

BIG IDEA:

Capable mathematics students do not always reach the Upper 2-3 Bands in NAPLAN Numeracy. In many cases, these students are skilled in performing calculations and applying rules, but are not proficient problem-solvers.

Solve IT provides capable mathematics students with a process for solving problems as well as a bank of problem-solving strategies to use on demand. Students also develop literacy skills that are needed to interpret questions correctly.

Solve IT helps schools to build staff and student capability simultaneously. School leaders and Years 4-5 class teachers can access the IMPACT Centre's [Numeracy Squad](#). Your web conference supervisor can co-teach with our online teacher.

SELECTION CRITERIA – U2B or U3B STUDENTS:

- ✓ **U2B groups** are for students who achieved **Band 5 or Band 6** in Year 3 NAPLAN Numeracy 2015 or 2016. The aim is to maintain or boost their U2B result.
- ✓ **U3B groups** are for students who achieved **Band 4 or Band 5** in Year 3 NAPLAN Numeracy 2015 or 2016. The aim is to maintain or boost their U3B result.
- ✓ Schools can enrol students in U2B groups, U3B groups or a combination.
- ✓ Schools can form a combined **Band 4-5-6** group to create a full group.

AUSTRALIAN CURRICULUM:

See pages 2-4 for Australian Curriculum links, NAPLAN online, and assessment/reporting details.

SEASONAL PATHWAYS:

Three *Solve IT* seasons are available for Years 4-5 students across Rounds 1-3.

The content of *Solve IT - Years 4-5* changes each season. This provides an opportunity for students to be selected according to their learning needs. It also means that Years 4-5 students can progress through two or three seasons.

NB: The [Numeracy Squad](#) is also available across the three seasons. The content mirrors *Solve IT*, enabling you to involve Year 5 and Year 4 teachers across the year, with a school leader or numeracy coach coordinating their participation.



ROUND 1: Jan 30 – May 8 Year 5 Booster Season	ROUND 2: May 15 – Aug 21 Year 4 Number and Algebra Season	ROUND 3: Aug 24 – Nov 25 Year 4 Visualisation Season
Round 1 strategies include: <ol style="list-style-type: none"> 1. Addition & Subtraction 2. Benchmarking –number lines and calibrated scales 3. Interpreting Data - graphic 4. Spatial Reasoning <p><i>See page 2 for curriculum links.</i></p>	Round 2 strategies include: <ol style="list-style-type: none"> 1. Addition & Subtraction 2. Multiplicative Thinking 3. Proportional Reasoning 4. Patterns <p><i>See page 3 for curriculum links.</i></p>	Round 3 strategies include: <ol style="list-style-type: none"> 1. Benchmarking 2. Interpreting Data 3. Spatial Reasoning – 2D 4. Spatial Reasoning – 3D <p><i>See page 4 for curriculum links.</i></p>

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SOLVE IT – ROUND 1

Booster Series: Year 5 Booster Season



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Australian Curriculum

Mathematics

Number and Algebra

Number and place value:

- Use efficient mental and written strategies and apply appropriate digital technologies to solve problems ([ACMNA291](#))

Statistics and Probability

Data representation and interpretation:

- Describe and interpret different data sets in context ([ACMSP120](#))

Measurement and Geometry

Shape:

- Connect three-dimensional objects with their nets and other two-dimensional representations ([ACMMG111](#))

Location and transformation:

- Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries ([ACMMG114](#))

Using units of measurement:

- Choose appropriate units of measurement for length, area, volume, capacity and mass ([ACMMG108](#))

General Capabilities

Numeracy

Estimating and calculating with whole numbers

- Understand and use numbers in context
- Estimate and calculate

Interpreting statistical information

- Interpret data displays

Using spatial reasoning

- Visualise 2D shapes and 3D objects

Using Measurement

- Estimate and measure with metric units

ICT Capability

Creating with ICT

- Generate solutions to challenges and learning area tasks

Communicating with ICT

- Select and use appropriate ICT tools safely to share and exchange information and to safely collaborate with other

Literacy

Comprehending texts through listening, reading and viewing

- Comprehend texts
- Navigate, read and view learning area texts
- Interpret and analyse learning area texts

Composing texts through speaking, writing and creating

- Compose spoken, written, visual and multimodal learning area texts
- Compose texts

Word Knowledge

- Understand learning area vocabulary

Critical and Creative Thinking

Inquiring – identifying, exploring and organising information and ideas

- Identify and clarify information and ideas
- Organise and process information

Generating ideas, possibilities and actions

- Seek solutions and put ideas into action
- Consider alternatives

Reflecting on thinking and processes

- Reflect on processes

NAPLAN Online – ICT Skills Guide

NAPLAN Online requires students to confidently use a computer or device in at least seven ways. As shown below, IMPACT Centre projects develop all seven of these skills and are an excellent way to prepare your students for online testing.

