HINCKS AVENUE PRIMARY SCHOOL – MATHS AGREEMENT 2022 - 2024

PEDAGOGICAL PRACTICES

High Impact Teaching Strategies

Targeted Differentiated Teaching:
Teachers build on what each student knows and uses this information to identify and scaffold learning needs. They use data to inform enrichment priorities as well as track and monitor mastery and progress.

Logical and Intentional Sequencing of lessons (using SA Scope and Sequence):
Teachers build connections in learning using sequenced and intentional steps that support students to develop their own learning goals. Provide students with clear transitions between lessons, activities and predictable routines.

Clear Learning intentions (using SA Curriculum Units/ Learning Progressions):
Teachers develop and effectively communicate clear Learning intentions. Students will know what is expected of them to be successful in terms of knowledge, skills, understanding, attitudes and values (Success criteria).

Explicit Teaching (informed by 'background skills' required for curriculum access):
Teachers plan 'direct instruction' activities / warm-ups to: define LI, provide clear instructions, model processes, correct misconceptions, promote BIiN strategies, provide examples of good learning, and promote meta-cognitive strategies such as problem solving skills.

Feedback:
Teachers provide timely advice and actionable feedback for all students, including next steps in learning. Formative assessment practices included peer, small group and individual feedback.

Scaffold Learning:
To ensure gradual release of responsibility (guided - shared - independent)

Multiple approaches:
Deep learning is developed through multiple interactions with concepts encountered in a variety of situations.

4 PROFICIENCY STRANDS: UNDERSTANDING, FLUENCY, PROBLEM-SOLVING & REASONING
These are the **Actions (verbs)** to engage students in learning the content (Nouns)

Task / Lesson Design

OPEN the task to encourage multiple methods, pathways and representations
POSE A PROBLEM to invite curiosity before teaching the method
Design a task that **ALLOWS ALL LEARNERS TO CONTRIBUTE TO THE LEARNING** & have room for extension (*low floor / high ceiling*)
Make opportunities for learners to authentically **SHARE THEIR LEARNING** with peers
Add a **CONCRETE – PICTORIAL – ABSRACT** approach to build visualisation skills
Incorporate **VISIBLE THINKING** routines.

Build a Mathematical Mindset Community

Jo Boaler: You Cubed

Teachers and students believe that *everyone* can learn maths at HIGH LEVELS
- Students are not always grouped by achievement
- All students are offered high level work with "I know you can do this, I believe in you…"
- Students vocalise self-belief and confidence

The Maths is VISUAL
- Tasks are presented visually and students draw their ideas creatively to explain their thinking

The environment is filled with WONDER and CURIOSITY
- Students extend their work and ***investigate***. They see maths as an unexplained puzzle.
- Students freely ask and pose questions to seek important information.

COMMUNICATION and CONNECTIONS are valued
- Teachers create opportunities for students to see connections related to their lives and the world.
- Students work in groups to share ideas, visuals and relate their ideas and connections.

The Maths is OPEN
- Students are encouraged to see maths differently and use and share different ideas, methods and perspectives.
- Creativity is valued and modelled so that everyone's work looks different from each other

The classroom is a risk-taking, mistake valuing environment.
- Students share ideas even when they are wrong, where they seek to understand rather than correct. We work together when stuck and feel comfortable.

MONITORING STUDENT PROGRESS

Australian Curriculum – NUMERACY PROGRESSIONS:
Students can be tracked along a continuum of mathematical progression.
This is highlighted for individual student targets and used as a handover document to ensure the continuity of learning while a student is at HAPS.

BIG IDEAS in NUMBER ASSESSMENTS:
The most appropriate assessments are used at each year level to ensure students have achieved MASTERY before they progress with their learning.
Interventions are designed to explicitly teach any noted gaps in development.

NAPLAN

SEA Band 3

SEA Band 5

PAT: MATHS

Early Years Tests

SEA 101

SEA 110

SEA 112

SEA 120

AUSTRALIAN CURRICULUM A to E:
Informs student progress against the Australian Curriculum. Valid and fair practices honed through collaborative moderation processes.

OBSERVATIONS & QUESTIONS.
Annotations on work samples, photos, etc

FORMATIVE ASSESSMENT:
Embedded in the SA Units of Work for teaching mathematics.

UNDERPINNING SKILLS & KNOWLEDGE

R

1

2

3

4

5

6

TRUSTING THE COUNT:
Develop flexible mental objects for numbers 0-10

PLACE VALUE:
Importance of moving beyond counting by ones

ADDITIVE & MUTLIPLICATIVE THINKING
Developing efficient mental computation strategies

ADDITIVE THINKING
Developing efficient mental computation strategies

PARTITIONING:
Building common fraction and decimal knowledge with confidence

PROPORTIONAL REASONING / GENERALISATION

Solving problems / engaging with broader curriculum expectations

Understanding the **BIG IDEAS in NUMBER** underpins teaching and learning of the Australian Curriculum: Maths at HAPS.

Mastery of these building blocks results in reduced cognitive load, allowing smoother progression through the Australian Curriculum: Mathematics.

Mastery also provides an increased ability to apply learning to real-life situations and transfer knowledge to other contexts.