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|  | Statistics and Probability Scope & SequenceThe Australian Curriculum v4.0 |
| Chance | **Prep** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** | **Year 9** | **Year 10** | **Year 10 A** |
|  |  | [Identifies outcomes of familiar events involving chance and describe them using everyday language such as ‘will happen’, ‘won’t happen’ or ‘might happen’](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=1&s=SP&layout=1) [(ACMSP024)](http://www.australiancurriculum.edu.au/curriculum/contentdescription/ACMSP024) [*TIMESSP16*](http://www.amsi.org.au/teacher_modules/Chance_years_1-3.html) | [Identifies practical activities and everyday events that involve chance. Describes outcomes as ‘likely’ or ‘unlikely’ and identify some events as ‘certain’ or ‘impossible*’* (ACMSP047)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1)[*TIMESSP16*](http://www.amsi.org.au/teacher_modules/Chance_years_1-3.html) | [Conducts chance experiments, identify and describe possible outcomes and recognise variation in results](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: conducting repeated trials of chance experiments such as tossing a coin or drawing a ball from a bag and identifying the variations between trials)[(ACMSP067)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: conducting repeated trials of chance experiments such as tossing a coin or drawing a ball from a bag and identifying the variations between trials)[*TIMESSP16*](http://www.amsi.org.au/teacher_modules/Chance_years_1-3.html) | [Describes possible everyday events and order their chances of occurring (ACMSP092)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: using lists of events familiar to students and ordering them from ‘least likely’ to ‘most likely’ to occur)[*TIMESSP09*](http://www.amsi.org.au/teacher_modules/Chance_year_4.html)[Identifies everyday events where one cannot happen if the other happens (ACMSP093)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: using examples such as weather, which cannot be dry and wet at the same time)[*TIMESSP09*](http://www.amsi.org.au/teacher_modules/Chance_year_4.html)[Identifies events where the chance of one will not be affected by the occurrence of the other](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: explaining why the probability of a new baby being either a boy or a girl does not depend on the sex of the previous baby)[(ACMSP094)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: explaining why the probability of a new baby being either a boy or a girl does not depend on the sex of the previous baby)[*TIMESSP09*](http://www.amsi.org.au/teacher_modules/Chance_year_4.html) | [List outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions](file:///C%3A%5C%5CUsers%5C%5Cmarcus%5C%5CDocuments%5C%5CAMSI%5C%5CAMSI%20Teacher%20Journal%20Master%5C%5CCollected%20Files%5C%5CYear%20Level%20Audit%20Documents%5C%5CYear%205.docx%22%20%5Co%20%22Elaborations%3A%20commenting%20on%20the%20likelihood%20of%20winning%20simple%20games%20of%20chance%20by%20considering%20the%20number%20of%20possible%20outcomes%20and%20the%20consequent%20chance%20of%20winning%20in%20simple%20games%20of%20chance%20such%20as%20jan-ken-pon%20%28rock-paper-scissors%29)[(ACMSP116)](file:///C%3A%5C%5CUsers%5C%5Cmarcus%5C%5CDocuments%5C%5CAMSI%5C%5CAMSI%20Teacher%20Journal%20Master%5C%5CCollected%20Files%5C%5CYear%20Level%20Audit%20Documents%5C%5CYear%205.docx%22%20%5Co%20%22Elaborations%3A%20commenting%20on%20the%20likelihood%20of%20winning%20simple%20games%20of%20chance%20by%20considering%20the%20number%20of%20possible%20outcomes%20and%20the%20consequent%20chance%20of%20winning%20in%20simple%20games%20of%20chance%20such%20as%20jan-ken-pon%20%28rock-paper-scissors%29)[*TIMESSP10*](http://www.amsi.org.au/teacher_modules/Chance_year_5.html)[*SAMMYSP01*](http://www.amsi.org.au/ESA_middle_years/Year5/Year5_md/Year5_2a.html#intro)[Recognises that probabilities range from 0 to 1](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1" \o "Elaborations: investigating the probabilities of all outcomes for a simple chance experiment and verifying that their sum equals 1) [(ACMSP117)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1" \o "Elaborations: investigating the probabilities of all outcomes for a simple chance experiment and verifying that their sum equals 1)[*TIMESSP10*](http://www.amsi.org.au/teacher_modules/Chance_year_5.html)[*SAMMYSP01*](http://www.amsi.org.au/ESA_middle_years/Year5/Year5_md/Year5_2a.html#intro) | [Describe probabilities using fractions, decimals and percentages](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: investigating games of chance popular in different cultures and evaluating the relative benefits to the organisers and participants (for example Pachinko)[(ACMSP144)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: investigating games of chance popular in different cultures and evaluating the relative benefits to the organisers and participants (for example Pachinko)[*TIMESSP11*](http://www.amsi.org.au/teacher_modules/Chance_year_6.html)[Conduct chance experiments with both small and large numbers of trials using appropriate digital technologies](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: conducting repeated trials of chance experiments, identifying the variation between trials and realising that the results tend to the prediction with larger numbers of trials)[(ACMSP145)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: conducting repeated trials of chance experiments, identifying the variation between trials and realising that the results tend to the prediction with larger numbers of trials)[*TIMESSP11*](http://www.amsi.org.au/teacher_modules/Chance_year_6.html) | [Constructs sample](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) discussing the meaning of probability terminology (for example probability, sample space, favourable outcomes, trial, events and experiments), 2) distinguishing