## O AUSTRALIAN <br> gnPOSt (NSW



STAGE 2

## Australian Signpost Maths NSW 3 (Stage 2) Suggested Program

Term 1

| Week Program | Page | Unit | Title | Strand | Syllabus Code/s | Syllabus sub-elements |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week 1 | Mentals unit 1 |  |  |  |  |  |
| Week 2 | Mentals unit 2 |  |  |  |  |  |
| Week 3 | 1 | 1:01 | Counting | Number and algebra | $\begin{aligned} & \text { MA2-MR-01, MA2-RN- } \\ & 01 \end{aligned}$ | Multiplicative relations A, Representing numbers using place value A |
| Week 3 | 2 | 1:02 | Counting | Number and algebra | $\begin{aligned} & \text { MA2-MR-01, MA2-RN- } \\ & 01 \end{aligned}$ | Multiplicative relations A, Representing numbers using place value A |
| Week 3 | 116 | 4:01 | Symmetry | Space | MA2-2DS-02 | Two-dimensional spatial structure A (2D shapes) |
| Week 3 | 146 | 5:01 | Dot plots | Statistics | MA2-DATA-02 | Data A |
| Week 3 | 147 | 5:02 | Tables | Statistics | MA2-DATA-02 | Data A |
| Week 4 | 3 | 1:03 | Numbers to 1000 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 4 | 4 | 1:04 | Numbers to 1000 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 4 | 5 | 1:05 | Numbers to 1000 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |
| Week 4 | 117 | 4:02 | Properties of 2D shapes | Space | MA2-2DS-02 | Two-dimensional spatial structure A (2D shapes) |
| Week 4 | 118 | 4:03 | Symmetry around us | Space | MA2-2DS-02 | Two-dimensional spatial structure A (2D shapes) |
| Week 5 | 30 | 2:01 | Arrays | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 5 | 31 | 2:02 | Square numbers | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 5 | 32 | 2:03 | Addition and subtraction | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 5 | 119 | 4:04 | Properties of 3D objects | Space | MA2-3DS-01 | Three-dimensional spatial structure A (3D objects) |
| Week 5 | 120 | 4:05 | Properties of 3D objects | Space | MA2-3DS-01 | Three-dimensional spatial structure A (3D objects) |
| Week 6 | 33 | 2:04 | Number facts, x 2 | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 6 | 34 | 2:05 | Number facts, x 5 , $\text { x } 10$ | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 6 | 35 | 2:06 | Multiplication facts | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 6 | 148 | 5:03 | Tables and graphs | Statistics | MA2-DATA-02 | Data A |
| Week 6 | 149 | 5:04 | Picture graphs | Statistics | MA2-DATA-02 | Data A |
| Week 7 | 36 | 2:07 | 2, 5 and 10 times tables | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 7 | 37 | 2:08 | Patterns in + and - | Number and algebra | MA2-AR-01, MA2-AR-02 | Additive relations A |

Australian Signpost Maths NSW 3 (Stage 2) Suggested Program
Term 1 cont.

| Week 7 | 79 | 3:01 | Revision of length | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week 7 | 80 | 3:02 | Length and width | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 7 | 81 | 3:03 | Measuring with centimetres | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 8 | 38 | 2:09 | Relating addition and subtraction | Number and algebra | MA2-AR-01, MA2-AR-02 | Additive relations A |
| Week 8 | 39 | 2:10 | Money | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 8 | 82 | 3:04 | Clocks | Measurement | MA2-NSM-02 | Non-spatial measure A (Time) |
| Week 8 | 83 | 3:05 | Analog time | Measurement | MA2-NSM-02 | Non-spatial measure A (Time) |
| Week 8 | 84 | 3:06 | Analog time | Measurement | MA2-NSM-02 | Non-spatial measure A (Time) |
| Week 9 | 40 | 2:11 | Shopping | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 9 | 41 | 2:12 | Money | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 9 | 85 | 3:07 | Capacity review | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Capacity) |
| Week 9 | 86 | 3:08 | Estimating the litre | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Capacity) |
| Week 9 | 87 | 3:09 | The litre | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Capacity) |
| Week 10 | 6 | 1:06 | Rounding to the nearest 10 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |
| Week 10 | 7 | 1:07 | Rounding to the nearest 100 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 10 | 8 | 1:08 | Numbers to 1000 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |

Australian Signpost Maths NSW 3 (Stage 2) Suggested Program
Term 2

| Week Program | Page | Unit | Title | Strand | Syllabus Code/s | Syllabus sub-elements |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week 11 | 9 | 1:09 | Numbers to 1000 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |
| Week 11 | 10 | 1:10 | Fractions of a group | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 11 | 11 | 1:11 | Fractions of a whole | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 11 | 88 | 3:10 | Metres and centimetres | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 11 | 89 | 3:11 | Recording length | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 12 | 42 | 2:13 | Addition to 99 | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 12 | 43 | 2:14 | Jump strategy | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 12 | 44 | 2:15 | Jump strategy | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 12 | 90 | 3:12 | Measuring distance | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 12 | 91 | 3:13 | Measuring length | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 13 | 45 | 2:16 | Equalities | Number and algebra | MA2-AR-01, MA2-AR-02 | Additive relations A |
| Week 13 | 46 | 2:17 | Mental strategies | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 13 | 121 | 4:06 | Position and giving directions | Space | MA2-GM-01 | Geometric measure A (Position) |
| Week 13 | 122 | 4:07 | Giving directions | Space | MA2-GM-01 | Geometric measure A (Position) |
| Week 14 | 12 | 1:12 | Numbers to 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 14 | 13 | 1:13 | Numbers to 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |
| Week 14 | 150 | 5:05 | Chance | Probability | MA2-CHAN-01 | Chance A |
| Week 14 | 151 | 5:06 | Chance outcomes | Probability | MA2-CHAN-01 | Chance A |
| Week 14 | 152 | 5:07 | Chance outcomes | Probability | MA2-CHAN-01 | Chance A |
| Week 15 | 14 | 1:14 | Fractions | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 15 | 15 | 1:15 | Fractions | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 15 | 92 | 3:14 | Time, minutes past | Measurement | MA2-NSM-02 | Non-spatial measure A (Time) |
| Week 15 | 93 | 3:15 | Time, minutes to | Measurement | MA2-NSM-02 | Non-spatial measure A (Time) |
| Week 15 | 94 | 3:16 | Time, minutes past and to | Measurement | MA2-NSM-02 | Non-spatial measure A (Time) |
| Week 16 | 47 | 2:18 | Number facts, x 3 extension | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 16 | 48 | 2:19 | Times tables | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 16 | 49 | 2:20 | Multiplication facts | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 16 | 95 | 3:17 | The kilogram | Measurement | MA2-NSM-01 | Non-spatial measure A (mass) |

