Learning across the curriculum area links

**Numeracy (in Science and technology)**

The K-10 science syllabus provides students with opportunities to develop numeracy skills through practical measurement and the collection, representation and interpretation of data from first-hand investigations and secondary sources. Initially students make measurements using informal units, then they apply formal units of measurement. Students consider issues of uncertainty and reliability in measurement and learn data-analysis skills, identifying trends and patterns from numerical data and graphs.

**Science and Technology Outcomes linked to Numeracy**

All **working scientifically** outcomes STe-4WS, ST1-4WS, ST2-4WS, ST3-4WS

**Working Technologically**

ST1-5WT simple plans, drawing models, using surveys

ST2-5WT sketching and modelling

ST3-5WT predicting, surveys, variables in tests, measurement, observing, measuring and recording data, using formal units, tables and graphs, labelled diagrams, calculating mean and percentages (NOTE: we no longer have mean- averages in our K-6 mathematics syllabus) comparing data

**Early Stage 1**

Natural Environment

Ste-6NE movement of objects (link to ES1 3D space), Ste-7NE seasonal changes (links to ES1 time)

Made Environment

Ste-9ME grouping based on properties (links to ES1 3D space)

**Stage 1**

NE Physical World

ST1-7PW movement with objects (ES1 3D space) possible link with position

NE Earth and Space

Recording changes to environment temperature and moon (link to S2 Length- temperature) and (S1 data)

NE Living world

ST1-10LW record changes using informal units (S1 length and S1 data)

**Stage 2**

NE Earth and Space

ST2-8ES record data (link to S2 data) seasonal calendar (S2 Time 2) ST2-9ES rotational axis (S2 2D space), measuring time (S2 time) recording lengths of shadows (S2 length and S2 data and S2 Time)

NE Living World

ST2-10LW sorting and grouping (S2 3D space), creating tables, diagrams and flowcharts (S2 data- NOTE: Flowcharts are not taught in mathematics)

**Stage 3**

NE Earth and Space

ST3-8ES how long to orbit the sun (S3 length and S3 Time)

NE Living world

ST3-11LW Make predictions over time (S3 Data and S2 length- temperature) gathering data (S3 data)

NE Material World

ST3-12MW mass of air (S3 mass) temperature (S2 length- temperature)

Made Environments

Build Environment ST3-14BE drawing plans or models (S3 2D space and S3 position)

Linked Mathematics Outcomes

Data

MA1-17SP generates and organises data, displays data in lists, tables and picture graphs, and interprets the results

MA2-18SP selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs

MA3-18SP uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables

Chance

MA1-18SP recognises and describes the element of chance in everyday events

MA2-19SP describes and compares chance events in social and experimental contexts

MA3-19SP conducts chance experiments and assigns probabilities as values between 0 and 1 to describe their outcomes

*Links to all Measurement outcomes with attributes- Length, Area, Volume and Capacity and Mass*

**Numeracy (in English)**

The study of English provides opportunities for students to develop their skills in numeracy by identifying and using numerical, measurement, spatial, graphical and statistical concepts and skills. Students strengthen their understanding of how issues and points of view that are based on data are represented in texts by developing their skills to identify, analyse and synthesise numerical information as they respond to the reliability of sources and methodology.

**English Outcomes linked to Numeracy**

**Early Stage 1**

Speaking and Listening 1 ENe-1A replicate rhythm and sound patterns in stories (possible link to patterns)

**Stage 1**

Reading and viewing 2 EN1-8B page numbering, diagrams and timelines (link to Whole Number, timelines appear in Stage 2 content only)

**Stage 2**

Reading and viewing 2 EN2-8B identify and interpret different forms of visual information- maps, tables, charts, diagrams (links to Position and Data)

**Stage 3**

Reading and viewing EN3-3A explain how maps, tables, diagrams and graphs contribute to understanding in persuasive texts (links to Position and Data)

Possible links with writing of texts- need to have numerical knowledge for procedural writing; possible links to fractions as part of recipes or scientific experiments that link to measurement and units

Linked Mathematics Outcomes

Data

Mae-17SP represents data and interprets data displays made from objects

MA1-17SP generates and organises data, displays data in lists, tables and picture graphs, and interprets the results

MA2-18SP selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs

MA3-18SP uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables

**Numeracy (in History)**

Numeracy content within the study of History involves the construction and interpretation of time lines, graphs, tables, maps, scales and statistics. Students develop confidence and proficiency in applying these skills to represent, comprehend and analyse quantitative data to make meaning of the past.

**History Outcomes linked to Numeracy**

**Early Stage 1**

HTe-1 Personal and Family histories: locating countries, sequencing stages of life, past and future, graphing and sorting information about families (links to Time, Position and Data)

**Stage 1**

HT1-1 Present and past family life: graphical representation of family structure, sequencing days of week, months and seasons (links to Time and Data)

HT1-2 The past in the present: local area (use of maps Position 2) sequencing technology development over time (Time 2)

**Stage 2**

HT2-5 First contacts: create timelines (Time 2) outline voyages (Position 1 and 2)

**Stage 3**

HT3-2 The Australian Colonies: outline settlement patterns (Time, Position and Data) identify countries people migrated from (Position and Data) interpreting timelines and data (Time and Data)

Linked Mathematics Outcomes

Data

Mae-17SP represents data and interprets data displays made from objects

MA1-17SP generates and organises data, displays data in lists, tables and picture graphs, and interprets the results

MA2-18SP selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs

MA3-18SP uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables

Position

MA1-16MG represents and describes the positions of objects in everyday situations and on maps (Position 2 only)

MA2-17MG uses simple maps and grids to represent position and follow routes, including using compass directions

MS3-17MG locates and describes position on maps using a grid-reference system

Time

MA2-13MG reads and records time in one-minute intervals and converts between hours, minutes and seconds

 *Read and interpret simple timetables, timelines and calendars (Time 2 only)*

MA3-13MG uses 24-hour time and am and pm notation in real-life situations, and constructs timelines

*Note: all of these KLAs will cover WM process outcomes of communicating, problem solving and reasoning*