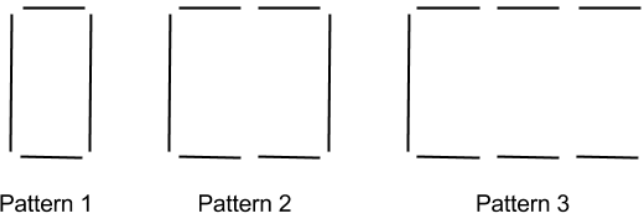
Pattern	Circles
1	1
2	4
3	7

How many **circles** are needed to make **Pattern 8**?

Write your answer in the space below.

_____ circles

2. John is making patterns from sticks. The **first three patterns** are shown below.



Pattern 1 uses **4 sticks**.

Pattern 2 uses **6 sticks**.

Pattern 3 uses **8 sticks**.

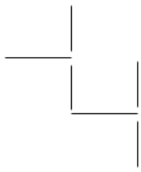
How many **sticks** does John need to **Pattern 8**? Write your answer in the space below.

_____ sticks

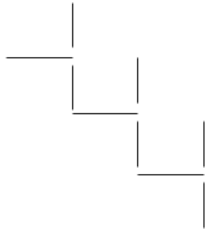
3. Look at the following patterns made from sticks.



Pattern 1



Pattern 2



Pattern 3

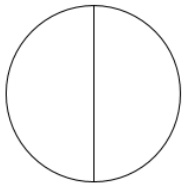
a) There are **three** sticks in **Pattern 1**. **How many** sticks are there in **Pattern 6**? Write your answer in the space below.

_____ sticks

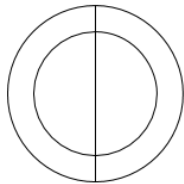
b) Look again at the patterns. Find the pattern which uses **33 sticks**. Write the **number** of this pattern in the space below.

Pattern _____

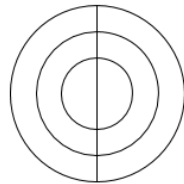
4. Look at the sequence of patterns below:



Pattern 1



Pattern 2



Pattern 3

Pattern 2, for example, has **four** sections. The table below shows how many **sections** there are in each **pattern**.

Pattern	1	2	3
Number of Sections	2	4	6

How many sections will there be in **Pattern 5**? Write your answer in the space below.

_____ sections

Function Machine

Explanation of Area of Function Machine:

There are 2 types of question:

- 1) Number **In** (**Follow the arrows**)
- 2) Number **Out** (**Inverse, go back through the arrows, inverting each function**)

Example:

Look at the function machine below.



Use this function machine to **complete the table below**. The first one has been done for you.

In	Out
60	9
90	<u>24</u>
<u>70</u>	14

<u>Number In</u>
$90 \div 2 = \underline{45}$ $45 - 21 = \underline{24}$

<u>Number Out</u>
$14 + 21 = \underline{35}$ $35 \times 2 = \underline{70}$

1. Look at the function machine below.



Use this function machine to **complete the table below**. The first one has been done for you.

In	Out
1	25
4	
	105

2. Look at the function machine below.



Use this function machine to **complete the table below**. The first one has been done for you.

In	Out
80	2
128	
	42

3. Look at the function machine below.



Use this function machine to **complete the table below**. The first one has been done for you.

In	Out
100	33
30	
	45

4. Look at the function machine below.



Use this function machine to **complete the table below**. The first one has been done for you.

In	Out
9	18
108	
	91

5. Look at the function machine below.



Use this function machine to **complete the table below**. The first one has been done for you.

In	Out
36	24
45	
	52

English

Noun:

Person, Place or Thing. E.g.: Sam, Bangor, pencil. Normally these are things you can physically see. There is the exception of **abstract** nouns, which are things, but you can't see them, they are usually feelings or ideas e.g.: courage, happiness etc.

Adjective:

Describes a noun. E.g.: red (adjective) car (noun), happy (adjective) boy (noun), small (adjective) country (noun).

Verb:

Doing/ action word. E.g.: run, play, skip, hold, give, clap, swim etc.

Adverb:

Describes a verb/ action. (Or how you do something.) E.g.: run (verb) quickly (adverb), play (verb) carefully (adverb), skip (verb) leisurely (adverb), clap (verb) loudly (adverb).
Normally adverbs end in 'ly'.