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Term 2 cont.

| Week 16 | 96 | $3: 18$ | Comparing <br> masses | Measurement | MA2-NSM-01 | Non-spatial measure A (mass) |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- |
| Week 17 | 50 | $2: 21$ | Number facts, x 4 | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 17 | 51 | $2: 22$ | Times tables | Number and algebra | MA2-MR-01 | Multiplicative relations A |
| Week 17 | 123 | $4: 08$ | Regular and <br> irregular shapes | Space | MA2-2DS-01 | Two-dimensional spatial <br> structure A (2D shapes) |
| Week 17 | 124 | $4: 09$ | Parallel and <br> perpendicular <br> lines | Space |  | MA2-2DS-01 |

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Term 3

| Week Program | Page | Unit | Title | Strand | Syllabus Code/s | Syllabus sub-elements |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week 21 | 18 | 1:18 | Numbers to 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 21 | 19 | 1:19 | Place value to 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |
| Week 21 | 97 | 3:19 | Using the kilogram | Measurement | MA2-NSM-01 | Non-spatial measure A (Mass) |
| Week 21 | 98 | 3:20 | Mass problem solving | Measurement | MA2-NSM-01 | Non-spatial measure A (Mass) |
| Week 21 | 131 | 4:16 | Right angles | Space | MA2-GM-03 | Geometric measure A (Angles) |
| Week 22 | 20 | 1:20 | Fractions with circles | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 22 | 21 | 1:21 | Using fractions | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 22 | 99 | 3:21 | Area | Measurement | MA2-2DS-03 | Two-dimensional spatial structure A (Area) |
| Week 22 | 100 | 3:22 | Area using square centimetres | Measurement | MA2-2DS-03 | Two-dimensional spatial structure A (Area) |
| Week 22 | 132 | 4:17 | Angle turns | Space | MA2-GM-03 | Geometric measure A (Angles) |
| Week 23 | 54 | 2:25 | Inverse operations, $x$ and $\div$ | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 23 | 55 | 2:26 | Relating x and $\div$ | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 23 | 56 | 2:27 | $x$ and $\div$ fact <br> families | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 23 | 133 | 4:18 | Describing position | Space | MA2-GM-01 | Geometric measure A (Position) |
| Week 23 | 134 | 4:19 | Pathways between places | Space | MA2-GM-01 | Geometric measure A (Position) |
| Week 24 | 57 | 2:28 | Relating x and $\div$ | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 24 | 58 | 2:29 | Linking x and $\div$ | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 24 | 101 | 3:23 | Square centimetres | Measurement | MA2-2DS-03 | Two-dimensional spatial structure A (Area) |
| Week 24 | 102 | 3:24 | Area problems | Measurement | MA2-2DS-03 | Two-dimensional spatial structure A (Area) |
| Week 24 | 156 | 5:11 | Class investigation | Statistics | MA2-DATA-01 | Data A |
| Week 25 | 59 | 2:30 | $\begin{aligned} & \div \text { facts from } \mathrm{x} \\ & \text { facts } \end{aligned}$ | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 25 | 60 | 2:31 | $x$ and $\div$ tables | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 25 | 61 | 2:32 | Problem solving | Number and algebra | MA2-MR-02 | Multiplicative relations A |
| Week 25 | 103 | 3:25 | Using litres | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Volume) |
| Week 25 | 104 | 3:26 | Capacity problem solving | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Capacity) |

## Australian Signpost Maths NSW 3 (Stage 2) Suggested Program

## Term 3 cont.

| Week 26 | 22 | $1: 22$ | Numbers to 10 <br> 000 | Number and algebra | MA2-RN-01 | Representing numbers using <br> place value A |
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| Week 26 | 23 | $1: 23$ | Numbers to 10 <br> 000 | Number and algebra | MA2-RN-01 | Representing numbers using <br> place value A |
| Week 26 | 24 | $1: 24$ | Expanded <br> notation | Number and algebra | MA2-RN-01 | Representing numbers using |
| place value A |  |  |  |  |  |  |

