

Rationale

Learning mathematics creates opportunities for and enriches the lives of all Australians. AusVELS Mathematics provides students with essential mathematical skills and knowledge in *Number and Algebra*, *Measurement and Geometry*, and *Statistics and Probability*. It develops the numeracy capabilities that all students need in their personal, work and civic life, and provides the fundamentals on which mathematical specialties and professional applications of mathematics are built.

Mathematics has its own value and beauty and the AusVELS Mathematics aims to instil in students an appreciation of the elegance and power of mathematical reasoning. Mathematical ideas have evolved across all cultures over thousands of levels, and are constantly developing. Digital technologies are facilitating this expansion of ideas and providing access to new tools for continuing mathematical exploration and invention. The curriculum focuses on developing increasingly sophisticated and refined mathematical understanding, fluency, logical reasoning, analytical thought and problem-solving skills. These capabilities enable students to respond to familiar and unfamiliar situations by employing mathematical strategies to make informed decisions and solve problems efficiently.

AusVELS Mathematics ensures that the links between the various components of mathematics, as well as the relationship between mathematics and other disciplines, are made clear. Mathematics is composed of multiple but interrelated and interdependent concepts and systems which students apply beyond the mathematics classroom. In science, for example, understanding sources of error and their impact on the confidence of conclusions is vital, as is the use of mathematical models in other disciplines. In geography, interpretation of data underpins the study of human populations and their physical environments; in history, students need to be able to imagine timelines and time frames to reconcile related events; and in English, deriving quantitative and spatial information is an important aspect of making meaning of texts.

The curriculum anticipates that schools will ensure all students benefit from access to the power of mathematical reasoning and learn to apply their mathematical understanding creatively and efficiently. The mathematics curriculum provides students with carefully paced, in-depth study of critical skills and concepts. It encourages teachers to help students become self-motivated, confident learners through inquiry and active participation in challenging and engaging experiences.

Bellbrae Primary School

50 School Road
Bellbrae, 3228
Victoria

(03) 5261 2660

bellbrae.ps@edumail.vic.gov.au



Policy ratified by
School Council

June 2015

Purpose

AusVELS Mathematics aims to ensure that students:

- are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens
- develop an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in *Number and Algebra, Measurement and Geometry, and Statistics and Probability*
- recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.

Mathematics Strands and Sub Strands

AusVELS: Mathematics is organised around the interaction of three content strands and four proficiency strands. .

Number and Algebra	Measurement and Geometry	Statistics and Probability
<i>Number and Place Value (F-8)</i>	<i>Using units of measurement</i>	<i>Chance (1-10)</i>
<i>Fractions and Decimals (1-6)</i>	<i>Shape (F-7)</i>	<i>Data representation interpretation (1-10)</i>
<i>Money and financial mathematics (1-10)</i>	<i>Geometric reasoning (3-10)</i>	
<i>Patterns and algebra (F-10)</i>	<i>Location and transformation (F-7)</i>	

Proficiency Strands

Proficiencies address how content is explored or developed – the thinking and doing of mathematics. They provide the language of mathematical skills across all strands.

Understanding: build a robust knowledge of adaptable and transferable concepts.

Fluency: develop skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily.

Bellbrae Primary School

50 School Road
Bellbrae, 3228
Victoria

(03) 5261 2660

bellbrae.ps@edumail.vic.gov.au

Program

Program ratified by
School Council

June 2015

Bellbrae Primary School

50 School Road
Bellbrae, 3228
Victoria

(03) 5261 2660

bellbrae.ps@edumail.vic.gov.au

Program

Program ratified by
School Council

June 2015

Problem Solving: develop the ability to make choices, interpret, formulate, model and investigate problem situations, and communicate solutions effectively.

Reasoning: develop an increasingly sophisticated capacity for logical thought and actions, such as analysing, proving, evaluating, explaining, inferring, justifying and generalising.

Content Descriptions

In Mathematics, there are only Content Descriptions for the Content Strands and not for the Proficiency Strands.

The Content Descriptions describe the knowledge concepts, skills and processes that teachers are expected to teach and students are expected to learn. The content descriptions are intended to ensure that learning is appropriately ordered and that unnecessary repetition is avoided.

Additional Information:

1. Class programs will be developed under the guidance of the Mathematics Coordinator and Department Coordinators. Class programs will follow the structure of AusVELS.
2. The AusVELS and Mathematics Developmental Continuum will be used to plan the program in conjunction with other publications and support materials.
3. Mathematics will be imbedded in all areas of the Curriculum.
4. A range of activities both concrete and digital will be incorporated into the program.
5. Teachers are encouraged to teach Mathematics in the context of real life situations. There will be a strong emphasis on problem solving activities to develop student's thinking and reasoning skills.
6. The learning environment will be supportive so that all students are able to learn through exploration and risks taking.
7. Assessment will align with D.E.T guidelines.
8. Individual Learning Improvement Plans (I.L.I.P.) will be developed and implemented for students who are working well above or well below the expected AusVELS level. (1.0 Progression Point above or below the expected level).
9. The Mathematics Coordinator will investigate and promote appropriate Professional Development activities.
10. Active participation by parents in mathematical learning experiences at school is encouraged.
11. The Mathematics Coordinator and Classroom Teachers will oversee implementation of the program throughout the school.

Bellbrae Primary School

50 School Road
Bellbrae, 3228
Victoria

(03) 5261 2660

bellbrae.ps@edumail.vic.gov.au

Program

Program ratified by
School Council

June 2015

Evaluation

- Student achievement data from various sources (e.g SPA, ACER PAT Maths, NAPLAN) will inform the content and implementation of the Mathematics Program
- This Policy and Program will be reviewed as part of the school's three year review cycle.