However, there are times when adverbs don't end in 'ly'. E.g.: run (verb) tomorrow (adverb), play (verb) today (adverb), skip (verb) here (adverb), clap (verb) seldom (adverb).

Nouns, Adjectives, Verbs and Adverbs: Understanding context

It is essential that the child understands that the same word can have **different meanings and uses.**

E.g. the word can

Used as a verb: I can play the piano.

Used as a noun: A can of worms.

It is essential that the child can identify the correct definition and use (noun, adjective, verb, adverb) **as it appears in the text.**

Past/ Present Tense

This skill relates to verbs. E.g.: run (Present) ran (Past), clap (present) clapped (past).

Tip: It is best to put yourself in the situation to get the word in the past (**Yesterday I...**) or present (**now**). **E.g.:** I run (present/ **now**), **Yesterday I** ran (past).

Also in the past tense some words are spelled differently or change completely

e.g. skip – skipped
go – went
clap – clapped
see – saw

Plurals Rules

1. Add s

book	books
dog	dogs

2. If the noun **ends in s, x, ch or sh** (hissing sounds) you **add es**

church	churches
fox	foxes
glass	glasses
brush	brushes

3. If the noun **ends in y** and the **letter before is a vowel**, you **add s**

key	keys
boy	boys

4. If the noun **ends in y** and the **letter before is not a vowel**, you **change y to i and add es**

lady	ladies
fairy	fairies

5. Of the noun **ends with f or fe**, you **take the f or fe away and add ves**

calf	calves
wife	wives

But there are exceptions – these need to be learned and remembered.

Exceptions

chief	chiefs
dwarf	dwarfs/dwarves
hoof	hoofs/hooves
reef	reefs
roof	roofs/rooves
scarf	scarf/scarves

6. If the noun **ends in double ff**, you just **add s**

cliff	cliffs
puff	puffs

7. If the noun **ends in o**, you **add es**

potato	potatoes
echo	echoes

But there are exceptions – these need to be learned and remembered.

Exceptions

banjo	banjos
cuckoo	cuckoos
halo	halos
igloo	igloos
kangaroo	kangaroos
photo	photos
piano	pianos
radio	radios
solo	solos
studio	studios
zoo	zoos

8. Words which **do not change**

cod
 deer
 dice
 fish
 fruit
 moose
 salmon
 sheep
 species
 squid
 trout

9. Words which **change completely**

child	children
foot	feet
goose	geese
man	men
mouse	mice
ox	oxen
person	people
tooth	teeth
woman	women

Homophones

Words which sound the same but have different meanings or spelling. E.g.: week – weak, son – sun, sea – see, their – there – they’re, meet – meat, cell – sell.

Apostrophes

These are used for **possession** and **omission**.

Possession: Apostrophes are used to tell us that something belongs to someone. E.g.: If you were talking about a football belonging to Sam, you would say ‘Sam’s football’. (The football belongs to Sam)

There is only one of Sam, so this is called **singular possession**.

The girl’s hat, John’s car. In these examples there is ONE girl owns ONE hat and John owns ONE car.

If there are **two or more people** owning something, an apostrophe is needed to show **plural possession**.

In this case **the apostrophe goes after the plural owners**, so if a group of girls each own a hat and you want to talk about all these hats, you would say ‘**the girls’ hats, ‘the teachers’ staffroom**’.

Tip: Be careful **not** to add apostrophes to **plurals**: E.g.: The dogs ran. Three cars parked.

Omission: If we put two words together and miss out some letters, we need to add an apostrophe where the missing letters are. E.g.: ‘do not’ would change to ‘don’t’, the **contracted form**. These are also called **contraction**. (Squish the words together!)

Synonyms

Words which have the same definition (**Synonym = Same**). E.g.: Happy = cheerful, joyful, delighted. Sad = dejected, miserable, down

Compound Words

This is often worth 2 marks, so a quick recall and understanding of compound words can save time and add points.

E.g. wash + out = washout
out + side = outside

As with everything, extensive reading will help with this task as reading expands the child’s vocabulary and they will be quicker to identify the compound words.

Suffixes and Prefixes

A suffix is something which is added to the **end** of a word:

fear – fear**less**
care - care**ful**

A prefix is something which is added to the start of a word:

understanding – **mis**understanding
certain – **unc**certain

Antonyms – opposites

These questions are usually worth 2 marks so it is worth going over opposites with the child. Quick recall of opposites will save valuable time when scanning the text for the answers.