Australian Signpost Maths NSW 3 (Stage 2) Suggested Program
Term 4

| Week Program | Page | Unit | Title | Strand | Syllabus Code/s | Syllabus sub-elements |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Week 31 | 75 | 2:46 | Subtraction with trading to 99 | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 31 | 76 | 2:47 | Subtracting with trading | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 31 | 107 | 3:29 | The millimetre | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 31 | 108 | 3:30 | Using the ruler | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 31 | 109 | 3:31 | Length problem solving | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 32 | 25 | 1:25 | Fractions of a group | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 32 | 26 | 1:26 | Fractions of a whole | Number and algebra | MA2-PF-01 | Partitioned fractions A |
| Week 32 | 77 | 2:48 | Subtraction with trading | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 32 | 78 | 2:49 | Checking subtraction by addition | Number and algebra | MA2-AR-01 | Additive relations A |
| Week 33 | 110 | 3:32 | The cubic centimetre | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Volume) |
| Week 33 | 111 | 3:33 | The cubic centimetre | Measurement | MA2-3DS-02 | Three-dimensional spatial structure A (Volume) |
| Week 33 | 159 | 5:14 | Drawing graphs | Statistics | MA2-DATA-01 | Data A |
| Week 33 | 160 | 5:15 | Surveys | Statistics | MA2-DATA-01 | Data A |
| Week 33 | 161 | 5:16 | Carry out your own survey | Statistics | MA2-DATA-01 | Data A |
| Week 34 | 27 | 1:27 | Numbers to 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 34 | 28 | 1:28 | Numbers over 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value $A$ |
| Week 34 | 29 | 1:29 | Numbers over 10 000 | Number and algebra | MA2-RN-01 | Representing numbers using place value A |
| Week 34 | 137 | 4:22 | Spheres | Space | MA2-3DS-01 | Three-dimensional spatial structure A (3D objects) |
| Week 34 | 138 | 4:23 | 3D objects | Space | MA2-3DS-01 | Three-dimensional spatial structure A (3D objects) |
| Week 35 | 112 | 3:34 | Standard metric units | Measurement | MA2-GM-02 | Geometric measure A (Length) |
| Week 35 | 113 | 3:35 | Personal benchmarks | Measurement and space | MA2-GM-02, MA2-3DS02, MA2-NSM-01, MA2-2DS-03 | Geometric measure A (Length), Three-dimensional spatial structure A (Volume), Non-spatial measure A (Mass), Two-dimensional spatial structure A (Area) |
| Week 35 | 139 | 4:24 | Using coordinates | Space | MA2-GM-01 | Geometric measure A (Position) |

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Term 4 cont.

| Week 35 | 140 | $4: 25$ | Creating maps | Space | MA2-GM-01 | Geometric measure A <br> (Position) |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Week 35 | 162 | $5: 17$ | Researching data | Statistics | MA2-DATA-02 | Data A |
| Week 36 | 114 | $3: 36$ | The calendar | Measurement | MA2-NSM-02 | Non-spatial measure B (Time) <br> Review of Year 2 |
| Week 36 | 115 | $3: 37$ | The calendar | Measurement | MA2-NSM-02 | Non-spatial measure B (Time) <br> Review of Year 2 |
| Week 36 | 141 | $4: 26$ | 3D models | Space | MA2-3DS-01 | Three-dimensional spatial <br> structure A (3D objects) |
| Week 36 | 142 | $4: 27$ | The net of a cube | Space | MA2-3DS-01 | Three-dimensional spatial <br> structure A (3D objects) |
| Week 36 | 163 | $5: 18$ | Repeating an <br> experiment | Statistics | MA2-DATA-01 | Data A |
| Week 37 | 143 | $4: 28$ | Flip, slide, turn | Space | MA2-2DS-02 | Two-dimensional spatial <br> structure A (2D shapes) |
| Week 37 | 144 | $4: 29$ | Using flip, slide <br> and turn | Space | MA2-2DS-02 | Two-dimensional spatial <br> structure A (2D shapes) |
| Week 37 | 145 | $4: 30$ | Tessellations | Space | Two-dimensional spatial <br> structure A (2D shapes) |  |

Australian Signpost Maths NSW 3 (Stage 2) Syllabus Map

| Strand | Substrand | New NSW Outcome | New Content Description | Australian Signpost Maths NSW Lessons |
| :---: | :---: | :---: | :---: | :---: |
| Number and Algebra | Representing <br> Numbers <br> Using Place Value A | MA2-RN-01: applies an understanding of place value and the role of zero to represent numbers to at least tens of thousands | Whole Numbers: Read, represent and order numbers to thousands <br> Whole Numbers: Apply place value to partition and regroup numbers up to 4 digits | 1:01 Counting <br> 1:02 Counting <br> 1:03 Numbers to 1000 <br> 1:04 Numbers to 1000 <br> 1:05 Numbers to 1000 <br> 1:06 Rounding to the nearest 10 <br> 1:07 Rounding to the nearest 100 <br> 1:08 Numbers to 1000 <br> 1:09 Numbers to 1000 <br> 1:12 Numbers to 10000 <br> 1:13 Numbers to 10000 <br> 1:18 Numbers to 10000 <br> 1:19 Place value to 10000 <br> 1:22 Numbers to 10000 <br> 1:23 Numbers to 10000 <br> 1:24 Expanded notation <br> 1:27 Numbers to 10000 <br> 1:28 Numbers over 10000 <br> 1:29 Numbers over 10000 <br> 2:24 Problem solving |
|  |  | MA2-RN-02: represents and compares decimals up to 2 decimal places using place value |  | Covered in Year 4 |
| Number and Algebra | Additive Relations A | MA2-AR-01: selects and uses mental and written strategies for addition and subtraction involving 2-and 3-digit numbers <br> MA2-AR-02: completes number sentences involving addition and subtraction by finding missing values | Use the principle of equality | 2:03 Addition and subtraction <br> 2:08 Patterns in + and - <br> 2:09 Relating addition and subtraction <br> 2:10 Money <br> 2:11 Shopping <br> 2:12 Money <br> 2:13 Addition to 99 <br> 2:14 Jump strategy <br> 2:15 Jump strategy |
|  |  |  | Recognise and explain the connection between addition and subtraction | 2:17 Mental strategies <br> 2:24 Problem solving <br> 2:32 Problem solving <br> 2:33 Addition strategies <br> 2:34 Subtraction strategies <br> 2:35 Levelling and constant difference <br> 2:36 Change from \$2 <br> 2:37 Problem solving |
|  |  |  | Select strategies flexibly to solve addition and subtraction problems of up to 3 digits <br> Represent money values in multiple ways | 2:39 Subtraction, no trading <br> 2:40 Addition to 99 with trading <br> 2:41 Addition with trading <br> 2:42 Addition with 2-digit numbers <br> 2:43 Addition, trading for 100 <br> 2:44 Addition to 999 with one trade <br> 2:45 Addition, two trades <br> 2:46 Subtraction with trading to 99 <br> 2:47 Subtracting with trading <br> 2:48 Subtracting with trading <br> 2:49 Checking subtraction by addition |