between equally likely outcomes and outcomes that are not equally likely)[spaces for single-step experiments with equally likely outcomes](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) discussing the meaning of probability terminology (for example probability, sample space, favourable outcomes, trial, events and experiments), 2) distinguishing between equally likely outcomes and outcomes that are not equally likely) [(ACMSP167)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) discussing the meaning of probability terminology (for example probability, sample space, favourable outcomes, trial, events and experiments), 2) distinguishing between equally likely outcomes and outcomes that are not equally likely)[*TIMESSP12*](http://www.amsi.org.au/teacher_modules/Chance_year_7.html)[*SAMMYSP02*](http://www.amsi.org.au/ESA_middle_years/Year7/Year7_md/Year7_3a.html#teacher)[Assigns probabilities to the outcomes of events and determine probabilities for events](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: expressing probabilities as decimals, fractionals and percentages)[(ACMSP168)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: expressing probabilities as decimals, fractionals and percentages)[*TIMESSP12*](http://www.amsi.org.au/teacher_modules/Chance_year_7.html)*SAMMYSP02* | [Identifies](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: 1) identifying the complement of familiar events, 2) understanding that probabilities range between 0 to 1 and that calculating the probability of an event allows the probability of its complement to be found)[complementary events and uses the sum of probabilities to solve problems](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: 1) identifying the complement of familiar events, 2) understanding that probabilities range between 0 to 1 and that calculating the probability of an event allows the probability of its complement to be found)[(ACMSP204)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: 1) identifying the complement of familiar events, 2) understanding that probabilities range between 0 to 1 and that calculating the probability of an event allows the probability of its complement to be found)[*TIMESSP13*](http://www.amsi.org.au/teacher_modules/Chance_year_8.html)[Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'.](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: posing 'and', 'or' and 'not' probability questions about objects or people)*[(ACMSP205)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: posing 'and', 'or' and 'not' probability questions about objects or people)*[*TIMESSP13*](http://www.amsi.org.au/teacher_modules/Chance_year_8.html)[Represent events in two-way tables and Venn diagrams and solve related problems](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: 1) use Venn diagrams & 2-way tables to calculate probabilities for events, satisfying 'and', 'or' & 'not' conditions, 2) understand Venn diagrams & 2-way tables facilitates the calculation of probabilities, 3) collect data to answer questions)*[(ACMSP292)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: 1) use Venn diagrams & 2-way tables to calculate probabilities for events, satisfying 'and', 'or' & 'not' conditions, 2) understand Venn diagrams & 2-way tables facilitates the calculation of probabilities, 3) collect data to answer questions)*[*TIMESSP13*](http://www.amsi.org.au/teacher_modules/Chance_year_8.html) | [List all outcomes for two-step chance experiments, both with and without replacement using tree diagrams or arrays. Assign probabilities to outcomes and determine probabilities for events](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) conducting two-step chance experiments, 2) use systematic methods to list outcomes of experiments and to list outcomes favourable to an event, 3) compare exp'ts which differ only by being undertaken with replacement or without replacement)[(ACMSP225)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) conducting two-step chance experiments, 2) use systematic methods to list outcomes of experiments and to list outcomes favourable to an event, 3) compare exp'ts which differ only by being undertaken with replacement or without replacement)[*TIMESSP14*](http://www.amsi.org.au/teacher_modules/Chance_year_9.html)[Calculate relative frequencies](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) using Venn diagrams or two-way tables to calculate relative frequencies of events involving ‘and’, ‘or’ questions, 2) using relative frequencies to find an estimate of probabilities of ‘and’, ‘or’ events)[from given or](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) using Venn diagrams or two-way tables to calculate relative frequencies of events involving ‘and’, ‘or’ questions, 2) using relative frequencies to find an estimate of probabilities of ‘and’, ‘or’ events)[collected data to](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) using Venn diagrams or two-way tables to calculate relative frequencies of events involving ‘and’, ‘or’ questions, 2) using relative frequencies to find an estimate of probabilities of ‘and’, ‘or’ events)[estimate probabilities of events involving 'and' or 'or'](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) using Venn diagrams or two-way tables to calculate relative frequencies of events involving ‘and’, ‘or’ questions, 2) using relative frequencies to find an estimate of probabilities of ‘and’, ‘or’ events)[(ACMSP226)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: 1) using Venn diagrams or two-way tables to calculate relative frequencies of events involving ‘and’, ‘or’ questions, 2) using relative frequencies to find an estimate of probabilities of ‘and’, ‘or’ events)[*TIMESSP14*](http://www.amsi.org.au/teacher_modules/Chance_year_9.html)[Investigate reports of surveys in digital media and elsewhere for information on how data were obtained to estimate](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: investigating a range of data and its sources, for example the age of residents in Australia, Cambodia and Tonga; the number of subjects studied at school in a year by 14-year-old students in Australia, Japan and Timor-Leste)[population means and medians](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: investigating a range of data and its sources, for example the age of residents in Australia, Cambodia and Tonga; the number of subjects studied at school in a year by 14-year-old students in Australia, Japan and Timor-Leste)[(ACMSP227)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: investigating a range of data and its sources, for example the age of residents in Australia, Cambodia and Tonga; the number of subjects studied at school in a year by 14-year-old students in Australia, Japan and Timor-Leste)[*TIMESSP07*](http://www.amsi.org.au/teacher_modules/Data_investigation-year_9.html) | [Describe the results of two- and three-step chance experiments, both with and without replacements, assign probabilities to outcomes and determine probabilities of events. Investigate the concept of independence](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: recognising that an event can be dependent on another event and that this will affect the way its probability is calculated)[(ACMSP246)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: recognising that an event can be dependent on another event and that this will affect the way its probability is calculated)[*TIMESSP15*](http://www.amsi.org.au/teacher_modules/Chance_year10.html)[Use the language of ‘if ....then, ‘given’, ‘of’, ‘knowing that’ to investigate conditional statements and identify common mistakes in interpreting such language](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1 using two-way tables and Venn diagrams to understand conditional statements, 2) using arrays and tree diagrams to determine probabilities)[(ACMSP247)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1 using two-way tables and Venn diagrams to understand conditional statements, 2) using arrays and tree diagrams to determine probabilities)[*TIMESSP15*](http://www.amsi.org.au/teacher_modules/Chance_year10.html) |  |

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|  | **Prep** | **Year 1** | **Year 2** | **Year 3** | **Year 4** | **Year 5** | **Year 6** | **Year 7** | **Year 8** | **Year 9** | **Year 10** | **Year 10 A** |
| Data representation and Interpretation  | [Answers yes/no questions to collect information](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=F&s=SP&layout=1" \o "Elaborations: 1) posing questions about themselves and familiar objects and events, 2) represent responses to questions using simple displays, including group students according to answers, 3) use data displays to answer simple questions)[(ACMSP011)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=F&s=SP&layout=1" \o "Elaborations: 1) posing questions about themselves and familiar objects and events, 2) represent responses to questions using simple displays, including group students according to answers, 3) use data displays to answer simple questions)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html) | Chooses simple questions and gather responses [*(ACMSP262)*](http://www.australiancurriculum.edu.au/curriculum/contentdescription/ACMSP262)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html)[Represents data with objects and drawings where one object or drawing represents one data value. Describes the displays](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=1&s=SP&layout=1" \o "Elaborations: 1) understanding one-to-one correspondence, 2) describing displays by identifying categories with the greatest or least number of objects)[(ACMSP263)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=1&s=SP&layout=1" \o "Elaborations: 1) understanding one-to-one correspondence, 2) describing displays by identifying categories with the greatest or least number of objects)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html) | *[Identifies a question of interest based on one categorical variable. Gathers data relevant to the question](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1" \o "Elaborations: determining the variety of birdlife in the playground and using a prepared table to record observations)**[(ACMSP048)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1" \o "Elaborations: determining the variety of birdlife in the playground and using a prepared table to record observations)*[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html)[Collects, checks and classifies data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1" \o "Elaborations: 1) recognising the usefulness of tally marks, 2) identifying categories of data and using them to sort data)[(ACMSP049)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1" \o "Elaborations: 1) recognising the usefulness of tally marks, 2) identifying categories of data and using them to sort data)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html)[Creates displays of data using lists, table and picture graphs and interpret them](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1" \o "Elaborations: 1) creating picture graphs to represent data using one-to-one correspondence, 2) comparing the usefulness of different data displays)[(ACMSP050)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=2&s=SP&layout=1" \o "Elaborations: 1) creating picture graphs to represent data using one-to-one correspondence, 2) comparing the usefulness of different data displays)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html) | [Identifies questions or issues for categorical variables. Identifies data sources and plan methods of data collection and recording](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: refine questions & plan investigations that involve collect data, & carry out the investigation (eg narrowing the focus of a q. such as ‘which is the most popular breakfast cereal?’ to ‘which is the most popular cereal in our Year 3 class?))[(ACMSP068)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: refine questions & plan investigations that involve collect data, & carry out the investigation (eg narrowing the focus of a q. such as ‘which is the most popular breakfast cereal?’ to ‘which is the most popular cereal in our Year 3 class?))[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html)[Collects data, organises into categories and creates displays using lists, tables, picture graphs and simple column graphs, with and without the use of digital technologies (ACMSP069)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html)[Interprets and compares data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: comparing various student-generated data representations and describing their similarities and differences)[displays](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: comparing various student-generated data representations and describing their similarities and differences)[(ACMSP070)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=3&s=SP&layout=1" \o "Elaborations: comparing various student-generated data representations and describing their similarities and differences)[*TIMESSP17*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretationF-3.html) | [Selects and trials methods for data collection, including survey questions and recording sheets (ACMSP095)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: 1) comparing the effectiveness of different methods of collecting data, 2) choosing the most effective way to collect data for a given investigation)[*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation4.html)[Constructs 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](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: 1) exploring ways of presenting data and showing the results of investigations, 2) investigating data displays using many-to-one correspondence)[(ACMSP096)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Elaborations: 1) exploring ways of presenting data and showing the results of investigations, 2) investigating data displays using many-to-one correspondence)[*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation4.html)[Evaluates the effectiveness of different displays in illustrating data features including variability (ACMSP097)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=4&s=SP&layout=1" \o "Evaluations: 1) interpreting data representations in the media and other forums in which symbols represent more than one data value, 2) suggesting questions that can be answered by a given data display and using the display to answer questions)[*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation4.html) | [Poses questions and collect categorical or numerical data by observation or survey (ACMSP118)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1)[*TIMESSP03*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation5.html)[Constructs displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1" \o "Elaborations: identifying the best methods of presenting data to illustrate the results of investigations and justifying the choice of representations)[(ACMSP119)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1" \o "Elaborations: identifying the best methods of presenting data to illustrate the results of investigations and justifying the choice of representations)[*TIMESSP03*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation5.html)*[Describe and interpret different data sets in context](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1" \o "Elaborations: using and comparing data representations for different data sets to help decision making)**[(ACMSP120)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=5&s=SP&layout=1" \o "Elaborations: using and comparing data representations for different data sets to help decision making)*[*TIMESSP03*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation5.html) | [Compares observed frequencies across experiments with expected freque*ncies (ACMSP146)*](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1)[*TIMESSP11*](http://www.amsi.org.au/teacher_modules/Chance_year_6.html)*[Interprets and compares a range of data displays, including side-by-side column graphs for two categorical variables](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: 1)compare different student-generated diagrams, tables & graphs, describe similarities & diffs & comment on usefulness of each represent'n for interpreting data, 2) understand data can be rep'd in diff ways)**[(ACMSP147)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: 1)compare different student-generated diagrams, tables & graphs, describe similarities & diffs & comment on usefulness of each represent'n for interpreting data, 2) understand data can be rep'd in diff ways)*[*TIMESSP04*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation6.html)[Interprets secondary data presented in digital media and elsewhere](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: 1) investigate data rep'ns in media & discuss what they illustrate & messages people who created them want to convey, 2) identifying potentially misleading data representations in the media,)[(ACMSP148)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=6&s=SP&layout=1" \o "Elaborations: 1) investigate data rep'ns in media & discuss what they illustrate & messages people who created them want to convey, 2) identifying potentially misleading data representations in the media,)[*TIMESSP04*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation6.html) | [Identifies and investigate issues involving numerical data collected from primary and secondary sources](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1)obtaining secondary data from newspapers, the Internet and the Australian Bureau of Statistics, 2) investigating secondary data relating to the distribution and use of non-renewable resources around