Poetic Techniques:

Alliteration: where two or more words, having the same consonant sound, occur close together. E.g. Lazy lizards lying like lumps.

NB be sure that the child understands that alliteration applies to **consonants only!**

(Assonance is the repetition of vowel sounds and, as yet, this has not appeared in the AQE papers, only alliteration).

Onomatopoeia: words which suggest the sounds they refer to. E.g. buzz, chirp, hiss, roar

Rhyme Patterns: identifying the rhyme pattern of a poem

Twinkle, twinkle little star,
How I wonder what you are.
Up above the world so high,
Like a diamond in the sky.

These questions are sometimes worth 2 marks, which should be easy to pick up if the child can identify rhyme patterns easily.

Similes – being able to identify similes

Similes use the words **like and as:**

She sings like an angel
As black as soot
As busy as a bee
He swims like a fish

Spelling – this is tested in the 5 Mistakes Text but **ALSO in the comprehension sections**

With particular reference to:

use of y or i – mith or myth?

Endings - er/ar/or – creator or creater?

al or el – personal or personel?

ent or ant – permanent or permenant?

Double consonants – cc – succeed or succeed?

tt - patern or pattern?

ff – dificult or difficult?

mm – swiming or swimming?

use of ei or ie - theif or thief?

General Grammar Mistakes

Often, there are questions to test whether a child is aware of common grammar mistakes, so it is always best to go know the difference between:

its and it's

its (no apostrophe) possessive: The dog licked its bone.

it's (apostrophe) contraction – shortened version of it is: It's very cold today.

are and our

are – plural and 2nd person singular of the present tense of **the verb be**

They are going to the park.

our – possessive

Would you like to come to our house?

there, they're and their

there – There is a swimming pool in our town.

their – The children collected their coats.

they're – short for they are – They're going to the cinema today.

your and you're

your – Tuck in your shirt!

You're – short for you are – You're going to hurt yourself.

Comprehension

Close reading is essential

The child will be asked to identify whether a statement is true, false or unknown (don't know) based on the text in front of them. Often, the difference between getting the question right or wrong depends on noticing a subtle detail. Therefore, close reading of the questions and the text should be practised.

In Every AQE paper there is two poems and a narrative text. These test comprehension along with all the above skills mentioned in this English section. To improve this aspect of the test there is no substitute for reading. **There is a direct correlation between the success in the comprehension and the amount children read.** (*Refer to reading list at beginning of Booklet*)

Tick the correct word type

	noun	adjective	verb	adverb
lazily				
computer				
play				
small				

Past/ Present Tense

Look at the 4 words below. Write the **past tense** of each of the words in the space provided.

Be careful with your spelling.

fly _____
 forget _____
 hide _____
 say _____

Singular/ Plural

Write the **plural** of each of the words below in the space provided. **Be careful with your spelling.**

wife _____
 size _____
 potato _____
 ribbon _____

Homophones: Circle the correct homophone for the sentence.

Sit **by/ bye** my side please.

We must keep the jar the **write/ right** way up.

I will dress up as a **witch/ which** this Halloween.

The fire is burning in the **grate/ great**.

Apostrophes: Add the apostrophe to ensure the sentences are grammatically correct.

The day was great, Clares plans had come together perfectly.

Isnt it great!

What is wrong with the teachers staffroom?

It is clear the rabbits hutch is too small.

Tick the correct word type

	noun	verb	adjective	adverb
cranky				
pen				
hit				
really				

Past/ Present Tense

Look at the 4 words below. Write the **present tense** of each of the words in the space provided.

Be careful with your spelling.

spoke _____
 sent _____
 understood _____
 drew _____

Singular/ Plural

Write the **plural** of each of the words below in the space provided. **Be careful with your spelling.**

horse _____
 loaf _____
 woman _____
 goose _____

Homophones: Circle the correct homophone for the sentence.

It is **knot/ not** the way to go.

There is always a lot of **waist/ waste** when I cook.

The summer **fair/ fare** at school was amazing.

The policeman **new/ knew** the man had been speeding.

Apostrophes: Add the apostrophe to ensure the sentences are grammatically correct.

I really believe Simon Cowells criticism is honest.

I will be sad, but I wont cry.

If I had a penny for your thoughts Id be much happier.

What if it doesnt work out?