Australian Signpost Maths NSW 3 (Stage 2) Syllabus Map

| Number and Algebra | Multiplicative Relations A | MA2-MR-01: Represents and uses the structure of multiplicative relations to $10 \times 10$ to solve problems <br> MA2-MR-02: completes number sentences involving multiplication and division by finding missing values | Generate and describe patterns | 1:01 Counting <br> 1:02 Counting <br> 1:16 What's your rule? <br> 1:17 Number patterns <br> 2:01 Arrays <br> 2:02 Square numbers <br> 2:04 Number facts, $x 2$ |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Use arrays to establish multiplication facts from multiples of 2 and 4,5 and 10 | 2:05 Number facts, x 5, x 10 <br> 2:06 Multiplication facts <br> 2:07 2, 5 and 10 times tables <br> 2:18 Number facts, x 3 extension <br> 2:19 Times tables <br> 2:20 Multiplication facts <br> 2:21 Number facts, $x 4$ <br> 2:22 Times tables |
|  |  |  | Recall multiplication facts of 2 and 4,5 and 10 and related division facts | 2:23 Number facts, multiplication <br> 2:24 Problem solving <br> 2:25 Inverse operations, $x$ and $\div$ |
|  |  |  | Represent and solve problems involving multiplication fact families | 2:27 $x$ and $\div$ fact families <br> 2:28 Relating $x$ and $\div$ <br> 2:29 Linking $x$ and $\div$ <br> 2:30 $\div$ facts from $x$ facts <br> 2:31 x and $\div$ tables <br> 2:32 Problem solving <br> 2:37 Problem solving |
| Number and Algebra | Partitioned <br> Fractions A | MA2-PF-01: represents and compares halves, quarters, thirds and fifths as lengths on a number line and their related fractions formed by halving (eighths, sixths and tenths) | Create fractional parts of a length using techniques other than repeated halving | 1:10 Fractions of a group 1:11 Fractions of a whole 1:14 Fractions |
|  |  |  | Model and represent unit fractions, and their multiples, to complete a whole on a number line | 1:15 Fractions <br> 1:20 Fractions with circles <br> 1:21 Using fractions <br> 1:25 Fractions of a group <br> 1:26 Fractions of a whole |
| Measurement | Geometric <br> Measure A | MA2-GM-01: uses grid maps and directional language to locate positions and follow routes | Position: Interpret movement on a map | 4:06 Position and giving directions 4:07 Giving directions |
|  |  |  | Position: Locate positions on grid maps | 4:18 Describing position <br> 4:19 Pathways between places <br> 4:24 Using coordinates <br> 4:25 Creating maps |
|  |  | MA2-GM-02: measures and estimates lengths in metres, centimetres and millimetres | Length: Measure and compare objects using metres, centimetres and millimetres | 3:01 Revision of length <br> 3:02 Length and width <br> 3:03 Measuring with centimetres <br> 3:10 Metres and centimetres <br> 3:11 Recording length <br> 3:12 Measuring distance <br> 3:13 Measuring length <br> 3:29 The millimetre <br> 3:30 Using the ruler <br> 3:31 Length problem solving <br> 3:34 Standard metric units <br> 3:35 Personal benchmarks |
|  |  | MA2-GM-03: identifies angles and classifies them by comparing to a right angle | Angles: Identify angles as measures of turn | 4:14 Investigating angles <br> 4:15 Angles <br> 4:16 Right angles <br> 4:17 Angle turns |