- Locate and select an answer from a list – YES
- Type an answer – YES
- Read the screen and navigate web pages – YES
- Manipulate objects on screen – YES

- Read and comprehend digital texts – YES
- Plan and compose text using word processing – YES
- Listen using a headset – YES

NB: See [DET's NAPLAN Online ICT Skills Guide](#) for details.

Assessment

- Pre and post assessment – eLearn quiz
- Portfolio – collection of work samples

Reporting

- Pre and post assessment data are provided to schools, along with student attendance data.
- Qualitative report card comments are provided to schools. We recommend their inclusion as an OLA on semester report cards.

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SOLVE IT – ROUND 2

Booster Series: Year 4 Number and Algebra Season



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Australian Curriculum

Mathematics

Number and Algebra

Number and place value:

- Use efficient mental and written strategies and apply appropriate digital technologies to solve problems ([ACMNA291](#))

Money and financial mathematics:

- Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies ([ACMNA080](#))

Patterns and algebra:

- Explore and describe number patterns resulting from performing multiplication ([ACMNA081](#))

Number and Algebra

Patterns and algebra:

- Solve word problems by using number sentences involving multiplication or division where there is no remainder ([ACMNA082](#))
- Find unknown quantities in number sentences involving addition and subtraction and identify equivalent number sentences involving addition and subtraction ([ACMNA083](#))
- Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction ([ACMNA107](#))

General Capabilities

Numeracy

Estimating and calculating with whole numbers

- Understand and use numbers in context
- Estimate and calculate
- Use money

Recognising and using patterns and relationships

- Recognise and use patterns and relationships

Using fractions, decimals, percentages, ratio and rates

- Interpret proportional reasoning

Literacy

Comprehending texts through listening, reading and viewing

- Comprehend texts
- Navigate, read and view learning area texts
- Interpret and analyse learning area texts

Composing texts through speaking, writing and creating

- Compose spoken, written, visual and multimodal learning area texts
- Compose texts

Word Knowledge

- Understand learning area vocabulary

ICT Capability

Creating with ICT

- Generate solutions to challenges and learning area tasks

Communicating with ICT

- Select and use appropriate ICT tools safely to share and exchange information and to safely collaborate with other

Investigating with ICT

- Select and evaluate data and information

Critical and Creative Thinking

Inquiring – identifying, exploring and organising information and ideas

- Identify and clarify information and ideas
- Organise and process information

Generating ideas, possibilities and actions

- Seek solutions and put ideas into action
- Consider alternatives

Reflecting on thinking and processes

- Reflect on processes

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4. Manipulate objects on screen – YES

5. Read and comprehend digital texts – YES
6. Plan and compose text using word processing – YES
7. Listen using a headset – YES

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Assessment

3. Pre and post assessment – eLearn quiz
4. Portfolio – collection of work samples

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SOLVE IT – ROUND 3

Booster Series: Year 4 Visualisation Season



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Australian Curriculum

Mathematics

Number and Algebra

Number and place value:

- Use efficient mental and written strategies and apply appropriate digital technologies to solve problems ([ACMNA291](#))

Patterns and algebra:

- Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction ([ACMNA107](#))

Measurement and Geometry

Shape:

- Connect three-dimensional objects with their nets and other two-dimensional representations ([ACMMG111](#))

Location and transformation:

- Describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries ([ACMMG114](#))
- Use a grid reference system to describe locations. Describe routes using landmarks and directional language ([ACMMG113](#))

General Capabilities

Numeracy

Estimating and calculating with whole numbers

- Understand and use numbers in context
- Estimate and calculate

Recognising and using patterns and relationships

- Recognise and use patterns and relationships

Using spatial reasoning

- Visualise 2D shapes and 3D objects
- Interpret maps and diagrams

ICT Capability

Creating with ICT

- Generate solutions to challenges and learning area tasks

Communicating with ICT

- Select and use appropriate ICT tools safely to share and exchange information and to safely collaborate with other

Literacy

Comprehending texts through listening, reading and viewing

- Comprehend texts
- Navigate, read and view learning area texts
- Interpret and analyse learning area texts

Composing texts through speaking, writing and creating

- Compose spoken, written, visual and multimodal learning area texts
- Compose texts

Word Knowledge

- Understand learning area vocabulary

Visual Knowledge

- Understand how visual elements create meaning

Critical and Creative Thinking

Inquiring – identifying, exploring and organising information and ideas

- Identify and clarify information and ideas
- Organise and process information

Generating ideas, possibilities and actions

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