Tick the correct word type

	verb	noun	adjective	adverb
job				
happy				
wishfully				
create				

Past/ Present Tense

Look at the 4 words below. Write the **past tense** of each of the words in the space provided.

Be careful with your spelling.

tell _____
 think _____
 wake _____
 win _____

Singular/ Plural

Write the **plural** of each of the words below in the space provided. **Be careful with your spelling.**

fungus _____
 man _____
 deer _____
 foot _____

Homophones: Circle the correct homophone for the sentence.

The bus driver took our **fare/ fair** for the journey.

The rabbit has long **clause/ claws**.

Over **there/ their** is a small car.

This piece of glass is for the window **pane/ pain**.

Apostrophes: Add the apostrophe to ensure the sentences are grammatically correct.

Its all going to be ok.

I cant believe my bothers hair was cut so short.

Im certain the day will be a great day.

The bags strap broke under the weight of the books.

Synonyms

(Note: Throughout this section use a thesaurus if required.)

1. Find a second word with a similar meaning to the word in **bold**:

- a) **PROMINENT** – year, came, well-known, show
- b) **SELDOM** – good, hardly, give, under
- c) **TYRANT** – name, very, though, bully
- d) **BARREN** – arid, much, great, think
- e) **CONFINE** – say, imprison, help, low
- f) **DISARRAY** – line, before, chaos, turn

2. Write down a synonym for each word:

- | | |
|------------------|--------------------|
| a) address _____ | b) bruise _____ |
| c) correct _____ | d) thrilling _____ |
| e) friend _____ | f) labour _____ |
| g) odour _____ | h) purpose _____ |
| i) sly _____ | j) vapour _____ |

3. Match up the synonyms in the list:

- | | | | |
|--------|----------|------------|-------|
| happy | angry | closed | big |
| afraid | cheerful | frightened | shut |
| fast | quick | huge | cross |

4. Can you find four different synonyms of **see**? E.g. start with 'look at'

- | | |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |

Plurals

Write the **plurals** of the following words in the spaces provided. **Remember your plural rules and exceptions.**

piano	_____	foot	_____
sheep	_____	takeoff	_____
chief	_____	brush	_____
lady	_____	key	_____
spoon	_____		

Opposites

Write the opposites of the following words in the spaces provided.

better	_____	evil	_____
heavy	_____	awake	_____
below	_____	glad	_____

Compound Words

Look at the five words below. From this list choose the best word that makes a compound word when written in one of the spaces below. Each word can be used only once.

ball quake stream other bone

up _____
 an _____
 foot _____
 back _____
 earth _____

Prefixes (goes before a word)

Look at the five prefixes below. Use these prefixes to create the words opposite in meaning to the words listed below. Each prefix can only be used once.

un mis ir il in

understand	_____	resistible	_____
literate	_____	destructible	_____
able	_____		

Spelling

Look at the five pairs of words below. Circle the correct spelling in each pair.

disappoint	disapoint
embaras	embarrass
immediately	imediately
interrupt	interupt
necessary	necessary

Answers

Page 4

11	9	12	19	13	7	11	5	13	0
+ 5	+ 8	+ 5	+ 4	+ 8	+ 6	+ 7	+ 9	+ 7	+ 4
16	17	17	23	21	13	18	14	20	4
18	14	16	11	3	18	13	17	8	0
+ 3	+ 7	+ 8	+ 6	+ 6	+ 8	+ 4	+ 6	+ 5	+ 8
21	21	24	17	9	26	17	23	13	8
12	8	3	3	7	9	9	16	0	9
+ 4	+ 4	+ 3	+ 4	+ 3	+ 7	+ 5	+ 4	+ 8	+ 5
16	12	6	7	10	16	14	20	8	14
2	5	15	9	7	12	11	8	5	6
+ 4	+ 5	+ 9	+ 9	+ 9	+ 6	+ 9	+ 5	+ 5	+ 3
6	10	24	18	16	18	20	13	10	9
10	13	15	18	16	19	17	7	14	12
+ 9	+ 3	+ 8	+ 8	+ 6	+ 4	+ 3	+ 3	+ 6	+ 3
19	16	23	26	22	23	20	10	20	15
2	0	18	14	8	6	5	4	0	4
+ 3	+ 3	+ 6	+ 7	+ 3	+ 7	+ 9	+ 7	+ 8	+ 6
5	3	24	21	11	13	14	11	8	10
1	18	15	1	5	13	12	16	10	6
+ 3	+ 8	+ 7	+ 7	+ 5	+ 9	+ 9	+ 3	+ 9	+ 7
4	26	22	8	10	22	21	19	19	13
6	15	17	7	1	15	16	10	2	8
+ 3	+ 6	+ 8	+ 5	+ 5	+ 3	+ 5	+ 8	+ 7	+ 5
9	21	25	12	6	18	21	18	9	13
10	4	14	3	19	2	19	11	3	4
+ 8	+ 6	+ 6	+ 9	+ 4	+ 6	+ 7	+ 5	+ 7	+ 8
18	10	20	12	23	8	26	16	10	12
2	4	10	19	1	17	17	1	6	14
+ 5	+ 9	+ 4	+ 4	+ 7	+ 9	+ 9	+ 7	+ 6	+ 8
7	13	14	23	8	26	26	8	12	22