## Australian Signpost Maths NSW 3 (Stage 2) Syllabus Map

| Space | Two- <br> Dimensional (2D) Spatial Structure A | MA2-2DS-01: compares two-dimensional shapes and describes their features | 2D shapes: Compare and describe features of twodimensional shapes | 4:08 Regular and irregular shapes <br> 4:09 Parallel and perpendicular lines <br> 4:10 The rhombus and the kite <br> 4:11 Shapes revision <br> 4:20 Trapeziums and parallelograms <br> 4:21 Features of 2D shapes |
| :---: | :---: | :---: | :---: | :---: |
|  |  | MA2-2DS-02: performs transformations by combining and splitting two-dimensional shapes | 2D shapes: Transform shapes by reflecting, translating and rotating | 4:01 Symmetry <br> 4:02 Properties of 2D shapes <br> 4:03 Symmetry around us <br> 4:28 Flip, slide, turn <br> 4:29 Using flip, slide and turn <br> 4:30 Tessellations |
|  |  | MA2-2DS-03: estimates, measures and compares areas using square centimetres and square metres | Area: Use square centimetres to measure and estimate the areas of rectangles <br> Area: Use square metres to measure and estimate the areas of rectangles | 3:21 Area <br> 3:22 Area using square centimetres <br> 3:23 Square centimetres <br> 3:24 Area problems <br> 3:27 The square metre <br> 3:28 The square metre <br> 3:34 Standard metric units <br> 3:35 Personal benchmarks |
| Space | ThreeDimensional (3D) Spatial Structure A | MA2-3DS-01: makes and sketches models and nets of threedimensional objects including prisms and pyramids | 3D objects: Make models of three-dimensional objects to compare and describe key features | 4:04 Properties of 3D objects 4:05 Properties of 3D objects <br> 4:12 Prisms and cylinders <br> 4:13 Pyramids <br> 4:22 Spheres <br> 4:23 3D objects <br> 4:26 3D models <br> 4:27 The net of a cube |
|  |  | MA2-3DS-02: estimates, measures and compares capacities (internal volumes) using litres, millilitres and volumes using cubic centimetres | Volume: Measure and order containers using litres <br> Volume: Compare objects using familiar metric units of volume | 3:07 Capacity review <br> 3:08 Estimating the litre <br> 3:09 The litre <br> 3:25 Using litres <br> 3:26 Capacity problem solving <br> 3:32 The cubic centimetre <br> 3:33 The cubic centimetre <br> 3:35 Personal benchmarks |
| Measurement | Non-Spatial <br> Measure A | MA2-NSM-01: <br> estimates, measures and compares the masses of objects using kilograms and grams | Mass: Compare objects using the kilogram | 3:17 The kilogram <br> 3:18 Comparing masses <br> 3:19 Using the kilogram <br> 3:20 Mass problem solving <br> 3:34 Standard metric units <br> 3:35 Personal benchmarks |
|  |  | MA2-NSM-02: <br> represents and interprets analog and digital time in hours, minutes and seconds | Time: Represent and read analog time | 3:04 Clocks <br> 3:05 Analog time <br> 3:06 Analog time <br> 3:14 Time, minutes past <br> 3:15 Time, minutes to <br> 3:16 Time, minutes past and to <br> 3:36 The calendar <br> 3:37 The calendar |
| Statistics | Data A | MA2-DATA-01: collects discrete data and constructs graphs using a given scale <br> MA2-DATA-02: <br> interprets data in tables, dot plots and column graphs | Collect discrete data Organise and display data using tables and graphs Interpret and compare data | 5:01 Dot plots <br> 5:02 Tables <br> 5:03 Tables and graphs <br> 5:04 Picture graphs <br> 5:08 Making graphs <br> 5:09 Reading graphs and tables <br> 5:11 Class investigation <br> 5:14 Drawing graphs <br> 5:15 Surveys <br> 5:16 Carry out your own survey <br> 5:17 Researching data <br> 5:18 Repeating an experiment |
| Probability | Chance A | MA2-CHAN-01: records and compares the results of chance experiments | Identify possible outcomes from chance experiments | 5:05 Chance <br> 5:06 Chance outcomes <br> 5:07 Chance outcomes <br> 5:12 Predicting outcomes <br> 5:13 Ordering events |

## What is Australian Signpost Maths?

Australian Signpost Maths NSW is a mathematics program providing direction and support for teaching and learning. The series covers the content and skills presented in the NSW Mathematics Syllabus K-6, 2024.
A Student Book and an online Teacher Resource are provided for Kindergarten (Early Stage 1).

For Years 1 to 6, a Student Book, an online Teacher Resource and a Mentals Book are provided for each year level. The online Teacher Resources provide a wealth of support for teachers.

The content has been carefully sequenced within each year level and across the K-6 series to take into account students' expected mathematical development. However, from the rich and varied material provided, teachers can develop individual learning programs to meet the needs of each student.

The Student Books are designed to support explicit teaching methods. Many group activities are provided in Activity, Investigation and Fun spots within the Student Books and the online Teacher Resource.

To maximise the benefits of the program, the Student Book, the online Teacher Resource and the Mentals Book should be used together.


Student Books


Mentals Books


Teacher Resource


## Structure of Austrealion Signpost Maths NSW

In the Year 3 to 6 books, the worksheet pages cover all three elements: Number and algebra, Measurement and space, and Statistics and probability.

These are presented in five chapters:

- Number and algebra
- Operations and algebra
- Measurement
- Space
- Statistics and probability.

This gives teachers flexibility in programming that is more appropriate to Years 3 to 6.
The contents cross-reference allows teachers to quickly find the pages where each concept has been covered.

Within the program, explicit teaching, critical and creative thinking, language development and identification and treatment of weaknesses are given high priority.

## Identifying and addressing areas of need

Five progress tests are designed to identify each student's areas of need, and the follow-up program after each of the tests is designed to address these needs. A reference to the relevant worksheet page is given for each test question. A remediation record page is used to track the student's progress.

Parallel progress retests are provided for further testing after remediation has taken place.

These testing resources can be found in the online Teacher Resource.

## Special features of Australian Signpost Maths NSW

## - The traffic light icons

These are found on the top right of each worksheet page in the Student Books. They allow students to assess their own progress and give feedback to the teacher.


Green: I found this work easy.
$\square$ Orange: I found some work on the page difficult.
Red: I don't understand the work on this page.

## - Dictionary

Terms used in the Student Book and terms that should be understood at this level are recorded here to provide a reference for students and teachers. This is found on pages xiv-xxii of this book.

## - ID cards (Years 1 to 6 )

These cards review the language of Mathematics by asking students to identify common terms, shapes and symbols. They are designed to be reused and are found in the online Teacher Resource and in the front of the Mentals Books.