the world)[(ACMSP169)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1)obtaining secondary data from newspapers, the Internet and the Australian Bureau of Statistics, 2) investigating secondary data relating to the distribution and use of non-renewable resources around the world) [*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation7.html)[Constructs and compare a range of data displays including stem-and-leaf plots and dot plots](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) understand that some data representations are more appropriate than others for particular data sets, answer questions about those data sets, 2) use ordered stem&leaf plots to record/display numerical data collected in class investigations)[(ACMSP170)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) understand that some data representations are more appropriate than others for particular data sets, answer questions about those data sets, 2) use ordered stem&leaf plots to record/display numerical data collected in class investigations) [*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation7.html)[Calculates mean,median, mode and range for sets of data. Interprets these statistics in the context of data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: understanding that summarising data by calculating measures of centre and spread can help make sense of the data)*[(ACMSP171)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: understanding that summarising data by calculating measures of centre and spread can help make sense of the data)*[*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation7.html)*[Describes and interprets data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) using mean and median to compare data sets and explaining how outliers may affect the comparison, 2) locating mean, median and range on graphs and connecting them to real life)**[displays using median, mean and range](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) using mean and median to compare data sets and explaining how outliers may affect the comparison, 2) locating mean, median and range on graphs and connecting them to real life)**[(ACMSP172)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=7&s=SP&layout=1" \o "Elaborations: 1) using mean and median to compare data sets and explaining how outliers may affect the comparison, 2) locating mean, median and range on graphs and connecting them to real life)*[*TIMESSP02*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation7.html) | [Investigates techniques for collecting data, including census, sampling and observation](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: identifying situations where data can be collected by census and those where a sample is appropriate)[(ACMSP284)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: identifying situations where data can be collected by census and those where a sample is appropriate)[*TIMESSP05*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation8.html)[*SAMMYSP03*](http://www.amsi.org.au/ESA_middle_years/Year8/Year8_md/Year8_3a.html#intro)[Explores the practicalities and implications of obtaining data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: investigating the uses of random sampling to collect data)[through sampling using a variety of investigative processes](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: investigating the uses of random sampling to collect data)[(ACMSP206)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: investigating the uses of random sampling to collect data)[*TIMESSP05*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation8.html)*[Explore the variation of means and proportions of random samples drawn from the same population](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: using sample properties to predict characteristics of the population)**[(ACMSP293)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: using sample properties to predict characteristics of the population)*[*TIMESSP05*](http://www.amsi.org.au/teacher_modules/Data_Investigation_and_interpretation8.html)[Investigate the effect of individual data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: using displays of data to explore and investigate effects)[values, including outliers, on the mean and median(ACMSP207)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=8&s=SP&layout=1" \o "Elaborations: using displays of data to explore and investigate effects) | [Identify everyday questions and issues involving at least one numerical and at least one categorical variable, and collect data directly and from secondary sources](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: comparing the annual rainfall in various parts of Australia, Pakistan, New Guinea and Malaysia)[(ACMSP228)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: comparing the annual rainfall in various parts of Australia, Pakistan, New Guinea and Malaysia)[*TIMESSP07*](http://www.amsi.org.au/teacher_modules/Data_investigation-year_9.html)[*SAMMYSP04*](http://www.amsi.org.au/ESA_middle_years/Year9/Year9_md/Year9_3a.html#intro)[Construct back-to-back stem-and-leaf plots and histograms and describe data, using terms including ‘skewed’, ‘symmetric’ and ‘bi-modal’ (ACMSP282)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1)[*TIMESSP07*](http://www.amsi.org.au/teacher_modules/Data_investigation-year_9.html)[Compare data displays using mean, median and range to describe and interpret numerical data sets in terms of location (centre) and spread](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: comparing means, medians and ranges of two sets of numerical data which have been displayed using histograms, dot plots, or stem and leaf plots)*[(](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: comparing means, medians and ranges of two sets of numerical data which have been displayed using histograms, dot plots, or stem and leaf