Page 5

17	8	7	12	9	19	16	14	7	12
- 3	- 8	- 6	- 7	- 7	- 8	- 3	- 7	- 4	- 6
14	0	1	5	2	11	13	7	3	6
9	15	16	13	9	10	12	8	18	17
- 8	- 8	- 9	- 6	- 8	- 3	- 6	- 5	- 8	- 4
1	7	7	7	1	7	6	3	10	13
16	7	7	11	7	13	3	15	5	7
- 5	- 7	- 3	- 7	- 3	- 5	- 3	- 3	- 4	- 3
11	0	4	4	4	8	0	12	1	4
11	16	18	18	3	17	11	10	4	8
- 6	- 5	- 8	- 4	- 3	- 4	- 4	- 5	- 4	- 6
5	11	10	14	0	13	7	5	0	2
9	8	19	14	15	12	18	11	8	11
- 6	- 6	- 5	- 8	- 4	- 4	- 4	- 3	- 6	- 5
3	2	14	6	11	8	14	8	2	6
15	9	14	14	7	9	14	19	3	6
- 6	- 3	- 6	- 8	- 7	- 3	- 9	- 6	- 3	- 5
9	6	8	6	0	6	5	13	0	1
10	6	10	13	13	7	9	19	8	5
- 3	- 4	- 5	- 9	- 9	- 6	- 6	- 3	- 6	- 4
7	2	5	4	4	1	3	16	2	1
5	16	9	9	17	12	18	17	13	16
- 4	- 9	- 4	- 9	- 9	- 4	- 8	- 7	- 3	- 6
1	7	5	0	8	8	10	10	10	10
15	5	17	14	12	9	11	10	8	6
- 9	- 4	- 3	- 7	- 7	- 7	- 5	- 5	- 5	- 4
6	1	14	7	5	2	6	5	3	2
6	18	19	5	8	7	15	13	10	8
- 4	- 5	- 7	- 4	- 4	- 5	- 9	- 8	- 9	- 6
2	13	12	1	4	2	6	5	1	2

Page 6

9	6	9	3	11	1	2	1	3	3
x 5	x 4	x 11	x 1	x 4	x 7	x 4	x 4	x 3	x 8
45	24	99	3	44	7	8	4	9	24
2	7	8	11	8	5	6	4	4	6
x 6	x 9	x 5	x 11	x 11	x 9	x 6	x 9	x 7	x 11
12	63	40	121	88	45	36	36	28	66
8	12	7	9	3	12	10	8	1	1
x 2	x 2	x 11	x 8	x 11	x 3	x 2	x 8	x 7	x 7
16	24	77	72	33	36	20	64	7	7
3	5	9	5	8	2	3	8	3	10
x 7	x 10	x 10	x 9	x 8	x 3	x 10	x 12	x 10	x 4
21	50	90	45	64	6	30	96	30	40
5	1	4	12	9	1	8	7	5	4
x 3	x 4	x 12	x 3	x 9	x 11	x 12	x 4	x 5	x 6
15	4	48	36	81	11	96	28	25	24
9	3	2	9	5	5	3	6	8	6
x 11	x 2	x 10	x 9	x 6	x 4	x 5	x 7	x 6	x 5
99	6	20	81	30	20	15	42	48	30
12	8	10	3	8	12	12	9	12	9
x 7	x 9	x 6	x 8	x 10	x 8	x 12	x 12	x 12	x 7
84	72	60	24	80	96	144	108	144	63
10	2	9	11	3	12	1	1	3	7
x 6	x 10	x 8	x 3	x 6	x 11	x 12	x 11	x 10	x 11
60	20	72	33	18	132	12	11	30	77
9	7	6	10	3	7	10	3	2	6
x 5	x 6	x 12	x 3	x 8	x 10	x 8	x 3	x 7	x 5
45	42	72	30	24	70	80	9	14	30
1	7	3	2	7	6	11	8	5	5
x 3	x 11	x 8	x 10	x 2	x 2	x 3	x 12	x 6	x 4
3	77	24	20	14	12	33	96	30	20