## - Progress tests

These allow the teacher to identify each student's strengths and weaknesses. Cross-references for each question direct teachers and students to the pages where that work is introduced. Tables are provided to record the follow-upthat takes place and parallel tests are provided for retesting. These tests can be found in the online Teacher Resource.

## - Year 3 Consolidation booklet

This booklet is found in the online Teacher Resource. It is designed to reinforce work completed in class and provides practice of important skills and addition and subtraction facts. The booklet can be used when there is lingited supervision or when a student finishes classwork early

## - Answers

These are supplied in the Student Book and the online Teacher Resource.

## - Blackline masters (BLM)

References are made to the blackline masters in the online Teacher Resource suggestions provided for each student work page.

- Differentiation

Each Student Bookwork pagge has a Teacher Resource page to support it. Cross-
 references direct the teacher to pages where the concept is introduced and developed. These references may be from the Student Book for the previous year, the current year or the next year.

The Teacher Resource support pages provide additional learning activities for students who need remediation or extension activities. The blackline masters provide activities to support students of various learning abilities.

## - Cartoons

Cartoons are used to motivate and instruct.

## - Extra support pages

Addition and subtraction facts are reinforced in Extra Support 1-4.
The algorithm strategy pages extend the fast worker.


## Australian Signpost Maths NSW icons

Signpost icons are used throughout the book as cues to the essential nature of exercises and activities, and as a guide to ways of engaging with them. These icons often indicate alternative or more concrete approaches to dealing with concepts.


This icon highlights important rules and concepts occurring throughout the book. It often appears with worked examples.

Activities provide applications and enrichment. These activities usually involve the use of concrete materials and partner or group work.


These enjoyable activities are used to motivate and involve students in mathematical pursuits. They usually involve games and puzzles.


Investigations allow students to explore and discover maths concepts.

These activities involve the use of computers or other technology.


## Structure of the New South Wales Mathematics Syllabus K-6

The NSW Mathematics Syllabus content is presented in three strands:
1 Number and algebra 2 Measurement and space 3 statistics and probability
Working mathematically pervades each of these strands.

## Textbook structure

Within the Year 3 Contents (pages vi toxi), we show related pages using these categories:

## Chapter 1: Number and algebra

- Counting, number - Place value • Rounding - Fractions - Patterns, algebra


## Chapter 2: Operations and algebra

- Addition - Subtraction • Multiplication - Division • Mental strategies • Number patterns
- Money - Problem solving

Chapter 3: Measurement

- Length - Area • Volume - Capacity • Mass • Telling the time • Duration • Problem solving


## Chapter 4: Space

- 2D space - Angles, lines • Symmetry, turning • 3D objects • Position, directions

Chapter 5: Statistics and probability

- Collecting data • Surveys • Creating data displays • Analysing data displays
- Chance language - Chance experiments

The Cross-reference (pages xii and xiii) give a clear indication of where syllabus content is addressed.
The Suggested program is provided in the Contents pages and aligns with the Mentals Book and
Progress tests and Retests.
Each Mentals unit reviews the previous 2 weeks' content from the Student Book suggested program.

1 Use the hundred chart to answer the questions.
a Count by 2 s . Colour these numbers yellow.
b Starting at 100, count backwards by 10 s.
Draw a cross on these numbers.
c Circle every second even number up to 80 .
What do you notice?
$\qquad$

Hundred chart

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |

d Start at 8 and count on by tens until you reach 98 . Write this pattern.
(2) When we count by 2 s from zero, the numbers end in
(3) When we count by 5 s from zero, the numbers end in
(4) When we count by 10 s from zero, the numbers, end in $\square$

(5) Continue each pattern using the rule given. Use a calculator to check. a Add 5.
b Subtract 2.
c Add 10 .
d Subtract 10, 174, 164, 154, $\square$

$\qquad$
$\square$
 e Add 100.

6 Show your answers to Questions 5c and 5d on the number lines.
a


The rule is $\square$


The rule is $\square$
(1) a Count on from 76 to 94 by 2 s .
b Count backwards from 1000 by 100s.
c Count on from 645 to 690 by 5 s.
d Count backwards from 500 to 400 by 10s.
(2) Write the missing numbers.

(3) Count by $2 s$ and write the first 20 numbers you count. Circle every second number and discuss the pattern.

(4) Count by $5 s$ and write the first 20 numbers you count. Circle every second number and discuss the pattern.

5. If you have to count 300 ten-cent coins, what is the best counting strategy to make sure you count them correctly?


6 Show your answers to Questions 1a and 1b on the number line.
a

$\square$
b


The rule is $\square$
c Try to do Question 1c on your own number line.

The broken lines are lines of symmetry.


You can fold along a line of symmetry and the two halves will match.
(1) Use a ruler to draw a line of symmetry on each picture.

(2) Draw lines of symmetry on these letters.

(3) Use a ruler and pencil to draw all of the lines of symmetry on each shape.

Draw the other half of each picture below.

## Drawing a dot plot

- The members of our class were asked how many pets they had at home.
- The student with the most pets had 5. We wrote the numbers 0 to 6 under the line.
- As each student told us the number of pets, we put a dot above that number.


(1) I stayed in hospital for 7 days.

I kept a dot plot of the people who visited me. How many people visited me:
a on Sunday? $\square$ b on Wednesday?
c On which day did I have no visitors?
d How many visitors did I have during this time?
2


At camp, each of us took one piece of fruit. We could have an apple, orange, banana on pear. We made a dot plot of the fruit chosen.
 How many of us chose a banana?