plots)*[ACMSP283)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=9&s=SP&layout=1" \o "Elaborations: comparing means, medians and ranges of two sets of numerical data which have been displayed using histograms, dot plots, or stem and leaf plots)[*TIMESSP07*](http://www.amsi.org.au/teacher_modules/Data_investigation-year_9.html)[*SAMMYSP03*](http://www.amsi.org.au/ESA_middle_years/Year8/Year8_md/Year8_3a.html#intro) | [Determine quartiles and interquartile range](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: finding the five-number summary (minimum and maximum values, median and upper and lower quartiles) and using its graphical representation, the box plot, as tools for both numerically and visually comparing the centre and spread of data sets)[(ACMSP248)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: finding the five-number summary (minimum and maximum values, median and upper and lower quartiles) and using its graphical representation, the box plot, as tools for both numerically and visually comparing the centre and spread of data sets)[*TIMESSP08*](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html)[Construct and interpret box plots and use them to compare data sets](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1 understand that box plots are an efficient & common way of representing and summarising data & can facilitate comparisons between data sets, 2) using parallel box plots to compare data about the age distributions)[(ACMSP249)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1 understand that box plots are an efficient & common way of representing and summarising data & can facilitate comparisons between data sets, 2) using parallel box plots to compare data about the age distributions)[*TIMESSP08*](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html)[Compare shapes of box plots to corresponding histograms and dot plots](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: investigating data in different ways to make comparisons and draw conclusions)[(ACMSP250)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: investigating data in different ways to make comparisons and draw conclusions)[*TIMESSP08*](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html)[Use scatter plots to investigate and comment on relationships between two numerical variables](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: using authentic data to construct scatter plots, make comparisons and draw conclusions)[(ACMSP251)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: using authentic data to construct scatter plots, make comparisons and draw conclusions)[TIMESSP08](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html)[Investigate and describe bivariate numerical data where the independent variable is time](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1) investigating biodiversity changes in Australia since European occupation, 2) constructing and interpreting data displays representing bivariate data over time)[(ACMSP252)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1) investigating biodiversity changes in Australia since European occupation, 2) constructing and interpreting data displays representing bivariate data over time)[*TIMESSP08*](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html)[Evaluate statistical reports in the media and other places by linking claims to displays, statistics and representative data](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1) investigating the use of statistics in reports regarding the growth of Australia's trade with other countries of the Asia region, 2) evaluate statistical reports compare life expectancy of Aboriginal & TSI peoples & Aust pop'n as whole)[(ACM](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10&s=SP&layout=1" \o "Elaborations: 1) investigating the use of statistics in reports regarding the growth of Australia's trade with other countries of the Asia region, 2) evaluate statistical reports compare life expectancy of Aboriginal & TSI peoples & Aust pop'n as whole)SP253)[*TIMESSP08*](http://www.amsi.org.au/teacher_modules/Data_investigation_year_10.html) | [Investigate reports of studies in digital media and elsewhere for information on their planning and implementation](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10A&s=SP&layout=1" \o "Elaborations: 1) evaluating the appropriateness of sampling methods in reports where statements about a population are based on a sample, 2) evaluating whether graphs in a report could mislead, and whether graphs and numerical information support the claim)[(ACMSP277)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10A&s=SP&layout=1" \o "Elaborations: 1) evaluating the appropriateness of sampling methods in reports where statements about a population are based on a sample, 2) evaluating whether graphs in a report could mislead, and whether graphs and numerical information support the claim)[Calculate and interpret the mean and](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10A&s=SP&layout=1" \o "Elaborations: 1) using the standard deviation to describe the spread of a set of data, 2) using the mean and standard deviation to compare numerical data sets)[Standard deviation of data and use these to compare data sets](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10A&s=SP&layout=1" \o "Elaborations: 1) using the standard deviation to describe the spread of a set of data, 2) using the mean and standard deviation to compare numerical data sets)[(ACMSP278)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10A&s=SP&layout=1" \o "Elaborations: 1) using the standard deviation to describe the spread of a set of data, 2) using the mean and standard deviation to compare numerical data sets)[Use information technologies to investigate bivariate numerical data sets. Where appropriate use a straight line to describe the relationship allowing for variation (ACMSP279)](http://www.australiancurriculum.edu.au/mathematics/curriculum/f-10?y=10A&s=SP&layout=1) |