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9 + 1 = 9	54 + 6 = 9	64 + 8 = 8	14 + 2 = 7	72 + 8 = 9
18 + 6 = 3	40 + 8 = 5	9 + 9 = 1	5 + 5 = 1	40 + 10 = 4
84 + 7 = 12	35 + 7 = 5	10 + 10 = 1	12 + 3 = 4	22 + 11 = 2
2 + 2 = 1	110 + 10 = 11	20 + 5 = 4	12 + 12 = 1	44 + 4 = 11
63 + 9 = 7	48 + 12 = 4	48 + 8 = 6	72 + 6 = 12	18 + 2 = 9
6 + 6 = 1	56 + 8 = 7	12 + 6 = 2	16 + 4 = 4	20 + 4 = 5
11 + 11 = 1	30 + 3 = 10	24 + 6 = 4	48 + 6 = 8	108 + 9 = 12
22 + 2 = 11	8 + 4 = 2	96 + 12 = 8	99 + 9 = 11	56 + 7 = 8
54 + 9 = 6	5 + 1 = 5	110 + 11 = 10	27 + 9 = 3	99 + 11 = 9
60 + 5 = 12	66 + 6 = 11	100 + 10 = 10	10 + 2 = 5	20 + 2 = 10
33 + 11 = 3	40 + 4 = 10	9 + 3 = 3	6 + 2 = 3	30 + 10 = 3
45 + 5 = 9	77 + 7 = 11	66 + 11 = 6	24 + 8 = 3	80 + 10 = 8
10 + 5 = 2	50 + 5 = 10	4 + 2 = 2	12 + 2 = 6	108 + 12 = 9
18 + 3 = 6	33 + 3 = 11	42 + 6 = 7	24 + 2 = 12	3 + 1 = 3
12 + 1 = 12	42 + 7 = 6	6 + 3 = 2	4 + 4 = 1	120 + 10 = 12
96 + 8 = 12	40 + 5 = 8	88 + 8 = 11	50 + 10 = 5	27 + 3 = 9
55 + 5 = 11	24 + 3 = 8	18 + 9 = 2	8 + 8 = 1	25 + 5 = 5
44 + 11 = 4	72 + 9 = 8	12 + 4 = 3	80 + 8 = 10	60 + 10 = 6
3 + 3 = 1	15 + 3 = 5	36 + 12 = 3	4 + 1 = 4	16 + 2 = 8
2 + 1 = 2	24 + 12 = 2	55 + 11 = 5	45 + 9 = 5	6 + 1 = 6

Basic Operations

Addition

- 1) $58092 + 32708 = 90800$
 2) $37990 + 3297 = 41287$

Subtraction

- 3) $8039 - 3789 = 4250$
 4) $3002 - 420 = 2582$

Multiplication

- 5) $583 \times 69 = 40227$
 6) $292 \times 54 = 15768$

Division

- 7) $1912 \div 4 = 478$
 8) $5859 \div 9 = 651$

Addition

- 9) $305821 + 3487 = 309308$
 10) $92871 + 43979 = 136850$

Subtraction

- 11) $6030 - 1237 = 4793$
 12) $5901 - 429 = 5472$

Multiplication

- 13) $534 \times 39 = 20826$
 14) $492 \times 68 = 33456$

Division

- 15) $5280 \div 8 = 660$
 16) $5124 \div 7 = 732$

Inverse Operations

Addition

- 1) $9463 + \underline{8362} = 17825$
 2) $\underline{3856} + 2927 = 6783$

Subtraction

- 3) $\underline{1647} - 668 = 979$
 4) $1365 - \underline{945} = 420$

Multiplication

- 5) $\underline{97} \times 6 = 582$
 6) $4 \times \underline{56} = 224$

Division

- 7) $75 \div \underline{3} = 25$
 8) $\underline{3192} \div 6 = 532$

Addition

- 9) $\underline{94831} + 59742 = 154573$
 10) $35872 + \underline{2981} = 38853$