How many pieces of fruit were taken? $\square$
How many more apples than pears were chosen? $\square$
(3)


The letters a, e, i, o and $\mathbf{u}$ are called vowels. Make a dot plot of the vowels used in the graph of Question 2.
a Which vowel was used the most?
b Which vowel was used two times?

c Which two vowels were used the same number of times?

d How many vowels were used altogether?
e What is the difference in number, of the most used and least used vowel? $\square$

1 Each student in the class chose a colour. The results are in the Colours chosen table.
a The most popular colour was
b The least popular colour was


| Colours chosen |  |  |  |
| :---: | :---: | :---: | :---: |
| Blue | Green | Orange | Red |
| 12 | 8 | 4 | 6 |

c How many students chose green?
d How many students are in the class?

2 Use the Collections table to answer these questions. How many cards were collected by each person?
a Darcy


How many stickers were collected by each person?
e Rachel
g Rhonda $\square$
i How many cards and stickers altogether were

|  | Collections |  |
| :---: | :---: | :---: |
|  |  |  |
| Person | Number of <br> Cards | Number of <br> stickers |
| Darcy | 825 | 173 |
| Nasha | 72 | 201 |
| Rachel | 300 | 88 |
| Rajiv | 166 | 193 |
| Rhonda | 46 | 405 | collected by Rachel?

(3) How old is each person?
a Tom
b Alana
c Rachel
d Deklyn

| Name | Age | Name | Age |
| :---: | :---: | :---: | :---: |
| Alana | 27 | Alan | 57 |
| Ally | 38 | Luke | 20 |
| Deklyn | 0 | Rachel | 23 |
| Greg | 10 | Tom | 87 |
| Heather | 17 | Naomi | 22 | be answered using this table.



- Do you think there are more left-handed or right-handed students in your class?
- Investigate the question by completing this tally.
- By how many is one group bigger than the other?

| Right-handed |  |  |
| :---: | :--- | :--- |
| Left-handed |  |  |


(1) Write the number shown by the place-value blocks or abacus.

c

k

(2) Which number is larger?

(3) Write these in order from smallest to largest.
a $137,653,446$
c $819,106,567$ $\square$ b 974, 237, 491
d $683,749,250$ $\square$ , $\square$

three hundred and twenty-seven
(1) Write the numeral, fill in the numeral expander and write the number in words.
a


2 How many digits are in each numeral?
a 39
f 13 $\square$ b 256
g 7 c 970
h 520


3 Write these numbers as numerals.
a two hundred and sixty
c nine hundred and forty
e six hundred and seventy-nine
$g$ eight hundred and sixty-eight
$\square$ b one hundred and fifty-two
d seven hundred and eighteen
f five hundred and thirty-four
h three hundred and six

(4) Write the numbers before and after.

b $\square$
c $\square$ $659, \square$
$709, \square$

- Use place-value blocks to model these numbers.
- 216
- 525
- 848
- 634
- 967
- 388
- 793
- 364
- 190
- 572
- 451
- 1000


720 is the same as
7 hundreds and 2 tens or 72 tens or 720 ones.


Numeral expanders help us understand the value of the numbers.
(1) Complete the numeral expanders.

b 568

(2) Write each number as a numeral.
a six hundred and thirty-two
c four hundred and twenty-nine
e two hundred and thirty-eight
$g$ nine hundred and forty
$\square$ b eight hundred and seventeen
d seven hundred and sixty-three
f five hundred and sixty-two
$h$ three hundred and fifty-one

(3) Write each number in words.
$\square$ b 607
c 310
d 841 $\square$

- Use concrete materials to show the numbers in Question 3. Explain your answer to a partner.


Antonio's teacher made a geoboard like this by hammering nails into wood. Antonio used the geoboard to make shapes by stretching a rubber band over the nails.

(2) Every corner of each shape on the geoboard must be at a nail.
a On the geoboard above, draw 3 triangles of different shapes and sizes.
How many sides does each triangle have?
b What shapes can you draw using 4 nails as corners?
Draw 3 of them on the geoboard above.
c A pentagon has 5 sides. How many corners would you need to draw a pentagon? $\square$
Draw a pentagon on the geoboard.
d Draw a shape on the geoboard that has 6 corners.
What is this shape called? $\qquad$

Olena cut a square of paper into 5 pieces. She asked her friend to put the square back together again. Then she asked her friend to make a picture using the pieces.


- Cut your own square of paper into 5 pieces. Colour one side.
- Discuss the shapes you cut out.
- Mix up your 5 pieces and ask a partner to put the square back together again.
- Use your pieces of paper to make pictures.


It is hard to find perfect symmetry, but there are many examples of symmetry that are close to perfect.

We use the term symmetrical in these cases.


Discuss the symmetry
(1) Order the heads from 'most symmetrical' (1), to 'least symmetrical' (6).

$\square$

(2) Draw the other half to make each picture symmetrical.

Slide back the edge of this page so that it matches the pictures on page 116 underneath. What do you see?



## Introduction

## Using the Mentals Books

This book is used most effectively when it aligns with the suggested program in the Student book contents. Each unit of the Mentals Book is programmed to review Student Book content for the previous two weeks. For example, Unit 15 of the Mentals Book can be set as homework to review weeks 13 and 14 of the Student Book while week 15 of the Student Book is being taught.

Units 1 and 2 of this book revise work from the previous year and could be completed in weeks 1 and 2 of the school year.

## Mixed-topic questions

The units present questions in a mixed-topic format to encourage thorough understanding and continuous review.

## Presentation

- Number facts are reinforced to encourage instant recall.
- Essential skills are explained.
- The Arithmetic card (page 5 ) is a useful teaching tool for practising basic number skills.
- ID cards (pages 6 and 7 ) review the mathematical terms students need to learn.
- Measurement standards and examples (pages 8 and 9) are provided so that students can learn important facts and estimate measurements effectively.


