

# Mathletics NWEA Australian Curriculum (RIT bands)

Skill Quests

Statistics and Probability

May, 2022

Mathletics

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# 189–200

## 1. Chance

Outcome	Quests	Content
ACMSP067 Conduct chance experiments, identify and describe possible outcomes and recognise variation in results	Conducting chance experiments	Conducting chance experiments

## 2. Data representation and interpretation

Outcome	Quests	Content
ACMSP068 Identify questions or issues for categorical variables. Identify data sources and plan methods of data collection and recording	Data sources and collection	Introducing the statistical investigation process
		Category data
ACMSP069 Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies	Collecting and organising data	Statistical investigations
		Representing and interpreting data displays
ACMSP070 Interpret and compare data displays	Data displays	Comparing data displays

# 201–210

## 1. Chance

Outcome	Quests	Content
ACMSP092 Describe possible everyday events and order their chances of occurring	Chance events	Describing the chance of events occurring
ACMSP093 Identify everyday events where one cannot happen if the other happens	Non-simultaneous everyday events	Exploring non-simultaneous everyday events
ACMSP094 Identify events where the chance of one will not be affected by the occurrence of the other	Independent and dependent events	Independent and dependent events

## 2. Data representation and interpretation

Outcome	Quests	Content
ACMSP095 Select and trial methods for data collection, including survey questions and recording sheets	Methods of data collection	Surveys and sorting data
ACMSP096 Construct suitable data displays, with and without the use of digital technologies, from given or collected data. Include tables, column graphs and picture graphs where one picture can represent many data values	Constructing suitable data displays	Column graphs using many-to-one correspondence
		Picture graphs with many-to-one correspondence
ACMSP097 Evaluate the effectiveness of different displays in illustrating data features including variability	Evaluating and comparing data displays	Evaluating and comparing data displays

# 211–217

## 1. Chance

Outcome	Quests	Content
ACMSP116 List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions	Outcomes of chance experiments	Outcomes of chance experiments
ACMSP117 Recognise that probabilities range from 0 to 1	Probability	Probabilities from 0 to 1
ACMSP118 Pose questions and collect categorical or numerical data by observation or survey	Categorical and numerical data	Categorical and numerical data
ACMSP119 Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies	Constructing data displays	Constructing data displays
ACMSP120 Describe and interpret different data sets in context	Describing and interpreting data sets	Describing and interpreting data sets

# 218–221

## 1. Chance

Outcome	Quests	Content
ACMSP144 Describe probabilities using fractions, decimals and percentages	Probability: fraction, decimal, percent	Probability as a fraction, decimal or percent
ACMSP145 Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies	Chance experiments	Chance experiments
ACMSP146 Compare observed frequencies across experiments with expected frequencies	Frequency/fairness in chance experiments	Frequency/fairness in chance experiments

## 2. Data representation and interpretation

Outcome	Quests	Content
ACMSP147 Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables	Interpreting/representing/comparing data	Two-way tables
		Side-by-side column graphs
		Comparing & selecting bivariate data displays
ACMSP148 Interpret secondary data presented in digital media and elsewhere	Interpreting & evaluating secondary data	Interpreting & evaluating secondary data

# 222–226

## 1. Chance

Outcome	Quests	Content
ACMSP167 Construct sample spaces for single-step experiments with equally likely outcomes	Chance experiments and sample spaces	Language of chance experiments
		Sample spaces
		Chance experiments
ACMSP168 Assign probabilities to the outcomes of events and determine probabilities for events	Probability	Language of probability
		Understanding basic probability

## 2. Data representation and interpretation

Outcome	Quests	Content
ACMSP169 Identify and investigate issues involving numerical data collected from primary and secondary sources	Collecting and interpreting data	Issues with data from primary & secondary sources
		Collecting and interpreting data
ACMSP170 Construct and compare a range of data displays including stem-and-leaf plots and dot plots	Representing data	Tallies and frequency distribution tables
		Frequency histograms and polygons
		Frequency histograms and polygons: grouped data
		Dot plots
		Ordered stem-and-leaf plots
		Divided bar graphs
		Sector graphs
		Line graphs
ACMSP171 Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data	Mean, median, mode and range	Calculating the mean
		Median mode and range
ACMSP172 Describe and interpret data displays using median, mean and range	Using mean, median, mode to analyse data displays	Using mean, median, mode to analyse data displays



# 227–228

## 1. Chance

Outcome	Quests	Content
ACMSP204 Identify complementary events and use the sum of probabilities to solve problems	Complementary events	Complementary events
ACMSP205 Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'.	Language of probability to describe events	Language of probability to describe events
ACMSP292 Represent events in two-way tables and Venn diagrams and solve related problems	Venn diagrams and Two-Way tables	Understanding and constructing Venn diagrams
		Using Venn diagrams to solve problems
		Interpreting and constructing two-way tables
		Two-way tables and Venn diagrams

## 2. Data representation and interpretation

Outcome	Quests	Content
ACMSP284 Investigate techniques for collecting data, including census, sampling and observation	Collecting data	Collecting data
		The relationship between a sample & the population
ACMSP207 Investigate the effect of individual data values, including outliers, on the mean and median	Clusters, gaps and outliers in data	Clusters, gaps and outliers in data



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