Subtraction

- 11) $6057 - \underline{499} = 5558$
 12) $\underline{407} - 348 = 59$

Multiplication

- 13) $\underline{945} \times 3 = 2835$
 14) $52 \times \underline{4} = 208$

Division

- 15) $\underline{2457} \div 7 = 351$
 16) $24 \div \underline{6} = 4$

Number Work

<u>Square</u>	<u>Cubed</u>	<u>Triangular</u>	<u>Prime</u>	<u>Factors 18</u>	<u>Multiples 9</u>
1	1	1	2	1	9
4	8	3	3	18	18
9	27	6	5	2	27
16	64	10	7	9	36
25	125	15	11	3	45
36			13	6	
49			17		
64			19		
81			23		
100			29		
121					
144					

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Fractions	Decimals	Percentages (%)
$\frac{1}{2}$	0.5	50%
$\frac{2}{2} = 1$	1	100%
$\frac{1}{4}$	0.25	25%
$\frac{2}{4} = \frac{1}{2}$	0.5	50%
$\frac{3}{4}$	0.75	75%
$\frac{4}{4} = 1$	1	100%
$\frac{1}{10}$	0.1	10%
$\frac{2}{10} = \frac{1}{5}$	0.2	20%
$\frac{3}{10}$	0.3	30%
$\frac{4}{10} = \frac{2}{5}$	0.4	40%
$\frac{5}{10} = \frac{2}{4} = \frac{1}{2}$	0.5	50%
$\frac{6}{10} = \frac{3}{5}$	0.6	60%
$\frac{7}{10}$	0.7	70%
$\frac{8}{10} = \frac{4}{5}$	0.8	80%
$\frac{9}{10}$	0.9	90%
$\frac{10}{10} = 1$	1	100%
$\frac{1}{3}$	0.33...	33.33...%
$\frac{2}{3}$	0.66...	66.66...%
$\frac{3}{3} = 1$	1	100%