## Graded questions

- Column 1: easier
- Column 2 and 3: harder
- Column 4: Extension and Challenge


## Motivation

- There are two lizards hidden on each page for students to find.

The header allows students to record their score.

## Extra activities



- Problem-solying strategies are introduced in a carefutlyyplanned sequence throughout the series.

- 

Measurement
concepts and activities are introduced and investigated.


- Statistics and Probability concepts are presented for revision and extension.

- A tables program for each of addition, subtraction and multiplication is included. It is important for students to learn addition and multiplication tables by heart.

（1）In a to $f$ ，write the number modelled．

| a相用明腪昌 | b |
| :---: | :---: |
|  | d |
| e | f |

（2）How many place－value ones blocks make one tens block？
（3）The sign＝means＂is e $\qquad$ to＂．
（4）Complete the pattern．
2，4， $\qquad$ ，—— 10， 12
（5）The tally H H Il stands for：

（6） | 0 | 1 | 2 | 3 | 4 | 5 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | This is a n $\qquad$

（7）How many digits in 13？
8 Josh had 5 toy trucks and was given 4 more by his Pa How many has he now

（9）The numeral for twelve．
（10） 10 The number before 76 is $\qquad$
（1） $2+8$
（6）Digits in 184 ．
（2） $17+3$
（3） $20-5$
（7）$\$ 7+\$ 7$
（4） $20-7$
（8）7，9，11，
（9）Take 5 from 15.
（5） $13+34$
（10） 14 more than 35
（11）
 The number sentence is： 8 － $\qquad$ $=$

12 Colour one half of this rectangle．


13 What time is shown？

$\qquad$ past $\qquad$ past


（15）How many in each box if we share the balls fairly？

(1) $24-10$
(5) $18+4$
(2) $13+4$
(3) $25-6$
( $6,4,6$,
(7) Add 19 and 7 .
(4) $27+6$
(8) 23 minus 4 .
$(9)$ Write 19 in words.
(10)

a $28-3$
b $28-5$
(11) 11 more than 17 .
(12) The numeral for fifty-two.
(13) What month comes after December?
(14) Use the split strategy to find:
a $13+12=$
b $23+26=$
c $45+51=$ $\qquad$ d $33+42=$
$\qquad$
(15) Four equal $q$ $\qquad$ make 1 whole. Colour one quarter.

(16) Wednesday is the $\qquad$ th day of the week.
17 Complete this pattern. $42,44,46$, $\qquad$ ,


18 Circle one quarter of this group.
19
The value of these coins.


20 How many days in one week?
(1) $10+\square=16$
(2) $72,62,52$,
(3) $3,6,9$ $\qquad$
4 Use the split strategy. Show the working.

$$
\begin{aligned}
& 15+38=(10+30)+(5+ \\
&= \\
&= \\
& 5 \text { The difference between } 20 \text { and } 17
\end{aligned}
$$

(6) If $8+12=20$ then $12+8=$

$\qquad$

$$
20-12=
$$

$\qquad$
(7) Three different counting numbers that add to give 7 .
8 How many days altogether in summer?
(9) Which season has the least days?

10 Two weeks is called a fortnight.
Weeks in 4 fortnights?
Challenge
Write as many different number patterns as you can fit in this space.

Fill out this table about yourself, a relative or a friend.
Name:
Date:



2:1 $\square$ out of 7
$2: 2$ $\square$ out of 16
(1) In a to f , write the number modelled.

(2) a $16+4=$
b $15+5=$
(3) How many ones in 3 tens?
(4) The numeral for eighteen.
(5) Days in 1 week.

6


6 rabbits are shared by 2 families.
Each family has

(7) How many minutes in half an hour?

(1) $12+8$
(6) $4 \times 2$
(2) $20-6$
(7) $5 \times 2$
(3) $17+$ $\qquad$ $=20$
(8) 10 shared by 2 .
(4) $38+$ $\qquad$ $=40$
(9) 8 shared by 2 .
(5) $30+52$ $\qquad$ (10) 16 less than 28 .
(11) a Colour one quarter.

(12) Use the split strategy to find:
a $31+52=$
(b $54+24=$
c $83+14=$

(13) Use the jump strategy to find:


14 How many fingers on 3 hands?
groups of $5=$
15


A


C


B
B
A is a
$B$ is a
$C$ is a $\qquad$ $-$
(16) How many days in:
a March? $\qquad$ b September?

（1） $40+6$
（5）Double 13.
（2） $37+3$
（6）Halve 22 ．
（3） $12+14$
（7） $56+10$
（4） $16+31$
（8） $28+12$
（9）a $28+25=$ $\qquad$ b $39+34=$ $\qquad$


## 10


a 2 groups of $4=$ $\qquad$ apples
b 3 groups of $\qquad$ $=$ $\qquad$ apples
（11）

a The difference between 8 and 5
b The difference between 28 and 25
12 Write two linking number sentences for $4+9=$为为
访 Mrsis


13 Circle the heavier object．

（1）a $7+\square=15$
b $\square+16=24$
$\square=$ $\qquad$
out of 6
$\square$

2 In a race，I am 4th out of 5 ．How many are： a in front of me？
b behind me？
（3）Use the code to work out this message．

| $A$ | $B$ | $C$ | $D$ | $E$ | I | K | N | S |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |


| $11-9$ | $2+3$ |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  | $3+4$ | $10-4$ | $8+0$ | $12-8$ |

（4）What is the time halfan hour after quarter past three？
（5）Colour one quarter of this shape．


|  |  |  |  |
| :--- | :--- | :--- | :--- |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

（6） $2+8+3+7+1+9$
Challenge
Write different number sentences that equal 15.