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Convert Decimal to Percent

$0.61 = 61 \%$

$0.25 = 25 \%$

$0.92 = 92 \%$

$0.39 = 39 \%$

$0.19 = 19 \%$

$0.25 = 25 \%$

Convert Percent to Decimal

$44 \% = 0.44$

$65 \% = 0.65$

$27 \% = 0.27$

$71 \% = 0.71$

$29 \% = 0.29$

$50 \% = 0.5$

Convert Decimal to Fraction

$0.2 = \frac{2}{10} = \frac{1}{5}$

$0.67 = \frac{67}{100}$

$0.1 = \frac{1}{10}$

$0.05 = \frac{5}{100} = \frac{1}{20}$

$0.18 = \frac{18}{100} = \frac{9}{50}$

$0.8 = \frac{8}{10} = \frac{4}{5}$

Convert Fraction to Decimal

$\frac{7}{10} = 0.7$

$\frac{4}{10} = 0.4$

$\frac{1}{10} = 0.1$

$\frac{9}{10} = 0.9$

$\frac{12}{50} = 0.24$

$\frac{16}{25} = 0.64$

Convert Fraction to Percent

$\frac{4}{20} = 20 \%$

$\frac{8}{10} = 80 \%$

$\frac{5}{20} = 25 \%$

$\frac{32}{50} = 64 \%$

$\frac{46}{50} = 92 \%$

$\frac{8}{20} = 40 \%$

Convert Percent to Fraction

$47 \% = \frac{47}{100}$

$39 \% = \frac{39}{100}$

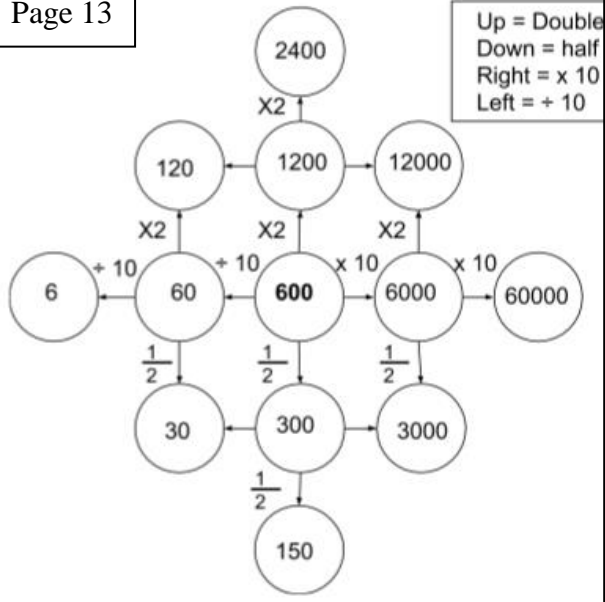
$52 \% = \frac{52}{100} = \frac{13}{25}$

$26 \% = \frac{26}{100} = \frac{13}{50}$

$56 \% = \frac{56}{100} = \frac{14}{25}$

$13 \% = \frac{13}{100}$

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Conversions

4.7kg
3400ml
9.3km
7100mm
5.3cm
97mm

Page 15

X, \div by 10, 100, 1000

- 1) 0.026
- 2) 315
- 3) 0.19
- 4) 1950
- 5) 0.105
- 6) 38500
- 7) 4.25
- 8) 25500
- 9) 0.033
- 10) 3950
- 11) 0.2
- 12) 365

Maths Facts

Page 14

- Height \times base then half
- 360°
- 180°
- 180°
- 4 sided shape
- 360°
- Out of 100
- \div bottom, \times top
- Length \times Width \times Height

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3D Shapes Table

Shape	Faces	Edges	Vertices
Cube	6	12	8
Cuboid	6	12	8
Triangular Prism	5	9	6
Cylinder	3	2	0
Square based Pyramid	5	8	5
Triangular based pyramid	4	6	4
Sphere	1	0	0
Cone	2	1	1

Page 17-18

Temperature

1. 21
2. -3 13
3. 26
4. 9am = -2. Noon = 5, 8pm = 9
5. -6
6. 24

Page 20-21

Pattern

1. 22
2. 18
3. a) 18 b) 11
4. 10

Page 23-24

Function Machine

1. 49 11
2. 8 400
3. 19 160
4. 414 27.25
5. 27 120

Page 31

Grammar Page 1

Noun = computer
 Adjective = small
 Verb = play
 Adverb = lazily

Past/ Present Tense

flew
 forgot
 hid
 said

Singular/ Plural

wives
 sizes
 potatoes
 ribbons

Homophones

by
 right
 witch
 grate

Apostrophes

Clare's
 Isn't
 teachers'
 rabbit's

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Grammar Page 2

Noun = pen
 Adjective = cranky
 Verb = hit
 Adverb = really

Past/ Present Tense

speak
 send
 understand
 draw

Singular/ Plural

horses
 loaves
 women
 geese

Homophones

not
 waste
 fair
 knew

Apostrophes

Cowell's
 won't
 I'd
 doesn't

Page 33

Grammar Page 3

Noun = job
 Adjective = happy
 Verb = create
 Adverb = wishfully

Past/ Present Tense

told
 thought
 woke
 won

Singular/ Plural

fungi
 men
 deer
 feet

Homophones

fare
 claws
 there
 pane

Apostrophes

It's
 can't/ brother's
 I'm
 bag's

Page 34

Synonyms

- 1) a) well-known
 b) hardly
 c) bully
 d) arid
 e) imprison
 f) chaos

Page 34

Synonyms (Example Answers)

- 2) a) location
 b) blemish
 c) accurate
 d) exciting
 e) buddy
 f) work
 g) smell
 h) ambition
 i) crafty
 j) mist

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Synonyms

- 3) happy = cheerful
 afraid = frightened
 fast = quick
 angry = cross
 closed = shut
 big = huge

Page 34

Synonyms for see (Examples)

4) look at, recognise, notice, understand, realize, glimpse, observe, inspect, view

Page 35

Plurals

pianos
 sheep
 chiefs
 ladies
 spoons
 feet
 takeoffs
 brushes
 keys

Page 35

Opposites

worse
 light
 above
 good
 asleep
 sad

Page 35

Compound Words

upstream
 another
 football
 backbone
 earthquake

Page 35

Prefixes

misunderstand
 illiterate
 unable
 irresistible
 indestructible

Page 35

Spelling

disappoint
 embarrass
 immediately
 interrupt
 necessary